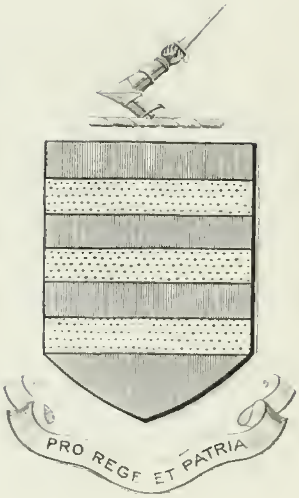
UNIV. OF
TORONTO
LIBRARY



Bequeathed to the Library of the
University of Toronto by
Irving Heward Cameron, Esq., M.B.
Sometime Professor of Surgery
in the Faculty of Medicine

THE JOURNAL

OF THE

American Medical Association

A MEDICAL JOURNAL CONTAINING THE

OFFICIAL RECORD OF THE PROCEEDINGS OF THE ASSOCIATION, AND THE PAPERS READ AT THE ANNUAL
MEETING, IN THE SEVERAL SECTIONS, TOGETHER WITH THE

MEDICAL LITERATURE OF THE PERIOD

EDITED FOR THE ASSOCIATION UNDER THE DIRECTION OF THE BOARD OF TRUSTEES

BY

GEORGE H. SIMMONS, M.D.

VOLUME XXXV

JULY–DECEMBER

1900

299160
16:4:34

CHICAGO
AMERICAN MEDICAL ASSOCIATION PRESS.
1900

"*The American Medical Association, though formally accepting and publishing the reports of the various Standing Committees (and Sections), holds itself wholly irresponsible for the opinions, theories or criticisms therein contained, except otherwise decided by special resolution.*"—Transactions, 1851.

R
15
A48
v.35, pt 1
cop. 2

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION

1900-1901

General Officers

President—Charles A. L. Reed	Cincinnati, Ohio
First Vice-President—A. W. Calhoun	Atlanta, Georgia
Second Vice-President—A. A. Woodhull, U.S.A.	Denver, Colorado
Third Vice-President—Philip Marvel	Atlantic City, New Jersey
Fourth Vice-President—Wm. E. Quine	Chicago, Illinois
Treasurer—Henry P. Newman	100 Washington St., Chicago, Illinois
Secretary—George H. Simmons	61 Market St., Chicago, Illinois
Assistant Secretary—Wm. Davis	St. Paul, Minnesota
Librarian—George W. Webster	Chicago, Illinois
Chairman Com. of Arrangements—John F. Fulton	St. Paul, Minnesota

BOARD OF TRUSTEES.

Alonzo Garcelon, Lewiston, Maine (President), 1901.
T. J. Happel, Trenton, Tenn., 1901.
I. N. Love, 4661 Maryland Ave., St. Louis, 1901.
E. E. Montgomery, 1715 Walnut St., Philadelphia, 1902.
H. L. E. Johnson, 1400 L St. N.W., Washington, D.C., 1902.
Joseph M. Mathews, Louisville, Ky., 1902.
Miles F. Porter, Ft. Wayne, Ind., 1903.
E. Fletcher Ingals, 36 Washington St., Chicago, 1903.
W. L. Rodman, 1626 Spruce St., Philadelphia, 1903.

JUDICIAL COUNCIL.

Term expires 1901: S. Bailey, Iowa; D. R. Brower, Illinois; N. S. Davis, Illinois; H. D. Didama, New York (Chairman); D. Mason, Washington; F. T. Rogers, Rhode Island; Milo B. Ward, Missouri. Term expires 1902: J. D. Griffith, Missouri; P. H. Bailhache, Marine-Hospital Service; J. E. Cook, Ohio; J. P. Lewis, Kansas; F. H. Wiggin, New York; J. W. Irwin, Kentucky; Walter Wyman, District of Columbia. Term expires 1903: James R. Guthrie, Iowa; G. B. Gillespie, Tennessee; R. C. Moore, Nebraska; Ida J. Heiberger, District of Columbia; John D. Roberts, Pennsylvania; Charles S. Rodman, Connecticut; S. L. Jepson, West Virginia.

Section Officers

Officers of Sections, 1900-1901.

Practice of Medicine—Chairman, J. M. Anders, Philadelphia; Secretary, Wm. Britt Burns, Deckerville, Ark.

Obstetrics and Diseases of Women—Chairman, Henry P. Newman, Chicago; Secretary, C. L. Bonifield, Cincinnati, Ohio.

Surgery and Anatomy—Chairman, A. J. Ochsner, Chicago; Secretary, Martin B. Tinker, Philadelphia.

Hygiene and Sanitary Science—Chairman, Ernest Wende, Buffalo, N. Y.; Secretary, J. N. Hurty, Indianapolis, Ind.

Ophthalmology—Chairman, J. A. Lippincott, Pittsburg, Pa.; Secretary, E. C. Ellett, Memphis, Tenn.

Diseases of Children—Chairman, Samuel W. Kelley, Cleveland, Ohio; Secretary, Wm. E. Darnall, Atlantic City, N. J.

Stomatology—Chairman, R. R. Andrews, Cambridge, Mass.; Secretary, Eugene S. Talbot, Chicago.

Nervous and Mental Diseases—Chairman, H. A. Tomlinson, St. Peter, Minn.; Secretary, F. Savary Pearce, Philadelphia.

Cutaneous Medicine and Surgery—Chairman, W. L. Baum, Chicago; Secretary, R. R. Campbell, Chicago.

Laryngology and Otology—Chairman, John N. Mackenzie, Baltimore; Secretary, George C. Stout, Philadelphia.

Materia Medica, Pharmacy and Therapeutics—Chairman, N. S. Davis, Jr., Chicago; Secretary, J. N. Upshur, Richmond, Va.

Physiology and Dietetics—Chairman, Elmer Lee, New York City; Secretary, R. Harvey Cook, Oxford, Ohio.

Pathology and Bacteriology—Chairman, Ludvig Hektoen, Chicago; Secretary, Frank B. Wynn, Indianapolis, Ind.

General Executive Committee, 1900-1901.

Executive Council—Chairman, W. J. Mayo, Rochester, Minn.; Vice-Chairman, H. O. Walker, Detroit; Secretary, L. Duncan Bulkley, New York; Frank Billings, Chicago; B. Alex. Randall, Phila.

Practice of Medicine—S. A. Fiske, Denver; Frank Billings, Chicago; George Dock, Ann Arbor, Mich.

Obstetrics and Diseases of Women—Joseph Price, Philadelphia; A. H. Cordier, Kansas City; W. E. B. Davis, Birmingham, Ala.

Surgery and Anatomy—W. L. Rodman, Philadelphia; W. J. Mayo, Rochester, Minn.; H. O. Walker, Detroit, Mich.

Hygiene and Sanitary Science—Arthur R. Reynolds, Chicago; W. C. Woodward, Washington, D. C.

Ophthalmology—Harold Gifford, Omaha; Casey A. Wood, Chicago; H. V. Würdemann, Milwaukee, Wis.

Diseases of Children—J. P. Crozer Griffith, Philadelphia; H. E. Tuley, Louisville, Ky.; Edwin Rosenthal, Philadelphia.

Stomatology—A. E. Baldwin, Chicago; G. V. I. Brown, Milwaukee, Wis.; M. H. Fletcher, Cincinnati, Ohio.

Nervous and Mental Diseases—C. H. Hughes, St. Louis; Frederick Peterson, New York City; Hugh T. Patrick, Chicago, Ill.

Cutaneous Medicine and Surgery—A. W. Brayton, Indianapolis; W. T. Corlett, Cleveland; L. Duncan Bulkley, New York.

Laryngology and Otology—B. Alexander Randall, Philadelphia; Emil Mayer, New York City; Christian R. Holmes, Cincinnati.

Materia Medica, Pharmacy and Therapeutics—John V. Shoemaker, Philadelphia; Thos. Hunt Stucky, Louisville, Ky.; Leon L. Solomon, Louisville, Ky.

Physiology and Dietetics—Randall Hunt, Shreveport, La.; James Weir, Jr., Owensboro, Ky.; Winfield S. Hall, Chicago.

Pathology and Bacteriology—W. T. Howard, Jr., Cleveland; D. E. Salmon, Washington, D. C.; W. G. Spiller, Philadelphia.

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, JULY 7, 1900. No. 1.

Original Articles.

PAROXYSMAL TACHYCARDIA.*

JOSEPH M. PATTON, M.D.
Profesor of Internal Medicine, Chicago Policlinic; Professor of Physical Diagnosis, Medical Department University of Illinois.
CHICAGO.

It is not my purpose to undertake a semeiological discussion of the motor disturbances of the heart, but to ask your indulgence for a few moments' consideration of one of the two alterations of the cardiac rhythm which present definite features with sufficient constancy and regularity to have brought them almost within the category of the recognized diseases of the heart, where they probably belong, yet in which the failure, so far, to define their pathologic entity has relegated them to the class of so-called functional disorders of that organ. A full consideration of the semeiotics of these disorders—tachycardia and bradycardia—would involve a discussion of the innervation of the circulatory apparatus and its relation to rhythmic alterations in the heart's action, which would occupy more time than the limits of this paper will allow, as I simply wish to call your attention to some features of the first named of these alterations in the heart's rhythm, as illustrated in a typical instance of paroxysmal tachycardia.

I make premeditated use of the qualification, "paroxysmal," despite Allbutt's solecism—"as one of its (tachycardia's) eminent characteristics is its paroxysmal occurrence the addition of the qualification to its name is superfluous." If we accept his somewhat sarcastic arraignment of the use of the term "tachycardia" to denote various symptomatic states of increased rate of heart action, then we can consistently disclaim the term "paroxysmal." If, however, it is proper to use the term "spasmodic" as indicative of a form of asthma essentially different from other forms of asthmatic manifestations, it is equally appropriate to make use of the qualifying term, "paroxysmal," as indicative of a form of rapid heart essentially different from other forms in that, as described by Nothnagel, it comes on suddenly, lasts a few hours or days, and terminates abruptly. If with Anders we use the term "tachycardia" to express those neurotic instances of increase of the heart-rate such as occur in certain nervous conditions, with blood changes from toxic agencies, shock, fright, etc.; or if we use the term in reference to the symptomatic forms of increased heart-rate from the pressure of tumors from hemorrhage, from softening of the medulla or cord, from paralysis of the vagus due to tumors, aneurysms, or enlarged lymph-glands or from the various reflex causes, the necessity of some special designation for the form under consideration becomes apparent. It is evident that the use of the term "tachycardia" in relation to ordinary symptomatic forms of rapid heart must be more or less pedantic, as illustrated by Anders, who says that tachycardia may occur as a physiologic condition in certain people whose pulse may range from 90 to 100 beats per minute. Such use of the term seems somewhat arbitrary. We see at times, however, instances of a more or less persistent rapid heart in connection with hysteria and other neurotic states where the pulse-rate may be from 120 to 140 or 160, presenting marked variation in rate but not the paroxysmal feature peculiar to essential tachycardia and to which the application of the term "tachycardia" would seem to be justifiable.

In illustration of the striking difference between the clinical manifestations of ordinary forms of symptomatic heart-hurry and essential paroxysmal tachycardia I may cite the following case:

Mrs. M., aged 60 years, came to my office in December, 1898, saying she wished to consult me about her heart. She was a well-preserved woman of medium height, and rather stout, with a general appearance of good health. She stated that she had never been ill, with the exception of the ordinary sicknesses of childhood; that she had always been active and energetic in both domestic and social life, but had been obliged within the last two years to be careful in regard to physical exertion and diet, because of the "spells" with her heart which were becoming more frequent and persistent. She stated that these spells she had had at intervals for several years. At first they were infrequent and of short duration—an hour or two. During the last two years the attacks had become so frequent and persistent as to be present nearly one-third of the time, and lasted from half a day to two days at a time. While she was able to go about and attend to her ordinary duties even during an attack, she realized that she was becoming steadily more and more incapacitated, and this had alarmed her, particularly as she had taken various forms of treatment without any particular benefit.

She stated that she realized when an attack began and when it ended. With the beginning of an attack she felt a slight fluttering of her heart; during the attack she felt nervous and restless, and while conscious that the heart was beating rapidly there was no special feeling of discomfort, and at times she would forget all about it. Usually she slept well, though of late she had difficulty in getting to sleep when the attacks were on. When the attacks ceased she was conscious of a sudden check in the action of the heart and immediately felt relieved as of a nervous strain. She felt exhausted after an attack, in proportion to its length. She stated that she was then suffering from an attack which had begun on the previous day: that she had been down town for several hours before coming to see me and was somewhat fatigued. I felt her pulse. The artery was not well filled and the pulse was very compressible. The rate was 210 per minute. The heart-beat coincided with the radial pulse. The machine-like regularity of the hearts' action was strikingly characteristic. There was absolutely no variation in the rhythm. The heart sounds were weak and tick-tack in character, the second being, perhaps, a trifle higher in pitch than the first, though the two were remarkably alike in duration and pitch. There was no subjective or objective evidence of palpitation, tremor cordis, or delirium cordis. There were no cardiac murmurs, and the patient was not dyspneic. The visible and palpable area of impulse was somewhat increased in extent and displaced slightly to the left, but was weak and ill-defined. The left border of dulness was slightly displaced to the left. The apex impulse remained in the fifth interspace. The second pulmonic and aortic sounds were not intensified.

---

*Read before the Chicago Society of Internal Medicine, March 29, 1900.

The patient was seen at her residence the following morning. She stated that the attack had ceased about an hour before my arrival, and that except for her weakness she felt quite well. Her pulse was 70, perfectly regular, and the heart's action apparently normal.

The patient was under observation for three months during which period the attacks became of longer duration and left her weaker and with increasing dilatation of the heart. Upon one occasion I happened to have my fingers upon her radial pulse when one of the attacks terminated. There was a sudden cessation of the rapidly-running pulse, a very short pause, a strong, well-defined pulsation, followed immediately by a weaker one, and by the time I could apply my ear to the chest-wall of the heart was beating steadily at the rate of 70.

No substantial improvement was obtained by any method of treatment. The attacks increased in frequency and duration until they were on fully half the time. In the latter part of March, 1890, she had an attack lasting over four days. On the morning of the fifth day I found her much exhausted, dyspneic, and slightly cyanotic. There were edematous râles in the base of both lungs; the apex of the heart was outside of the mammilary line; the pulse-rate was 210 per minute but very feeble. It rapidly became imperceptible; the dyspnea and cyanosis increased and she died quietly with no evidence of suffering. A post-mortem examination was not obtained.

Tachycardia paroxysmalis, synchopexia, essential or recurrent tachycardia, heart-hurry, as it has been variously termed, was probably first noted by Catton. Watson, Williamson and others soon followed him. The name "tachycardia" was first used by Gerhardt, and the qualification, "paroxysmal," by Bouveret. Among the best descriptions of the condition are those of Martis and of Herringham. Prœbsting gave a detailed description of tachycardia, and Nothnagel described three cases in 1887. A number of observers subsequently followed with case reports. Some of the earlier observers appear not to have noted the essential features of the typical form, as, for instance, Fraentzel, who speaks of the "terrifying feeling of palpitation" accompanying the attacks.

Etiologically the observations of Œttinger appear to establish some hereditary influence. Males appear to be somewhat more frequently affected than females, and the attacks are most likely to appear between the ages of 30 and 50 years, though they may occur at any age. In seven of the fifty-three cases collected by Herringham the affection began in childhood. H. C. Wood, and Watson Williams have each reported instances of tachycardia in patients over eighty years of age. Various diseases have been described in association with tachycardia, though no etiologic connection has been established. Fright, shock, traumatism and various reflex causes have been associated with the onset of attacks; but the paroxysms generally appear to be, in typical cases, independent of such influences. At the same time, these various influences may unquestionably act as the immediate exciting cause of the paroxysms. Theoretically, the cause has been attributed to either paralysis of the pneumogastric, or to stimulation of the sympathetic nerves. Martis attributed the occurrence of tachycardia to sudden dilatation of the heart. As for disturbance or paralytic inhibition of the vagus, put forth by Tuczek as a cause of tachycardia, none of the results known to follow bulbar disease, pressure on the vagus from tumors or enlarged glands, nor experimental work indicate that such a high rate of action of the heart can be obtained from such sources. Synchronous inhibition of the vagus and stimulation of the accelerators may be admitted as possible causes but this would postulate some temporary bulbar change, so far impossible of demonstration—possibly a bulbospinal neurosis, as suggested by Debove and Boulay. You will recall that Talamon regarded the affection as epileptiform in nature. Perhaps some of our neurologically inclined members will inform us as to what that may mean.

Stimulation of the accelerators to the extent of overcoming vagus control, as suggested by Nothnagel, while favored by the character of the onset and termination of the attacks, is opposed by the total inability to produce any like effect by experimental stimulation. Certainly reflex irritations, which in some cases of tachycardia appear to be definite etiologic factors in the production of individual paroxysms, do not have the inherent power of instituting them. As far as the cardiac ganglia are concerned no definite changes have been demonstrated in them which are associated with tachycardia. Moreover, the researches of Gaskell and others would appear to prove that the ganglia are not sufficiently concerned in the dynamic properties of the heart to produce any such an effect as tachycardia. In regard to the effect of changes in blood-pressure from extensive dilatation of the venous or arterial systems, such alterations in the vascular tracts do not produce such a high rate of heart-beat. In collapse from vasomotor paresis, from hemorrhage, or from the sudden removal of large amounts of serous fluid we do not usually find a pulse-rate above 160-180 per minute. In those cases of rapid heart associated with hysteria and kindred states we find the pulse-rate subsiding during sleep or during the administration of an anesthetic.

Although paroxysmal tachycardia is not associated with any clinically demonstrable disease of the heart, in the six cases which have come to post-mortem there has been shown myocardial disease in three, and if we consider that in those analogous disturbances of cardiac rhythm—tremor cordis and delirium cordi—there is practically always some form of myocardial disease present, we may admit that West's opinion, that the lesion of tachycardia is in the myocardium, is not without some force. Still, the failure to demonstrate some fault in the nerve-supply of the heart does not prove that such does not exist. The great frequency of myocardial disease and the great infrequency of tachycardia show the latter not to be dependent on the former alone. Nevertheless, myocardial changes may be a necessary, if not a principal, factor in the production of tachycardia, at least so far as modifying the inherent automatic and co-ordinate action of the myocardium is concerned. In a heart-muscle which has undergone changes ordinarily not productive of clinical, or possibly even of pathologic, evidences of disease, a sudden variation of the usual conditions of circulation or of innervation or both might be productive of such manifestations as tachycardia.

In a case recently under treatment, in a woman 57 years old, with moderate arteriosclerosis but with a previous record of good health, a primary attack of angina pectoris instituted a tachycardia wih a pulse-rate of ovêr 200 per minute which continued until her death ten days later. At first there was marked delirium cordis; and pronounced irregularity was a feature until death. The attack was followed by embolic obstruction of the left peroneal artery. There was, probably, in this case, some obstruction of the coronary circulation which caused at once the angina and the tachycardia.

It would appear that under certain unknown conditions of the heart, tachycardia may occur more or less as the result of causes extraneous to the heart itself. The following case may be cited in illustration:

The patient was a male, 50 years old, a carriage builder by occupation. His previous health was good. On one or two occasions he had transient attacks of rapid heart action, but paid no attention to them. His arteries were atheromatous and his heart slightly hypertrophied. In ———, 189—, he was under my care for relapsing typhoid fever. The temperature was never very high, and the pulse rarely above 90, the average pulse-rate being from 70 to 84. There was considerable delirium and marked emaciation. The bowels were alternately constipated and loose. During the sixth week of the fever the pulse had averaged from 70 to 74 per minute and the delirium had been absent. One morning I was sent for about 9 o'clock. I found his pulse-rate 260 per minute, perfectly regular and typical of the pulse-rate of paroxysmal tachycardia. There was no palpitation, no dyspnea, no distress. His mind was perfectly clear. He said that the attack had begun very suddenly about an hour before my arrival, and that while he was conscious of the rapid action of his heart and felt nervous and irritable he was not suffering. I found that on the day before he had eaten considerably more than usual and that his bowels had not moved since early the previous morning. I ordered a saline laxative, this to be followed by an enema. Four hours later I saw him again and found his pulse was steady, regular and beating at 70 per minute. The attack had ceased abruptly two hours previously and shortly after a copious evacuation from his bowels. The patient made a slow but uneventful recovery, and has since been in good health.

This case and the one first cited illustrate typical forms of paroxysmal tachycardia. The more I have considered them the more impressed I have become with the belief that whether there may be involved in the production of the paroxysm, abnormalities of the cerebral cortex, mesocephalon, bulb, vagi, accelerators or cardiac ganglia, or whether anemic areas or eccentric irritations are involved in the production of the attacks, there probably is present some condition of the heart muscle in which temporary interference with its blood-supply (ischemia) renders unstable the inherent power of co-ordinate action and automatic contraction peculiar to the myocardium.

In the morbid anatomy of this affection there is nothing definite to consider. The symptomatology is already sufficiently covered in the recital of the above cases. The essential features are: the sudden onset, the great rapidity of the heart's action, and its machine-like regularity; the absence of palpitation and dyspnea, and the abrupt ending of the paroxysm. Such subjective sensations as pain in the chest, uneasiness, numbness, tingling, or consciousness of motor disturbance of the heart may be present, but usually are not. Indeed their absence is rather one of the differential features between essential and symptomatic tachycardia. Rarely there may be carotid or jugular pulsation, but as a rule these, like dyspnea and cyanosis, are associated only with the cardiac dilatation which betokens the imminence of dissolution. Various symptoms have been detailed in the history of the cases that have been reported, but none of these are peculiar to tachycardia.

The prognosis is unfavorable in recurrent cases, and in all cases is uncertain. Recurrence usually becomes more frequent and the attacks prolonged until fatal dilatation of the heart occurs as in the case first cited. Herringham's statement, that the prognosis depends largely on the frequency and duration of the attacks, is true enough, but his remark, that few patients pass the age of fifty years, is not substantiated by the records. In some instances the attacks have grown more infrequent as the age of the patient advanced.

As to the treatment there is little to say. There being no specific indications, naturally the therapeutic management of these cases must be empirical, aside from the usual means applicable to any abnormal condition of the heart muscle and endocardium, or to any eccentric factors of which observation in the interval of the attacks may indicate some possible causal relationship. All the hygienic and other measures adapted to the therapeutic management of cardiopathic states in general are applicable in this connection; for even if no abnormal condition of the heart can be clinically made out we can not assume that the heart is healthy. The diet and exercise should be adjusted as in other cardiopathies. Eccentric sources of irritation should be searched for, especially in the intestinal tract. Autotoxic conditions should be avoided. During the attacks, if dilatation of the heart is increasing, digitalis should be given cautiously. As a rule it does not influence the pulse-rate for the better and its utility is doubtful. Stimulation of the vagi by pressure or electricity to their cervical portion is recommended, but has utterly failed at my hands. Compression of the chest as recommended by Rosenfeld gave the same result. It may be practiced by the patient, who fixes the feet against the bottom of the bed, applies his arms firmly to the sides of the chest and the forearms to the lower anterior portion of the chest wall; inspires deeply, fixes the glottis and makes strong expiratory efforts while pressing firmly against the chest with his arms.

Massage of the heart through the fourth and fifth interspaces seemed to me to increase the force of the heart's action but not to cause any change in the rate. Ice-bags to the precordium are recommended, but I have seen no benefit from their use.

In the case first cited, regulation of the diet, intestinal antisepsis and sodium bromid seemed to have a temporary beneficial effect. The attacks themselves were not affected in the least by any means employed. Patients with arteriosclerosis should be kept on moderate, continuous dosage of strychnia and sodium iodid, or, possibly nitrite of sodium, in order that the blood-supply to the heart muscle should be favored as much as possible. Every means should be adopted which is calculated to produce or maintain a better nutritive condition of the myocardium. Even if temporary ischemia of the heart muscle is not concerned in the production of the attack; and granting that no constant form of muscular degeneration or change is recognized as productive of or resultant from the attacks, we still have to confront the therapeutic problem of postponing the period of cardiac dilatation which ends the clinical history of these cases and to that end must bend every effort toward maintaining the integrity of the myocardium.

DISCUSSION.

Dr. Geo. W. Webster—We are to be congratulated on having our attention called to one point particularly in this paper, and that is the nature of essential tachycardia. This term has been in use in medical literature for something like 20 years, and recently there has been a tendency on the part of the profession to use the term as a synonym for increased cardiac frequency. This is, as Dr. Patton has said, pedantic, and it should not under any circumstances be so used. There seems to be no unanimity of opinion among authorities in regard to its etiology, its classification, its pathology, or its treatment. Whittaker, for instance, says that it is always a symptom and never a disease. Allbutt, with equal dogmatism, says it is always a disease and not a symptom.

In regard to its cause, some authorities maintain that the disease is in the cardiac ganglia, and there only; others maintain that the disease is a pure neurosis; and still others that it is toxic or reflex. For all of these statements there seem to be reasonable grounds. There are well-authenticated cases of typical paroxysmal tachycardia, where after the removal of a tapeworm, for instance, these attacks have never recurred. Some regard the cause as a myocarditis, or rather as a dilatation of the heart; for instance, Whittaker says that the affection is now regarded as due to a dilatation of the heart; others regard it as a pure neurosis. Similarly, with reference to its pathology authorities are not agreed. It seems to me that we should be very careful about the use of the term "'tachycardia;" we ought to limit it as Dr. Patton has carefully done, using it provisionally to designate those diseases, or, if you choose, those typical recurrent symptom-groups characterized by a sudden onset, where the pulse-rate suddenly jumps the normal to 120, 160, 180, 200, or even 250 or more in the minute; to indicate that the attack is never accompanied by palpitation; that there is perfect rhythm, both of time and of volume; that there is low peripheral resistance and low blood-pressure; that the attacks terminate as suddenly as they begin, and leave no apparent effects beyond a possible slight dilatation and fatigue of the heart, consequent upon the increased amount of work which it has been called upon to perform. If used in this way, as a provisional term, and not simply to indicate heart-hurry in those cases, like exophthalmic goiter, or tabes dorsalis, where there is a constant increase in frequency of pulse, nor as some recent writers use the term, to indicate simply hurry of the heart in such diseases as chronic tuberculosis, such use will serve to facilitate our thinking in regard to tachycardia, and will put no bar in the way of progress in the investigation of its pathology. It should be limited to a definite symptom-group.

Dr. Edward F. Wells—The subject of tachycardia is an extremely interesting one, and has been well presented by Dr. Patton in his paper this evening. There can be no doubt that the term, where applied to a morbid entity, should be strictly limited, and that the disease is an essential one. The heart-hurry accompanying toxemia, or that accompanying such a disease as exophthalmic goiter, is entirely different in character from that due to essential tachycardia. I doubt, however, the advantage of limiting the disease definition as closely as has been done by some systematic writers and, incidentally, by Dr. Patton. I believe that recurrence is not necessarily a part of the clinical history of the disease. To be sure, we can never say in any case of tachycardia that the patient may not have had previous attacks, or that subsequent attacks may not occur; but I am inclined to think, as the result of my personal experience, that a single attack or paroxysm of tachycardia, coming on suddenly and stopping suddenly, with great rapidity of the heart's action, without palpitation, but with a sense of precordial discomfort or distress, and without greatly prostrating the patient, is not so very rare, and is really the same disease as that which is known as recurrent paroxysmal tachycardia. I have under observation several patients who have had or are having attacks of heart-hurry, and, as illustrating the points of essential difference of the heart-hurry in the paroxysmal tachycardia under consideration and in tachycardia in some other diseases, I have several tracings (which he exhibited). The first tracing is from a case of exophthalmic goiter in which the pulse was very rapid. It is a characteristic tracing. The next tracing is from a case of intestinal toxemia. The symptoms of toxemia and the heart-hurry came on rapidly, not suddenly. In this case the toxemia and extreme frequency of the pulse was easily and completely relieved. I wish to call your attention now to the tracing from a case of paroxysmal tachycardia, with recurrent attacks, and you will notice that the characteristics differ radically from the other types. These tracings are important in the study of tachycardia and show minute details which can not be recognized by the finger and enable us to leisurely compare them with others. We may not be able to say that obvious or gross disease of the heart is necessarily accompanied by tachycardia, or that tachycardia accompanies any specific organic disease of the heart; still the fact remains that these patients do complain, it may be indefinitely, of their hearts. This patient, a woman, came to me several years ago for the express purpose of having her heart examined. At the time she was 40 years of age and there was no history of anything more than a vague sense of precordial distress; certainly no mention was made of rapidity of the heart. I took numerous tracings early in the history of the case, and one quite recently. The ordinary normal character of the pulse is shown. There are no heart murmurs present. I have seen her several times during or immediately following the attacks of tachycardia, and at these times the right ventricle is evidently dilated. At other times when in normal health there is no evidence of enlargement of the heart.

As illustrating another feature I wish to give briefly the history of a woman 65 years of age, who has been under my observation for some time, and in whose case there was present, in 1895, a heart murmur. I do not recall the nature of the heart murmur, but the heart was regular in its action, as is well shown in one of these tracings (exhibiting tracing). This woman one morning had some discomfort in the region of the heart. She had been entertaining some visitors; took her morning carriage ride, but in the afternoon she sent for me, saying she was not feeling well. She was up and about, but somewhat restless, and complained of a slight uncomfortable sensation in the cardiac region. Her pulse was beating more than 206 times per minute, as shown in this sphygmogram; the other tracings show the character of the pulse before and after the paroxysm. The beginning of the attack was sudden; the end was equally sudden, and there has been no recurrence and no history of an previous attack.

Another woman, 50 years of age, gave a history of frequent headaches and jaundice. Cardiac arrhythmia had been noted some years before, and is yet present. I show you the tracings in this case before and during an attack of heart-hurry, and immediately following. I have tracings in which the irregularity of the heart is shown. The attack in this case followed an attempt to ride a bicycle, but there was a history of some previous attacks which were very similar, so far as sensations were concerned, but no account had been made of the pulse.

The hurry of the heart accompanying hysteria is well shown in this tracing (exhibiting tracing), although it is not so marked as in some other cases I have seen. In hysterical cases I think the rule is for the pulse to gradually become more rapid.

Several years ago I saw a gentleman, 35 years of age, who, during satisfactory convalescence from typhoid fever, picked up the nurse's record, and in looking over it thought it would be a good plan to count his own pulse. He did so, and found it reached 100, although during the attack of typhoid fever his pulse did not exceed 90. He called his wife and said there was something the matter with him, and when I saw him later his heart was beating 180 times per minute, and his face was bathed in cold perspiration—clearly a nervous state. A hypodermic injection of morphia relieved the condition, likewise his anxiety.

Repeating, I wish to state that we may have a tachycardia that is identical with paroxysmal tachycardia without recurrence, and these cases should be classed with those of essential tachycardia. I simply object to the term "recurrent" as a necessary part of the title and applicable to this affection.

DR. GEO. W. MCCASKEY, of Fort Wayne, Ind.—In thinking over the anatomico-physiologic mechanism of the circulation during the reading of this interesting paper, it has occurred to me that there are four possible causes for the condition we are discussing: 1, lesions in the central nervous system; 2, lesions in the intracardiac nervous mechanism; 3, lesions in the peripheral nervous system in the way of so-called reflex irritations; 4, disturbances in the blood itself. The opinion is held by some that these attacks are due to some toxic influence; but in the cases described by Dr. Patton, it seems to me that the toxic origin is entirely out of the question, unless we can assume that the tachycardia is brought about by some sort of cumulative or explosive action upon the nervous mechanism of the heart—which is perhaps possible. It seems clear to me that the essential condition at the time of these attacks must reside in the nervous system. I am not prepared to discuss the three other possibilities, but simply mention them to say that I am inclined to think all of them apply to different cases of paroxysmal tachycardia, the pathology of which varies greatly in different cases.

I would call attention to one condition which has been referred to by a previous speaker, and which may possibly explain some of the cases, and that is the sudden alteration in the arterial tension. At the present time I am studying a case very carefully which was referred to me by a colleague. The patient has had sudden attacks of bradycardia, followed by tachycardia. These attacks are periodic in character; they are not produced by exercise. The patient can lift weights or run upstairs without causing attacks, and upon auscultation and percussion there is no evidence of any cardiac disturbance. I believe the case is one of neuropathic angina, so-called by Landouzy. The pulse was as low as 25 or 30 on some occasions. The attack of bradycardia was doubtless due to some unknown cause which produced increased arterial tension. The attacks were regularly periodic—a phenomenon which does not pertain to true angina. I prescribed nitrite of amyl. She crushed one of the capsules, inhaled it, and the first inspiration aborted the attack, and this has been the result ever since. Here is an instance where a sudden alteration in arterial tension produced bradycardia which, when the nerve-centers became apparently exhausted, was followed by lowered arterial tension and tachycardia. It still remains for us to explain the lowered arterial tension in such cases.

DR. N. S. DAVIS, JR.—The tracings of Dr. Wells illustrate well a feature which I have observed in my own practice. It is the effect of respiration upon the heart's action, the production of a noticeable wave in the respiratory line of the tracing. The commoner causes of a rapid heart's action do not cause this. But in essential tachycardia it has been present in all cases which have come under my notice. Essential tachycardia is described as a non-structural disease of the heart, and it is usually supposed not to be associated with valvular disease. There is no reason why it should not be. The following case illustrates the possible coincidence of both conditions. This case I have seen several times during the last two years. The patient, who comes from Wisconsin, has had many attacks of what appear to be in every respect attacks of essential tachycardia. The attacks have recurred very many times. He has a well but not perfectly compensated chronic valvular disease of the heart. The attacks of tachycardia come on without any discoverable cause, and they cease with the suddenness which is peculiar to essential tachycardia. I consider it a case of chronic valvular disease of the heart complicated by the phenomenon of recurrent essential tachycardia.

DR. PATTON—In regard to the remarks of Dr. Webster as to the unqualified use of the term "tachycardia," he misunderstood me slightly. I did not intend to make the point that the term "tachycardia" should not be used except in association with essential tachycardia. We must have some term by which we can describe the heart's action in such cases as we have associated with exophthalmic goiter, hysteria, etc. Where the pulse-rate is 200 or over I do not know how we can avoid the use of the term "tachycardia." If we do not use it we have to use a word which will mean the same thing. I objected to the term as it is used by Anders. The use of the qualifying term "paroxysmal" is not only justified but necessary in relation to distinct paroxysmal attacks. They are essentially different from the symptomatic forms. We ought not to use the unqualified term "tachycardia" to cover the whole field.

In regard to the case of tachycardia mentioned by Dr. Webster as being associated with tapeworm, it is quite possible, yet I do not believe it proves that the typical attack was due solely to the tapeworm. There must be some cardiac disturbance which will allow of the manifestation of such a condition. We have tapeworms and tapeworms, and we rarely see attacks of tachycardia associated with the existence or presence of tapeworm.

In regard to Dr. Wells' objection to the use of the term "recurrent," he will find in reading my paper that I have not used it at all except in connection with various other terms to describe the disease. It has not been used as one of the essential features of the attack. I have merely used the term "paroxysmal" as indicative of an attack that comes on as a paroxysm, continues for an definite period, ceases suddenly, and that may or may not be recurrent.

With reference to the causes mentioned by Dr. McCaskey, he has, of course, given the principal channels through which such an effect might occur.

In regard to vasomotor changes, sudden variation in blood-pressure, etc., this is a theory to which Allbutt is especially partial, but he has not been able to find sufficient reason to sustain it. From extensive dilatation of the vessels in the splanchnic area we do not get typical attacks of tachycardia. We get a rapid pulse-rate. I saw a man in collapse the other day from vasomotor paresis; he came very near dying. I saw another man who died from vasomotor paresis. The heart-rate in neither of these cases was above 190; one was 175, and the other 190. Fatal vasomotor paresis does not cause a pulse-rate of over 200; as a rule, it is seldom that point is reached. It comes on gradually as the case develops. I do not think we can explain essential paroxysmal tachycardia by vasomotor paresis, or through changes in blood-pressure due to vasomotor influences, because they require more time for their development; they do not recover so abruptly; there is more variation in the rhythm and in the force of the pulse. There is certainly a variation in the force, if not in the rhythm, in all cases of rapid heart due to nervous causes.

I was much interested in the experimental work of Dr. Matthews, and, as far as I can see that they have application to this discussion, they would bear out the theory that typical essential tachycardia is due to some intracardiac cause. It has a sudden beginning, a sudden cessation, irrespective of the blood-pressure. The mechanical rate at which the heart works and the altered rhythm are peculiar features of this kind of an attack, for, if arrhythmia be present it is likely to take the form of allorrhythmia. In the case cited in the paper, where a woman died during an atypical attack of tachycardia, the attack began as an angina; there was an allorrhythmic condition which would be very much like what Dr. Matthews has produced in his experimental work on the heart, the regular departure and regular resumption of certain rates. This is not usually seen in attacks of essential tachycardia, but its occurrence may take place in connection with tachycardia under certain conditions of circulation in the heart muscle.

As far as the cause is concerned, the possible influence of vasomotor changes, central nervous condition, abnormalities of the cardiac ganglion, etc., must be borne in mind. We must have something wrong with the cardiac muscle. We have cardiac muscular disease in practically all of these cases, but there is something else; whether there is a change in the blood-pressure in the heart muscle, resulting in a temporary ischemia, or whether the condition is due to some poisoning of heart muscle, I do not know; but I am convinced that there is something of that kind aside from extraneous causes affecting the heart muscle.

The case cited by Dr. Davis is interesting from a clinical standpoint. Practically all authorities are agreed that left-sided valvular disease may be associated with attacks of essential tachycardia. The valvular disease is not regarded in any sense as a cause, and should not be, except in so far that it might result in myocardial changes which would render the heart more susceptible to the other unknown causes which result in the paroxysmal. It is interesting, however, to have a record of the association of the two conditions.

EXPERIMENTAL AND CLINICAL NOTES ON THE SUBARACHNOID SPACE.*

DUDLEY TAIT, M.D., and GUIDO CAGLIERI, M.D.
SAN FRANCISCO, CAL.

From the exclusive domain of anatomy and physiology the meningeal route has made its way through the work of clinicians, to the sphere of practical medicine and surgery. To Quincke is due the credit of having demonstarted the innocuousness of subarachnoid lumbar puncture, its facility of execution, and the harmlessness of the withdrawal of a considerable amount of cerebrospinal fluid. Soon after Quincke made his original communication concerning "lumbal puncture," scores of physicians, in their enthusiasm for this new mode of relieving intradural pressure, predicted the curability of many diseases of the cerebrospinal system, previously deemed hopeless. In epilepsy, tuberculous meningitis and general paralysis many expected wonderful results. The German school, for example, singularly oblivious to the diffuse and deep cellular lesions present in tuberculosis of the meninges —the best known of all meningeal infections—adopted lumbar puncture as a logical and valuable therapeutic measure. A few doubtful cases of temporary amelioration in tuberculous meningitis were first reported. Then followed a long series of dismal failures. To-day, no one seriously contends that meningitis, especially of the tuberculous variety, can be cured by simply relieving pressure—decompression—and when we recall the extent of the bacillary lesions, the constant morbid changes in the nerve tissue—cerebral and medullary—subjacent to the meninges, and particularly when we consider the anatomy of the subarachnoid space, it seems almost incomprehensible that eminent surgeons in Europe and America should have proposed drainage of the lateral ventricles as a means of combating tuberculous meningitis. This procedure, first suggested by Wernicke (1881) and Zenner (1886), and adopted later by von Bergmann (1887), Keen (1886) and others, is not in accordance with either the clinical or the pathologic findings, as it is well established that the softening noted post-mortem in cases of tuberculous meningitis is due principally to an inflammatory process, and not to increased intraventricular pressure, which in reality plays a secondary part in the production of coma, and the failure of the cardio-respiratory action. Some physicians have argued from the analogy of tuberculous meningitis to tuberculous peritonitis that drainage ought to do good in the former condition since it does in the latter. These authorities forget that the lesions under discussion are very different, and consequently there is no real analogy to guide us.

In the present communication we do not deem it necessary to review the subject from a historic or biographic standpoint, except to establish beyond possible controversy the question of priority in cocain analgesia by the spinal route. To an American, J. Leonard Corning,[1] belongs the credit of having first suggested and carried out, both in animals and in the human subject, spinal analgesia by means of cocain injected into the lower dorsal region. Corning,[2] although his reasoning was manifestly unsound regarding the mode of action of the analgesic substance, nevertheless succeeded in obtaining analgesia of the lower limbs, scrotum, penis and lumbar regions, both in the dog and in man. He also mentioned the possibilities of this method of analgesia in genito-urinary and other branches of surgery.

Ziemssen (1893) was the first to suggest injections of diverse medicaments by lumbar puncture. Sicard was the first, however, to carry out this plan. This clever investigator began his studies in this domain as early as 1897. His first communication to the Biological Society of Paris was made in April, 1898, whereas Jacob, working in the laboratory of Professor Leyden, of Berlin, published his first report a month later. Sicard was also the first to use tetanus antitoxin and saline solution in the subarachnoid space. While great credit is unquestionably due Bier for calling attention to the analgesic properties of cocain by lumbar puncture, it should be remembered that his work comprised little more than the perfecting of Corning's technique in accordance with Sicard's experimental studies. Councilman, Mallory, and Wright (1898), of Boston, in their remarkable report on cerebrospinal meningitis, were among the first to utilize the subarachnoid space for the bacteriologic study of meningeal infections.

A review of general literature shows that all are agreed on the diagnostic value of the study of cerebrospinal fluid. It is indispensable in cases of meningitis, and may render valuable assistance in the differentiation of cerebral lesions and neoplasms, as is well illustrated by a case of cerebral actinomycosis correctly diagnosed by Monod and Sicard. In tuberculous meningitis, especially in circumscribed tubercles, the bacillus is found, by lumbar puncture, in 25 per cent. of the cases, according to the statistics of Leuhartz and Stadelmann.

---

*Read before the Medical Society of the State of California, San Francisco, April 17-19, 1900.

[1] Intradermic infiltration of cocain was used by Reclus in several hundred operations, minor and capital, before Schleich advocated this method of analgesia. The method of cocainization known in Europe as Kummer's—in which the field of operation is shut off by means of an elastic band—was made known and used by Corning as early as 1884. E. Hoffman (Deutsche Med. Woch., 1886) attributed "the essential advancement in the application of cocain for local anesthetic purposes" to Corning's discovery. Harvey Cushing (Annals of Surgery, Jan., 1900) erroneously states that Corning introduced cocainization of main nerve trunks. This method was the result of experiments made in 1886 by Feinberg, Kochs and U. Mosso. Krugius of Helsingfors, after whom the method is named, was the first (1894) to make use of these experiments. Cushing's error is probably due to the fact that Koch's work was reviewed (N. Y. Med. Jour., Jan. 22, 1897) by Corning.

[2] New York Med. Jour., Oct. 31, 1885.

The present communication is but a résumé of the work which has engaged our attention during several months. In the study of the subarachnoid space we have endeavored to elucidate certain doubtful points and have sought to make some practical deductions therefrom.

The subarachnoid space may be reached by several routes: 1. By trephining the skull. 2. The atlooccipital route followed by Magendie in demonstrating the constant presence of cerebrospinal fluid. 3. The dorsal route, with or without laminectomy. 4. The sacrolumbar route. 5. Through the central spinal canal. The second, third, and fifth routes are seldom used, on account of the difficulty and danger encountered. In six out of seven cadavers we found the dorsal route accessible as high as the sixth space, without preliminary laminectomy. 6. The cervical route.

We found the sixth cervical space a sure and extremely easy route in the human being. We first tried this route on the cadaver, by injecting colored fluids, without previously having incised the skin, and obtained uniformly satisfactory results. The route most commonly adopted is the lumbar or sacrolumbar. We find the latter preferable in animals, and the third lumbar space the most practical in the human being.

The technique of lumbar puncture is well known, and is usually described in text-books. We desire, nevertheless, to call attention to a few points of interest, if not of value: 1. The distance to be traversed by the point of the needle is generally given as 7 to 8 cm. We have never found the distance so great as 8 cm., even in obese patients, but most invariably 6.5 to 7 cm. In two cases of adults, the distance was 5.5 cm. 2. The smaller the caliber of the needle, the slower, and therefore the safer, the procedure. The rapid introduction of 2 c.c. of liquid, in one of our patients produced considerable shock. 3. By first withdrawing a small amount of cerebrospinal fluid, one is certain of making the injection within the canal. 4. Slow aspiration of the fluid, contrary to the opinion of German authorities, does not induce any untoward symptoms. 5. Lumbar puncture may be rendered painless, and extremely easy, by injecting a few drops of Schleich's mixture into the skin and subjacent soft parts. By this simple plan, the sudden start of the patient will be prevented, and the relations of the osseous parts will thus remain undisturbed.

CEREBROSPINAL FLUID.

In this part of our investigations, a large unmber of animals—guinea-pigs, rabbits, cats, dogs, and even horses were used for experimental purposes, and a series of cadavers served to acquaint us with the intricacies of the subarachnoid space. Whenever feasible, the technique adopted in animals was as near as possible that followed in the human being, without preliminary laminectomy. Several patients subjected to lumbar puncture for therapeutic purposes were utilized to clear up doubtful points relating to the physiology of the subarachnoid space, and furnished valuable data. The cerebrospinal fluid resembles no other organic fluid. Our knowledge of its origin and mode of secretion and resorption is very incomplete. Anatomists compare the subarachnoid space to a serous cavity, to an immense lymph sac into which empty the cerebrospinal perivascular lymphatic vessels. Hence the important rôle ascribed to the lymphatics in the evolution of infectious meningitis. Against this classic opinion may be cited a long series of facts which compel us to change most radically our conception of the cerebrospinal fluid, its nature and rôle in the various infections. The normal cerebrospinal fluid possesses none of the chemical properties of lymph. It contains no histologic elements, no albumin, no leucocytes, no red corpuscles, no fibrogenous factors, nor fibrin ferment. In only one of our cases, which had been previously subjected to an injection of iodid of potassium, did we find a few leucocytes. Widal and Sicard demonstrated that in the course of typhoid infection or immunization, the cerebrospinal fluid does not possess agglutinating and preventive properties, in contradistinction to the secretions of serous membranes—peritoneum and pleura. Sicard showed that, unlike blood, the cerebrospinal fluid does not coagulate the non-spontaneously coagulating organic liquids, hydrocele fluid, for example. It is an excellent medium for the preservation of leucocytes, the latter retaining their ameboid movements and chemiotaxic properties. It only dissolves the red corpuscles after considerable time—*in vitro*. Artificial—medicinal—increase of arterial pressure does not augment the secretion of cerebrospinal fluid. On the contrary, direct increase of pressure by intravenous injection of saline solution, produces a noticeable increase, as the following experiment goes to prove: In a dog of 20 kilos, a fine needle was introduced in the lumbar subarachnoid space. After 10 c.c. had escaped, the fluid flowed very slowly—one drop every two seconds. 200 c.c. of salt solution was then injected into the femoral vein. The flow of cerebrospinal fluid showed an increase within ten minutes. In a series of patients we made lumbar punctures after having given by mouth or subcutaneously, repeated doses of salicylates, antipyrin, cyanid of mercury and potassium iodid and in no case was the drug found in the cerebrospinal fluid; whereas, urinary analysis invariably gave a positive result. In a dog of 15 kilos an intravenous injectiou of 5 c.c. of 1 per cent. solution of mercuric cyanid caused death within three minutes. Even under these exceptional circumstances, the cerebrospinal fluid showed no trace of the toxic substances.

On the other hand absorption and elimination occur when chemical substances are injected directly into the subarachnoid space. This was confirmed by experiments in animals and also in our work on man.

These facts prove conclusively that the osmotic current exists in only one direction: *there is exosmosis, but no endosmosis.* (Sicard.)

Considerable knowledge may be derived from the careful study of the mode of diffusion of the cerebrospinal fluid, under various conditions. In our work we employed insoluble colored mixtures, which enabled us to note with accuracy and facility both the microscopic and the macroscopic results in the different regions involved.

Briefly stated, the plan pursued was as follows: After having located accurately the various landmarks, a fine needle was introduced into the subarachnoid space of the lumbar region, and a mixture of carmin and saline solution, or a dilution of common washing blue—ferrocyanid and ferricyanid—injected, in variable quantities, with or without pressure, according to the object of the experiment. The results were as follows: When injected without pressure, the colored fluid stains the space at the point of injection, and then diffuses in all directions, ascending and descending, following the meningeal prolongations along the spinal nerves, to the intravertebral foramina, where it stops abruptly.

The extent and rapidity of diffusion are influenced by several factors; the amount, composition, density of the liquid, and principally the pressure under which the liquid is injected. If 1 c.c. of the blue mixture be slowly injected into a rabbit weighing 900 grams, it ascends rapidly, and if the animal be killed after ten hours, the colored fluid will be found around the medulla oblongata, and at the base of the brain. If the same amount of colored fluid be injected under considerable pressure, and the animal sacrificed after twenty-four hours, the fluid will be found over a much more extensive area; diffusing from the spinal subarachnoid space through the foramen of Magendie to the fourth ventricle, through the *iter a tertic* to the third ventricle, and finally to the cortex of the brain. We found that when 5 c.c. of the colored fluid was injected under great pressure in the lumbar space, the diffusion occurred instantaneously, and the color of the animal's eye recalled, in certain cases, the substance used.

Example illustrating the course pursued by the fluid from lumbar space to cortex of the brain: Rabbit, 850 grams. Preliminary trephining of the skull in the temporal region; injection of 10 c.c. of blue mixture in the lumbar space; time occupied, three minutes. After 2 c.c. had been injected the brain bulged through the trephined opening, and finally burst, the colored fluid escaping through the rent. Death occurred four minutes later. The inverse experiment was made by injecting the fluid directly into the lateral ventricles, but has not as yet given definite results. Improved technique will undoubtedly confirm the facts noted above. Our best specimens were obtained by means of injections made under a considerable pressure, death in some cases ensuing during, or shortly after the operation.

Post-Mortem Findings.—The necropsies of a long list of rabbits so treated showed the following conditions: The pia-arachnoid is colored in its entire course along the cord and brain, continuing along the sheath of the auditory, facial and optic nerves, and also following the prolongations of the olfactory through the cribriform plate of the ethmoid. On the optic nerves, the stain follows the meningeal sheath and generally stops at the junction with the sclerotic. In several of our specimens, however, the colored material followed a course similar—inversely—to that of the diplococcus in some cases of cerebrospinal meningitis, i. e., involved the sclerotic, choroid, papilla, and retina. We have never found the cornea stained. Microscopic sections of the brain and cord show the course followed by the colored fluid and its relations to the perivascular sheath. In several of the forced injections the colored fluid was found in the lungs, and from numerous necropsies we satisfied ourselves that it had escaped from the subarachnoid space, by the blood-stream, thus invalidating the views of Foster, who describes the escape of cerebrospinal fluid as occurring along the tubular prolongations of the pial membranes that accompany the cranial and spinal nerves to the general lymphatics.

The study of the numerous specimens mentioned above is of considerable interest in reference to the origin and evolution of meningeal infections. For instance, they explain very lucidly how tubercle bacilli, which are so frequently found in the tonsils, adenoids and nose, may easily reach the subarachnoid space, independently of the lymphatics, through the cribriform plate of the ethmoid, or the aqueductus Fallopii. The part played by the cerebrospinal fluid in the dissemination of the agent of infection is also made very clear. The same observation holds good in regard to infective lesions involving the cavities contiguous to the subarachnoid space—eye and ear. Another fact of great pathologic importance noted by Sicard is the insignificant rôle of the lymphatics in the origin of meningeal infections. As Sicard remarks, it is difficult to understand by what process the tubercle bacillus, escaping from a cervical or mediastinal gland can follow a retrograde course to the cerebral perivascular lymphatics. On the contrary, infections of hematogenous origin can easily occur, as Sicard's cases conclusively prove.

EXPERIMENTAL THERAPEUTICS AND PRACTICAL DEDUCTIONS.

The action of a drug varies with the route through which it is introduced into the body. Without apparent effect, when given by the mouth or subcutaneously, some substances, chemical or microbic, administered in like doses by the intravenous route, produce serious or even fatal effects. The intracerebral route, as was well illustrated by the interesting studies of Roux and Borel, and by Lesné and Sicard, requires a smaller dose to produce a fatal effect than any other route. The subarachnoid route occupies a position midway between the intracerebral and the intravenous routes (Sicard).

The difference in action of drugs, according to the route employed, can not be ascribed entirely to the degree of rapidity of its absorption and elimination. The tissue involved plays an undoubtedly important part. Each tissue reacts in a distinct manner. In regard to the brain it has been sugggested that the compresion and traumatism incidental to the intracerebral injections may explain in part the difference in effect, but Widal, Lesné and Sicard have proved that large quantities of saline solution can be injected into the brain without causing damage. Furthermore, intracerebral injections of tetanus antitoxin have proved to be harmless and nonproductive of appreciable lesions. These assertions were fully verified in the necropsy of a case of tetanus which we reported recently at the California Academy of Medicine.

In the following notes we relate our experience, in animals and the human being, with the subarachnoid space viewed as a therapeutic route. We sought to determine the degree of tolerance of this space for various toxic and non-toxic substances, some of which had not been used heretofore by this route, and to ascertain the action of said substances on the subjacent normal or pathologic nerve tissue.

In animals the drugs used were cocain, iodid of potassium, and cyanid of mercury.

Cocain.—In a dog of 10 kilos we injected, in the lumbar space, 1 c.c. of a 1 per cent. solution of cocain. Within three minutes, analgesia was noted on the lower limbs. At the expiration of five minutes complete analgesia—superficial and deep—was detected over the entire surface of the body, ears, nose and mouth. The animal presented a semiparetic condition of the hind legs for thirty minutes and then ran about as usual. The duration of analgesia was one hour and ten minutes. In a dog of 32 kilos, we injected rapidly, in the lumbar space, 2.5 c.c. of a 1 per cent. solution of cocain. Three minutes later analgesia was noted over the entire body, as in the previous experiment. The animal was greatly depressed, vomited, and was paralyzed in the hind legs. The paralytic condition ceased after the second day.

Mercury cyanid.—In a dog of 9 kilos, we injected 2 c.c. of a 1 per cent. solution. No pain was noted; mild paraplegia lasted fifteen minutes.

Iodid of potassium.—Our experiments with this drug were made with doses too small for any local effect. We found that to be of practical use by lumbar puncture, iodid of potassium must be considerably diluted. The saturated solution invariably produced most intense and prolonged pain.

INJECTIONS IN THE HUMAN BEING.

1. *By the cervical route.*—Remembering the innocuousness of intracerebral injections, and judging from the results of a series of punctures of the cord in animals, we inferred that the slight traumatism produced by the needle would not be followed by any untoward symptoms.

A. C., aged 49, had very painful chronic gonorrheal arthritis of the left knee and right wrist. We injected 1.5 c.c. of a 1 per cent. solution of cocain in the sixth cervical space, at a point .5 cm. from the median line. Eight minutes later, analgesia was noted from the toes to the level of the thyroid. On the limbs the analgesia was both superficial and deep. We were thus able to manipulate both of the diseased joints without inducing pain. Analgesia ceased within eight minutes.

A. L., aged 42, had rectal fistula and axillary adenitis. We injected 1 c.c. of a .5 per cent. solution of cocain, in the sixth cervical space. Fifteen minutes later we noticed very slight analgesia extending over the chest. This disappeared within five minutes. In neither of these two cases were there any disagreeable consequences. The procedure was painless. The second patient thirty minutes afterward walked a mile.

The third case was the same patient as in the second instance, and we injected, in the sixth cervical space, 3.5 c.c. of a .5 per cent. solution of cocain. The patient complained of a sharp pain in the left arm during the introduction of the needle. Cephalalgia, a feeling of intense heat over the entire body, copious perspiration and slight vomiting followed almost immediately. The pulse, temperature, respiration, and pupils remained unchanged. There was no analgesia even after one hour and twenty-five minutes. The patient then walked home—one mile—and, on the following day, he complained of slight headache and weakness in the legs. On the third day his condition was normal.

All of these patients were examined several weeks after the injection and found free from any possible complication.

2. *By the lumbar route.*—

I. T., aged 43, suffered from syphilitic myelitis, and was treated with a .8 c.c. injection of saturated solution of iodid of potassium, after we had withdrawn 1 c.c. of cerebrospinal fluid. Intense pain and burning were experienced immediately in both feet. Shortly afterward these symptoms were noted in the thighs, and the patient urinated involuntarily. The painful phenomena lasted six hours. The same patient subsequently received, by lumbar puncture, an injection of 3 c.c. of a 1 per cent. solution of cyanid of mercury. Nothing was noted until the fifth hour, which ushered in numbness and tingling of the lower limbs. Five hours later the patient had a gastric crisis, of greater severity than any previously experienced. No apparent amelioration resulted from the injections in this case. The gastric crises are now more frequent than formerly.

Subarachnoid injections of cocain were made in a series of cases requiring surgical intervention.

M. D., aged 54, suffering with necrosis of tibia, on Oct. 26, 1899, was injected with 1 c.c. of a .75 per cent. solution of cocain. No analgesia was noted before thirty-five minutes. Analgesia, both superficial and deep, was then well marked in the lower limbs. Osteotomy of the tibia was performed without causing either pain or discomfort. There were no unpleasant after-effects. Analgesia ceased after forty minutes.

O. L. had a pelvirectal fistula. We injected 1 c.c. of a .5 per cent. solution of cocain and no analgesia followed. Two hours later the patient complained of tingling and numbness in the legs. Investigation showed that the cocain solution was very old and had been boiled many times.

M. M., aged 26, had acute osteomyelitis of the tibia. We injected 1 c.c. of a 1 per cent. solution of cocain. Analgesia was first noted after twenty-five minutes. The patient also lost the muscular sense in the lower limbs. Amputation was made through the condyles after a thorough exploration of the knee-joint. No pain was noticed except when the popliteal nerve was pinched. The patient then said he felt the instrument but did not complain. The duration of the operation was thirty minutes, with no after-effects. Analgesia lasted fifty-five minutes.

M. U., aged 32, had a urethral fistula—membranous portion. We injected 1.5 c.c. of a .5 per cent. solution of cocain after having withdrawn 5 c.c. of cerebrospinal fluid. No analgesia was noted. The solution used in this case was not fresh, and had been boiled by mistake for thirty minutes.

M. L., aged 48, had sarcoma of the uterus. We injected 1.5 c.c. of a 1 per cent. solution of cocain, after having withdrawn 1 c.c. of liquid. Analgesia of the right leg was noted after eighteen, and of both legs after twenty-five minutes. There was no analgesia of the clitoris after thirty minutes, when vaginal hysterectomy was performed. Vaginal incision with the Paquelin cautery was painless. Traction on the broad ligaments caused very slight pain. Section of th broad ligaments and extraction of the left ovary proved painless. The pressure of the clamp was not noticed by the patient during or after the operation. The latter lasted twenty minutes. The analgesia had then exended as high as the clavicles; the patient neither felt the puncture for hypodermoclysis nor was discommoded in the least by the consequent distension; she complained of the noise of the instruments. There were no unpleasant after-effects. Analgesia lasted one hour and ten minutes, and the patient had her usual liquid diet during the same afternoon. The clamps were removed after forty-eight hours.

M. N., aged 40, suffered with a tuberculous knee. We injected 1.5 c.c. of a 1 per cent. solution of cocain, after having withdrawn 3 c.c. of fluid. Analgesia was noted in both legs after twelve minutes. After the usual transverse incision for resection of the knee, and a most thorough exploration of the bones and soft parts, a condition was revealed which contraindicated resection. Consequently, the wound was closed, and the patient informed of the necessity of an amputation. No pain was noted at any time during the operation, which lasted fifteen minutes. The analgesia continued one hour and five minutes. The patient complained of slight nausea shortly afterward, but this ceased rapidly. Death occurred two and one-half months later, from general tuberculosis. Necropsy showed normal cord and meninges in the lumbar region.

M.M., aged 26, had inguinal hernia, and was injected with 2 c.c. of a .5 per cent. solution of cocain. Five minutes later analgesia was noted in both legs. The operation—a modified Bassini—was begun one minute later. The skin incision was painless, but some discomfort was noted during the incision of the fascia of the oblique, and the dissection of the sac from the cord. The patient was rendered nervous by the noise of the instruments. The resection of 15 cm. of omentum was painless. The upper part of the deep layer of sutures caused some pain, but the lower part proved almost painless. The suturing of the skin was not altogether painless. No troublesome after-effects occurred. In this case the cocain was diluted with the intention of increasing its diffusion; the solution was, however, too weak.

M. L. had necrosis of tibia, and we injected 1.5 c.c. of a 1 per cent. solution of cocain after having withdrawn 1.5 c.c. cerebrospinal fluid. Analgesia was noted after five minutes. Exploration and curetting began immediately. No pain was experienced, and no after-effects. This patient had collapsed under chloroform and also under ether anesthesia on former occasions.

We have endeavored to apply subarachnoid injections of cocain to obstetrics but we reserve this part of our work for further study. In the study of cocain we found that its local action was in an inverse proportion to its degree of dilution, and that the diffusibility increased in proportion to the amount of the liquid injected. Our experience teaches us that the disagreeable after-effects of subarachnoid injections of cocain are, in part, due to the sudden increase of pressure, and may be avoided by the preliminary extraction of a small amount of fluid, and by making the injection slowly. The amount of cocain is also a factor of importance. With more than 1.50 c.c. of 1 per cent. solution, or more than 1 c.c. of a 1.5 per cent. solution of cocain, we generally noted more nausea, headache and weakness. Toxic symptoms occur in the subarachnoid method in very much the same manner as in the intradermic method of cocainization. In the search for substances less toxic than cocain, we considered eucain and nirvanin. The former, in animals, seemed to differ but little from cocain. Nirvanin, even in a 5 per cent. solution, used subcutaneously, proved less toxic than cocain, but only slightly diffusible. The analgesia induced is less pronounced and disappears more rapidly than that caused by cocain. Schleich's mixture is valueless for subarachnoid use.

CONCLUSIONS.

1. To the already known practical routes leading to the subarachnoid space, we propose to add the "low cervical"—in the sixth cervical space—which we find both easy and safe.

2. The cerebrospinal fluid possesses none of the properties of lymph.

3. Contrary to the classic opinion, the cerebral perivascular lymphatic sheaths do not empty into the subarachnoid space. (Sicard.)

4. Liquids injected by lumbar puncture diffuse rapidly toward the different cavities of the brain, and subsequently reach the cortex.

5. The difference in osmotic currents in the cerebrospinal fluid—presence of exosmosis and absence of endosmosis—in addition to the protection afforded by the perivascular lymphatic sheaths, explains the rarity of infection of the cerebrospinal fluid in the course of generalized blood infections and also the gravity of primary infections of the cerebrospinal fluid. (Sicard.)

6. Direct intramedullary medication is feasible and deserving of further trial.

7. Subarachnoid injections of cocain are devoid of danger if made with certain precautions. The solution should be freshly prepared and injected slowly at a temperature of 37 C. and never in a greater quantity than 3 c.c.

8. The extent and duration of the analgesia thus induced is generally in direct proportion to the amount of drug injected. Analgesia is noted in some cases as early as five minutes, after the injection, and in others, for unknown reasons, as late as thirty-five minutes. Its duration is sufficient for the performance of all operations on the lower limbs and pelvis, and may be sufficient to be of service in obstetrics.

9. The disagreeable effects—headache and vomiting—sometimes noted after these injections, are partly due to the sudden increase of pressure in the subarachnoid space—too rapid diffusion toward the brain—and principally to the amount of cocain used. These post-operative symptoms are never alarming or lasting. They recall the effects of intradermic injections of cocain, and never resemble in severity the symptoms so frequently observed during and after chloroform or ether anesthesia.

10. One c.c. of a 1 per cent. solution of cocain injected slowly is generally sufficient for all practical purposes, and is not followed by untoward symptoms.

11. For obvious reasons, it is a good plan to withdraw a small amount of cerebrospinal fluid prior to making an injection.

12. To the careful surgeon, who aims to gradually divorce himself from the dangers of general anesthesia, and the limitations of superficial analgesia, spinal analgesia, may, under certain exceptional conditions, prove of signal service, and it behooves us to herald abroad the fact that this progressive step was made by a modest American surgeon—J. Leonard Corning.

BIBLIOGRAPHY

V. Bergmann: Die Chir. Behandlung der Hirnkrankheiten, Berlin, 1899.
Bier, A.: Deutsche Zeitschr. f. chir., T. 51, p. 361, 1899.
Bizard: Thèse de Paris, 1899.
Concetti: Archiv. f. Kinderheilkunde, 1898, p. 62.
Chipault: Acad. de Médecine, Paris, April 6, 1897.
Corning, J. Leonard: N. Y. Med. Jour., Sept. 19 and Oct. 31, 1885.
Dastre: les Anesthésiques; Nouveau Dictionnaire de physiologie.
Franck. F.: Arch. de Physiologie, p. 562, 1892.
Fürbinger: International Congress, Berlin, 1890; and Berlin Klin. Woch., 1895, No. 13.
Discussion in der Berlin. Med. Gesellsch., March 20, 1895.
Jacob, P.: Berlin Klin. Woch., May 23 and 30, 1898.
Jaboulay: Lyon Médical, May 15, 1898.
Joffroy and Serveaux: Archiv. de Méd.. Exper., July, 1898, p. 486.
Jacobi: N. Y. Med. Jour., Dec. 28, 1895; Jan. 4, 1896.
Keen: Medical News, Dec. 1, 1888. Koch: Cbl. f. K. M., Dec., 1886.
Kocher: in Volkmann's Samml. Klin. Vort., N. F., No. 28.
Lesné: Thèse de Paris.
Leuhartz: XIV Congress f. innere med., 1896.
O. Martin: Société de Biologie, Paris, March 5, 1898.
E. Martin: Lyon Médical, Oct., 1898.
Netter: Semaine Médicale, June 29, 1898.
Ophüls: Ueber Ependymveränderungen bei tuberculöser Meningitis, Archiv f. pathol. Anat. Berlin, 1897, 305 and 323.
Quincke, H.: zur Physiol. der Cerebrospinal flüssigkeit, Du Bois und Reichert's Archiv, 1872. Berlin Klin. Woch., 1891, pp. 930 and 965.
Riecke: s. Huguenin. Ziemssen's Handb., 12-Bd., 480.
Roux and Borel: Annales de l'Institut Pasteur, April, 1898.
Sicard: Société de Biologie, Paris, April, Oct. 29 and Nov. 12, 1898; May 20, 1899. Thèse de Paris, Dec. 20, 1899.
Seidowitsch: Cbl. f. chir., No. 41, p. 1110. Stadelmann, Berlin Klin. Woch., 189—.
Tuffier: Presse Médicale, Nov. 15, 1899.
Wernicke: Lehrb. d. Gehirnkrank., Bd. 3., Berlin, 1883.
Widal and Sicard: Annales de l'Institut Pasteur, May, 1897.
Widal, Sicard and Lesné: Presse Médicale, July 23, 1898.
Ziemssen: Wiesbaden, Kongr., 1893, p. 198.

THE SURGERY OF BILIARY CALCULI.*

WILLIAM D. HAGGARD, Jr., M.D.

Professor of Gynecology and Abdominal Surgery, University of the South, (Sewanee); Associate Professor of Gynecology, Medical Department University of Tennessee; Gynecologist to the Nashville City Hospital; Fellow of the Southern Surgical and Gynecological Association; Member of the Alumni Association of the Woman's Hospital of New York, etc.

NASHVILLE, TENN.

I shall restrict my remarks to the surgical aspect of biliary calculi, as a consideration of the causation, frequency, symptoms of the various phases, their diagnosis and discriminating diagnoses, widespread complications, prognosis and medical treatment, so-called, would lead me far beyond the limits of a thesis of this character.

---

*Read before the Eleventh Annual Meeting of the Southern Surgical and Gynecological Association, New Orleans, La., Dec. 5-8, 1899.

It may not be amiss, however, in describing the surgery of the gall-tracts, to allude to the very great frequency of gall-stones, as almost all organic diseases of the biliary reservoir and ducts are directly or indirectly dependent upon them. The frequent findings of unsuspected gall-stones at autopsies is not a valid contraindication to operation in cases which, from certain complications, menace well-being and perhaps life.

The causation has been held to be the stagnation of bile with an altered condition of the epithelium, forming both the nucleus and media for their development and resulting from various mechanical, diathetic and inflammatory conditions. It is to the latter, perhaps, that we may look for a simplification of the various existing etiologic hypotheses. The element of infection of the biliary ways in the production of gall-stone is an undetermined quantity. It may be stated that Mignot produced cholelithiasis by the injection of bacteria into the gall-bladder.

The supreme symptom is pain; when this occurs in the right hypochondrium it is always significant. It may vary from slight discomfort to the agony of a biliary colic, which is equaled only by the parturient effort. It is important to discriminate between the intermittent and paroxysmal pain in biliary concretions, from the continuous pain in the inflammatory infective and suppurative conditions of the biliary passages.

In connection with the diagnosis I wish strongly to emphasize that jaundice is not an essential sign of gall-stones and the practice of waiting for icterus as a confirmatory evidence of their existence is illogical and positively hurtful. Jaundice is a symptom common to the whole biliary tract, whether from inflammation, retention or obstruction. While in the latter, jaundice is inevitable, it is also commonly present from extension in simple catarrhal duodenitis. Hunter McGuire[1] says: "According to my observation, at least one-half of the cases of gall-stones are never attended by jaundice and at least one-half the cases of persistent jaundice are not due to gall-stones."

I should like to speak also of the cholangeal inflammations and also of the suppurative and infective conditions and their differentiation from lithiasis, but these can not be treated in the scope of this paper, except to call attention to them as being frequent concomitants and resultants of gall-stones; and to urge the early removal of troublesome cholelithiasis in the light of its inflammatory and ulcerative possibilities as well as its undoubted causal relationship to malignant disease.

The relatively small number of operations compared with the undisputed frequency of the disease, indicates that it is either overlooked or fails to give rise to serious trouble, or that the symptoms are mistaken for those of other disorders. The actual mortality is not known, as it is often a vague and undetermined malady and, when grave, is frequently considered only in the light of the complicating conditions. In regard to the surgical mortality, however, sufficient evidence has accumulated to allow us to draw convincing conclusions.

In the past eight years Kehr[2] has done 307 operations for cholelithiasis—255 women and 52 men. The total mortality was 11.7 per cent. Excluding deaths due to the pathologic condition, as hopeless carcinoma, advanced suppurative condition, etc., the actual mortality was 3.8 per cent.

Mayo Robson[3] gives the following indications for surgical operations on the gall-bladder or biliary passages: 1. Recurring attacks of biliary colic, with or without jaundice, and whether the gall-bladder is enlarged or not. 2. Enlargement of the gall-bladder, whether there be pain or not. 3. Persistent jaundice which was preceded or accompanied by pain in the region of the gall-bladder, with or without paroxysms resembling ague. 4. Empyema of gall-bladder, or peritonitis in gall-bladder region. 5. Abscess in region of gall-bladder. 6. Rupture, fistula, or wounds of gall-bladder.

The lessened danger of hernia in this region makes amplitude of exposure the sole consideration.

In tumefaction, linear incision over the prominence is all that is required. For exploration, a small vertical incision through skin, fascia, and peritoneum can be made at the outer border of the right rectus, beginning at the top of the tenth costal cartilage. This can be prolonged downward to any needed length and joined by another incision at right angles to it and across the rectus muscle, to give a liberal exposure of the subhepatic space. (Abbe.)

Somewhat the reverse of this triangular incision is proposed by Czerny, who begins his incision in the median line and prolongs it transversely to the right at the level of the umbilicus.

The oblique or transverse incision of Courvoisier, parallel with, and one-half inch below the lower border of the ribs, is capable of easy extension and gives adequate room for manipulation.

Bevan employs an S-shaped incision, for which most liberal exposure is claimed.

Of the operations on the gall-bladder, I shall discuss cholecystotomy, cholecystendesis, modified cholecystotomy without suture and cholecystectomy.

CHOLECYSTOTOMY.

Incision of the gall-bladder and suturing the cut edges to the parietal incision, with drainage, like many important life-saving surgical procedures, is of American origin, having been first performed by Dr. Bobbs, of Indiana, in 1867. It is the simplest of the gall-bladder operations, is applicable to the majority of cases, and the mortality is practically nil in cases without jaundice. In 115 cases, Mayo Robson[4] lost 5, 3 of which were complicated with cancer and 2 with infective cholangitis and jaundice. Excluding these there were no deaths in 100 uncomplicated cases.

Technique.—The usual vertical incision three inches downward from the tip of the tenth costal cartilage usually exposes the gall-bladder. If adherent, as the result of previous severe or existing inflammation, it should be freed from neighboring viscera. The next and most important technical step is the complete and careful surrounding of the gall-bladder with sterile gauze so disposed as to entirely wall off the field of operation from the peritoneal cavity. It is convenient to introduce two stout silk ligatures into the fundus to act as guy-lines. The contents may then be aspirated and the gall-bladder incised for exploration with the finger. Calculi may be removed with the finger, forceps or scoop. After all the discernible stones have been extracted, the operator should make a careful palpation of the ducts. If any stones are detected they should be removed by the appropriate maneuver. The edges of the gall-bladder incision are then sutured to the peritoneal and fascial margins of the wound by chromicized catgut. A non-perforated rubber drainage-tube is introduced and the parietal wound partly closed by sutures. Copious dressings should receive the bile, or it may be siphoned into a bottle by rubber tubing. At the end of ten days the bile may be dammed up by a pad, and the opening usually closes in three or four weeks. If a sinus persist, there is usually a stone imbedded somewhere in the biliary tract, but many stones, overlooked or left, work out later.

Fistulæ resulted in 50 per cent. of Robson's cases where the gall-bladder was sutured to the skin, but in only 7 out of 160 cholecystotomies where it was sewn to the aponeurosis, all of which were ultimately cured by appropriate means.

The earlier operations were always, and a certain number are now, done in two stages. It avoids the risk of peritonitis, especially in the infected cases. It is much simpler and should commend itself to the inexperienced operator. To the expert it is less often required. Kehr employed it only 3 times in 100 cases. In acute cholecystitis. where the gall-bladder is small, deeply seated and can not be satisfactorily sutured to the incision, Riedel advocates the two-stage method, by allowing adhesions to form about a gauze tamponade, before incising the gall-bladder. The chief objection to the operation in two stages is that an impacted stone in one of the ducts could not be removed and might require a second operation.

CHOLECYSTENDESIS.

Immediate suturing of the gall-bladder after incision and extraction of the stone was first suggested by Langenbuch.[5] It is requisite that the bile-channels be open. It is the ideal operation in that it leaves no biliary fistula. but it presents the danger of peritonitis from leakage, prevents needful drainage of the inflamed tracts and walls off the cholecystitis and also cuts off the escape of any remaining concretions. It should be reserved for early cases, with slight inflammatory changes. Two rows of Lembert sutures are required.

MODIFIED CHOLECYSTOTOMY.

A modification of cholecystotomy, by Poppert, of Giessen, has recently been described by Coley,[9] as follows:

> The first steps of the procedure recommended by Poppert are the usual ones, namely, the incision of the gall-bladder and removal of the calculi; then, however, instead of directly suturing the bladder to the abdominal wound, he establishes between the two a narrow drainage by means of a thick and long drain, which is fixed by a suture in the lowest point of the incision in the bladder, and the lips of the wound are drawn as tightly as possible around it. The other end of the drain is sutured to the abdominal wound and is surrounded by a wick of iodoform gauze, which at the same time serves as a dressing for the bladder incision. The bile flows out through this tube of caoutchouc. In ten to fifteen days the obliteration of the bladder around the drain ceases, as is shown by the fact that the bile impregnates the wick and soils the dressing. At this time, however, the adhesions having been formed around the drain, there is no longer any danger of the bile escaping into the peritoneum. Then the iodoform wick can be taken out, and at the end of from three to four weeks the drain is removed. The fistula closes rapidly.
>
> The author has practiced this mode of drainage in forty-seven cases of simple cystostomy, and in ten cases of cystotomy combined with cysticotomy or choledochotomy. He has never had a failure, and claims the following advantages for his method:
>
> 1. It is extremely simple, and may be practiced in all cases where the bladder is distended or contracted. The method can be employed even in friable bladders—which heretofore have been considered as unfit for operation—and even in worse conditions.
>
> 2. It does not cause the formation of tight adhesions between the bladder and the abdominal wall and does not cause any painful contractions of the bladder and great biliary canals when the bladder and liver resume their places.
>
> 3. It affords protection against peritonitis, for as the bile flows out of the cystic wound it is absorbed by the tampons. The tamponade becomes particularly valuable when it is necessary to open an abscess situated above the bladder.

This has also been done by many American surgeons, and cases were reported by Longyear, of Detroit, and Hall, of Cincinnati, in 1893.[12]

CHOLECYSTECTOMY.

Excision of the gall-bladder was first performed by Langenbuch in 1882. It is regarded by Thiriar as the least dangerous of the operations on the gall-bladder. Its indications may be summarized: 1. As a secondary operation for persistent mucous fistula, as a result of insuperable obstruction of the cystic duct. (Robson.) 2. When the gall-bladder is contracted and can with difficulty be brought into the incision, extirpation can be practiced if the common duct is undoubtedly free. 3. Where the friability of the organ from inflammatory disorganization precludes other indicated procedures. 4. Malignancy, gangrene and ulceration.

The operation is anatomically exceedingly simple, requiring only blunt dissection of the attachment to the liver and ligation of the cystic duct, followed, or not, by drainage. The portion attached to the liver in a necrotic gall-bladder was left by Gaston, and the remainder trimmed away after ligation. Dr. Clinton Cushing[16] assumes that as the gall-bladder is absent in certain animals, such as the horse, the deer, and the elephant, it is probably, like the appendix, a vestigeal organ, and can be removed without detriment to the physiology of the economy, and that, being a cul-de-sac, a serious disease having once occurred was likely to return. He advocated excision in all cases of operation for gall-stones, save obstruction, to prevent reaccumulation or renewal of inflammation. He reported six cases, all followed by recovery.

On the other hand, Rose[8] considers the function and retention of the gall-bladder very important and advocates exploration of the ducts by incision at its base, and clearing the tract of stones by that avenue. He found that disablement of the gall-bladder caused compensatory dilatation of the other ducts, and that the continuance of such disablement or cholecystectomy would lead to new secondary lithiasis in the branches of the hepatic duct.

The surgery of the gall-bladder is almost perfected, but the management of calculi in the ducts by the various methods is as yet unsettled. I shall discuss the following operations on the ducts: Cholelithotrity, cysticotomy, choledochotomy and choledochostomy.

CHOLELITHOTRITY.

Cholelithotrity, or crushing the calculus in the duct, has been said to be preferable to incision. This is accomplished by: *a*, finger pressure; *b*, pressure by padded forceps; *c*, needling. The first is the least objectionable and Robson reports thirty cases with one death. Needling or breaking the stone into fragments was suggested by Mr. Thornton; crushing was suggested by Mr. Tait, and is the least of his wonderful work in this field. Both crushing and pressure by padded forceps have some of the dangers of incision and may present others, such as leaving debris as nuclei for further concretions. They were practiced before the surgery of the ducts had reached its present stage of advancement, and are infrequently employed at this time.

CYSTICOTOMY.

Cysticotomy is the operation for incision of the cystic duct, and extraction of stone with or without suturing. The cystic and hepatic ducts and the upper part of the ductus communis choledochus can be reached by an incision through the anterior layer of the gastro-hepatic omentum, the liver and gall-bladder being drawn strongly upward. Cysticotomy is rarely required and only when a stone is so firmly impacted that attempts at dislodgment by manipulation and pressure fail. Drainage should be established with or without suture. Kehr operated on the cystic duct 23 times without a death.

CHOLEDOCHOTOMY.

Courvoisier estimated that 4 per cent. of gall-stones were located in the common duct, but Robson says from a surgical standpoint, 20 per cent. is not too high. Clayton Parkhill[13] says that stones were removed from the common duct 200 years ago. Courvoisier deliberately planned and performed the operation of choledochotomy in 1890, but Marcy, of Boston, removed a stone from the cystic duct the year before. The lower part of the choledochus may be reached by cutting through the peritoneum at the right of the first or second portion of the duodenum toward the median line. All manipulations, and especially suturing of the common duct, are rendered far more easy, as urged by Deaver,[14] when the finger is inserted in the foramen of Winslow, thus elevating the duct in the border of the gastro-hepatic omentum. It can be accurately palpated and an impacted stone can sometimes be pushed into the duodenum or back into the gall-bladder. The cystic and also a portion of the hepatic duct can be palpated. When the stone is located, linear incision of the duct can be made with the finger behind it, great care being exercised to prevent injuring the portal vein. In all operations on the duct, a sandbag under the back brings it more easily within reach. The feet should be lowered to allow the colon to gravitate downward, the liver being held up by large retractors. Gauze pads should be snugly packed about the field of operation. Adhesions, which usually exist, should be very delicately severed. If suturing is contemplated it should be done in layers, fine catgut uniting the muscularis, and Lembert sutures of silk, the peritoneum. Halsted[6] has described minute hammers for elevating the duct and putting it on a stretch to facilitate suturng. It is difficult to prevent leakage by any method, and it is best to drain. If it is inexpedient to suture, the entire efficacy of drainage with gauze has been abundantly proved and its employment ardently insisted upon, by W. E. B. Davis, who has made so many important contributions to the surgery of the gall-ducts. The importance of this suggestion is well illustrated by a recent report. Quénu[7] collected 95 cases of suture of the ducts with a mortality of 35.5 per cent., while the mortality in the cases without suture was only 18 per cent. In these were included 6 personal cases. In 2, sutures were used; both died. In 2 others biliary intoxication appeared; the sutures were cut and the patient recovered. The other two were not sutured and recovered.

Fenger[9] also believes that the common duct should not be sutured as a rule, and never without drainage, from the site of incision in the duct, and particularly drainage of the gall-bladder to prevent biliary intoxication. McBurney[15] has suggested that the anterior wall of the duodenum be opened at the junction of the first and second portion, and the common duct approached through the intestine. This obviates the difficult exposure and manipulation of the duct by the usual method, gives easy access to the stone by dilatation and slight incision of the duodenal opening of the duct, allows free probing for other stones, greater safety in suture of the duodenum, and more rapid recovery. He has performed the operation six times. Parkhill,[13] of Denver, has made a Murphy-button anastomosis between the common duct and duodenum with success, and Robson reports two similar anastomoses, by suture, with recovery.

Fenger collected 44 cases of choledochotomy in 1896, with a mortality of 18 per cent. He has operated on 7 cases, with 1 death, a mortality of 14.3 per cent. Kehr has had 7 operations with a mortality of 11.7 per cent.; Peterson[11] 20 cases, with 4 deaths, a mortality of 20 per cent.; and Robson 49 cases, with a mortality of 6.1 per cent., jaundice and suppurative cholangitis being present in all of his fatal cases.

CHOLEDOCHOSTOMY.

Choledochostomy, or attaching the duct to the incision in the anterior abdominal wall is rarely necessary, always difficult and sometimes quite impossible.

CHOLECYSTENTEROSTOMY.

Cholecystenterostomy, or making a permanent fistula between the gall-bladder and intestinal canal, by suture or mechanical appliance, is indicated to short-circuit the bile in: 1. Irremediable obstruction of the common duct from *a,* stone; *b,* adhesion; *c,* angulation; *d,* chronic catarrhal cholangitis producing jaundice. 2. Persistent biliary fistula. 3. Obstructive jaundice from pressure of cancer.

The first cholecystenterostomy was performed by Winiwarter, of Liège, in 1880, who sewed the gall-bladder to the colon and attached both to the abdominal wall. After union had occurred, he opened the approximated surfaces and sewed the cut margins together, as we do in making lateral anastomosis by suture. After five attempts he succeeded. But it was the genius of a southern surgeon, Dr. J. McFadden Gaston, that gave to humanity the operation of duodeno-cholecystenterostomy,[17] in 1882. This was first performed on the human subject by Terrier, in 1889. However, it has been a safe and generally applicable procedure only for the last dozen years. The introduction of that most ingenious surgical device of the age, the Murphy button, has given the operation a much wider scope by the simplicity of the device and the rapidity with which it can be applied. Murphy collected thirty-eight cases without a death, some years ago, all that had been reported up to that time. Many of these operations have been done since with uniformly good results.

There is a certain class of cases where, owing to the contracted condition of the gall-bladder, or fixity of the duodenum in the depths of the loin as a result of inflammatory changes, the viscera can not be made to approximate each other and in that event the colon may be substituted. While it should be our aim to restore parts to as nearly a normal and physiologic condition as possible, still where it is inconvenient and impossible to switch the bile into the duodenum, we may utilize the colon, as has been frequently done, without detriment to the economy in the supposed necessary presence of bile in the small intestine. This possibility was abundantly proved by the elaborate and carefully conducted experiments by Robson[18] on a case of biliary fistula, which he epitomized in the following conclusions:

1. The bile is probably chiefly excrementitious, and like the urine, is constantly being formed and cast out.

2. Though the bile probably assists in the absorption of fats, its presence in the intestine is not necessary for the digestion of such an amount of fat as is capable of supporting life and keeping up nutrition.

3. Increase in body-weight and good health are quite compatible with the entire absence of bile from the intestines.

4. The antiseptic properties of the bile are unimportant. 5. Whatever little antiseptic quality bile may have is probably derived from its admixture with the gall-bladder fluid.

6. The supposed stimulating effect of the bile on the intestinal walls is not necessary for a regular action of the bowels.

COLOCHOLECYSTOSTOMY.

I beg leave to briefly report the following case of colocholecystostomy for chronic catarrhal cholangitis with gallstones:

B. J. G., male, aged 27, had a severe attack of biliary colic attended with tenderness and jaundice in February, 1897. He had had several light attacks of hepatic colic some weeks before, and he had been in Johns Hopkins Hospital, Baltimore, awaiting operation, but improved, and so it was deferred. He was operated on after the severe attack in 1897, by Dr. J. F. W. Ross, of Toronto. A number of stones were removed, a fistula made and a drainage-tube kept in for two weeks. The fistula remained open until June, 1897, when Dr. Ross closed it by suture, and the patient, who had been in bed the whole of the four months, was up in a week. In November, 1897, he again had a number of attacks of colic and jaundice, which kept up intermittently until March, 1898, when Dr. Louis McLane Tiffany, of Baltimore, opened the gall-bladder. As he found no stones, he closed by immediate suture, fixed it to the abdominal wall, and closed the incision throughout.

In June of the same year, while still in the hospital, the patient was again seized with attacks of colic and transient jaundice, which, in the absence of Dr. Tiffany, induced his assistant, Dr. I. R. Trimble, to again open the gall-bladder for exploration. He wrote me that he found no stones, but thought he had succeeded in passing a rubber catheter through the cystic duct and thence into the duodenum. The gall-bladder was sutured and attached to the abdominal incision, which was closed by buried and superficial silkworm gut sutures.

On July 3, he received a blow on the head, which resulted in a fracture of the skull, which was elevated by Dr. Robert Pillow, of Columbia, Tenn.

In August, 1899, fourteen months after the third gall-bladder operation the pain and colic returned and was rather frequent and more severe than ever before. On October 1, he had an attack that lasted four days, and could obtain no relief. He came to see me in Nashville and, while there, had one of the most severe attacks of biliary colic I have ever seen. I gave him 2¾ gr. of morphin, hypodermically, in less than three hours without any appreciable effect on the pain. He was not accustomed to taking morphin, and after the operation 1/8 gr. had a very satisfactory and complete effect.

On Oct. 12, 1899, in the presence of jaundice which had existed fitfully for two months, I made an exploratory operation through the old scar parallel with the ribs. As the gall-bladder was attached to the parietes, it was opened, and a black, tarry fluid was found therein and one large gall-stone, perfectly black and somewhat larger than a cherry-stone, together with some smaller crystal-like stones. An effort was made to catheterize the ducts, which it was reported had been done before without success. The gall-bladder was irrigated and temporarily packed with gauze. It was then dissected from the parietes below and a careful palpation of the ducts made, but no other stones could be detected. The adhesions were very considerable as the result of so many previous operations and such long-continued inflammatory trouble, and the gall-bladder was much contracted. I did not wish to content myself simply with the removal of the two small stones, nor yet did I desire to close it up again or give him another biliary fistula, both of which had failed to give permanent relief. Kelly, Senn and Murphy had all advised a cholecystectomy, but after I found no calculous obstruction to account for the recent colic and existing jaundice, I concluded that it must be a chronic catarrhal cholangitis with intermittent inflammatory obstruction. I thereupon deemed it unwise to do a cholecystectomy, and decided to make a cholecystenterostomy. The duodenum, however, was so matted with adhesions and the gall-bladder was contracted to such an extent that I did not think I could make the anastomosis with safety. I, therefore, utilized the hepatic flexure and made a Murphy button anastomosis with gauze drainage. There was no untoward symptom. A little bile came out after the removal of the gauze, on the third day, but none thereafter, and the drainage tract closed quickly. The jaundice faded, urine cleared up and he had two normal bowel movements a day, whereas, he had previously been obliged to take purgatives daily. He went home at the end of two weeks, with a clear complexion and a gain in weight; has had no trouble since, but the button has not passed.

McGuire reports a button retained over a year after cholecystenterostomy, but Treves has never known one to remain in the gall-bladder.

Note—I have had a communication from Dr. Ross since this paper was read, referring me to a report of the first operation performed by Dr. Ross, upon this patient; the specimens were illustrated in the International Clinics for October, 1897, Vol. iii, 7th Series. About 3000 gall-stones were removed which were denominated by Ross and also by Frerichs, "biliary gravel."

BIBLIOGRAPHY.

1. Hunter McGuire: Va. Med. Semi-Monthly, Dec. 2, 1899.
2. Kehr: Volkmann's Klin. Vortrage, Oct., 1898, No. 225.
3. Mayo Robson: The Lancet, May, 1897.
4. Mayo Robson: Diseases of Gall-bladder and Biliary Ducts, 1898.
5. Langenbuch: Centralbl. f. Chir., 1887.
6. Halsted: Bulletin Johns Hopkins Hosp., April, 1898.
7. Quénu: Revue de Chir., Jan., 1898.
8. Rose: Deutsche Zeit., f. Chir., 1898, B. xlix, H. 6.
9. Fenger: Annals of Surg., June, 1898.
10. Poppert-Coley: Prog. Méd., Surgery of Gall-bladder and Bile-ducts, p. 52.
11. Peterson: Centralbl. f. Chir., 1898, p. 143.
12. Longyear and Hall: Trans. Am. Assn. Obst. and Gyn., 1893. Disc. on papers by Drs. Davis and Ricketts.
13. Clayton, Parkhill: Trans. Colo. Med. Society, 1899.
14. Deaver: The Journal, April 22, 1899.
15. McBurney: Annals of Surgery, Oct., 1898.
16. Cushing: The Journal, July 29, 1899.
17. Gaston: Atlanta Med. and Surg. Jour., Oct., 1882.
18. Mayo Robson: On Gall-stones and their Treatment, 1892, p. 32.

312 North High Street.

A CASE OF PERFORATING GASTRIC ULCER.*

ALLEN JONES, M.D.

Adjunct Professor of Principles and Practice of Medicine, University of Buffalo.

BUFFALO, N. Y.

For the following case I am indebted to Dr. A. B. Beiver, of Ridgway, Pa., who kindly referred the patient to me Sept. 20, 1899.

The patient was a man, by nativity a Swede, aged 57 years, by occupation a tanner. He said that his father died at the age of 90 and his mother at the age of 45—cause unknown. He had two brothers and two sisters.

---

*Read before the Fourth District Branch of the N. Y. Medical Association, Buffalo, May 8, 1900.

all of whom were in good health. The man had been suffering for five years from recurring attacks of gastric pain and vomiting. After stopping work and abstaining from all but small quantities of predigested milk and other liquid foods for a few weeks, his vomiting ceased, and he rapidly gained strength and returned to work. This happened several times and each succeeding attack was more severe than the former until finally, before I saw him, he had not been at work for four months. Owing to circumstances which prevented me being in my office when the patient first called, Drs. Stockton and Woehert very kindly examined him for me. He complained of weakness, loss of flesh, poor appetite, pain in the epigastrium, eructations and vomiting. He was constipated most of the time, but occasionally had attacks of diarrhea. His skin was sodden; his urine amounted to 864 c.c. in 24 hours, and the urea to 16.41 grams; there was a trace of albumin, but no sugar and no indican; the acidity was normal and the microscopic examination negative. The thoracic organs were normal, though the pulse was weak and the capillary circulation poor.

The first examination of the stomach showed moderate gastric stasis but no marked stagnation. The total acidity was 56; the free hydrochloric acid registered .12 per cent.; no lactic acid was found. On October 5, I examined the stomach before breakfast and found a lot of the food eaten the night before—the odor of which was not offensive though the mass was somewhat yeasty. Free hydrochloric acid was present; lactic acid was absent; butyric and acetic acids were present; hemialbumoses and peptone were present in large quantities; rennet ferment was active; starches were not digested. Microscopically, a goodly number of large long bacilli and strings of cocci were found but no Oppler-Boas bacilli were discovered. Subsequent examinations revealed similar motor, chemical and microscopic conditions, and as there was never at any time epigastric tumor to be felt, a provisional diagnosis of benign stenosis was made. There was no history of hematemesis nor was any blood found in the gastric contents. Diet, gastric sedatives and local treatment proving of no avail, operation was advised. On October 19, Dr. Park made a median epigastric incision and found the lesser curvature and pylorus attached to the liver by recent adhesions which were separated and revealed a clean chronic perforating ulcer of the superior anterior surface, very near the pylorus. The perforation was large enough to admit a lead pencil and the chronic nature of the ulcer was apparent by the formation of a new epithelial surface over almost its entire depth and by the large amount of thickening in and about its margins. The pylorus was amply patulous. Pylorectomy was performed and the patient succumbed a few days later owing, doubtless, to the fact that he was seriously weakened and reduced before the operation and was much past middle age. Pyloric stenosis probably depended upon spasm resulting from the irritation of the ulcer.

436 Franklin Street.

Dr. Geoffroy, of Rome, has been administering a solution of resorcin in certain digestive disturbances, and a child in his charge died. The parents' sued him, and the medical expert summoned stated that resorcin is toxic and that an adult can not take over 2½ gm. To prove its harmlessness Geoffroy took large amounts for several days and died in consequence.

REVIEW OF THE PRESENT STATUS OF JONNESCO'S OPERATION.*

MARCEL HARTWIG, M.D.

BUFFALO, N. Y.

The olden writers considered it proper to commence an allocution with a *captatio benevolentiæ* and so do I; with what success, remains to be seen. At all events I feel obliged to make an attempt to dissuade you from harsh criticisms because my paper will necessarily fall short of my own demands; what then can I expect from you? If there be any blame, your secretary must share it with me, as his request for a paper came on a very late day, and I promised against my better conviction. Furthermore, I have to say in explanation of my choice of title, that while it is certainly wise to call an operation by a name fully expressive of the procedure, it is not less our duty to acknowledge the meritorious work of our confrères who have promoted science. The highest reward we can bestow is due to those whose genius has given us a meritorious method for alleviating human suffering. It is therefore fitting that I should call this operation—neurectomy of the cervical sympathetic—by the introducer's name.

If we desire to obtain an understanding of the effects to be expected by resection of the cervical sympathetic we must recur to the physiology of this important nerve; and here, in delving into details, we find more discrepancies than we could expect from a perusal of the text-books. Preeminently we must not forget that all results of physiologic research in animals have to be transferred with caution, into the realm of human physiology. The location of the nerve is different according to the species; and late effects have been wellnigh neglected by physiologists. While the previous observations of accidental lesions have taught us some things, Jonnesco's labors have already shed considerably more light, and he and his followers will give us still more.

Presuming that the essentials are fresh in the minds of my hearers, let me recite some rarer observations. Bidder says that after cutting the trunk the salivary gland atrophies. Gad says that electric irritation of the upper end of the severed trunk, while it remains in connection with the head, produces general contraction of the blood-vessels of the head, except those on the mucous membrane of the cheeks, lips and gums, where redness appears. Seeligmueller says that traumatic paralysis was published eight times previous to 1876; but that only twice, redness and raised temperature of cheek and ear were reported, and twice only, flattening and reduction of the substance of the corresponding half of the face. Brown-Séquard saw, 18 months after section of both sympathetics on the neck of the guinea-pig, distinct atrophy of the brain; after one-sided section, atrophy of the brain of the same side only; whereas, Vulpian only once succeeded in seeing the same result. Wagner seems to have been the first man to find (1865) that hypotony of the eyeball follows the section of the ganglion supremum, while the myosis was well-known. Panas has shown though, that this hypotony does not last. While Hippel and Gruenhagen have shown that irritating the trigeminus within the skull produces glaucoma. Abadie says that this is due to the sympathetic fibers accompanying the trigeminus.

---

*Read before the Fourth District Branch, N. Y. State Medical Association, Buffalo, May 8, 1900.

Thus, he explains the appearance of glaucoma fugax in the sound eye, after iridectomy on the diseased side, by reflex irritation of the sympathetic fibers of the good eye, similarly as the reddening of the sound side, by the irritation of the central stump of the severed sympathetic on the other side, in Dastre and Morat's experiment. If we follow the literature, of all the symptoms ascribed to section of the sympathetic in the neck the only constant one seems to be narrowing of the pupil. The latest peculiar observation is by Neuschueler (Jan. 26, 1899), who found microscopic hemorrhages in the subarachnoid space and in the ciliary body of cats and rabbits after section of the cervical sympathetic of the ganglion supremum.

After glancing at these physiologic reminiscences, let me approach our subject proper. Although Jaboulay made the first intended sympatheticotomy on both sides, Sept. 2, 1895, and although Baracz had already proposed the full neurectomy of the cervical sympathetic in 1893, Jonnesco was the first man to do the full neurectomy on both sides (1896), and up till to-day he has performed more of these operations than all other surgeons together. He is, at the same time, the man who most persistently widened the field of indications. He kept his labors constantly before the eyes of the medical world, beginning in the Comptes Rendus du Dixième Congrès de Chirurgie, 1896. His description of the operation itself, which I herewith circulate,[1] may already be called classic. Let us not forget Abadie, however, since he seems to have established the indication for extirpating the ganglion supremum for glaucoma.

The original purpose of Jaboulay was the cure of epilepsy. The theory that exophthalmic goiter is caused by an irritation in the cervical sympathetics certainly covers the field of phenomena better than any other and clearly indicates the neurectomy of the whole chain of three cervical ganglia. An irritation of the cervical sympathetics ought to produce bulging of the eyes; as removal of the upper ganglia causes retraction of the bulbi. An irritation of the lower ganglia accelerates the heart and consequently section of these slows it. There are, however, accelerating fibers in the upper two thoracic ganglia, and here may be an explanation if the operation should fail in slowing the heart. We know least of all regarding the influence upon the thyroid gland; but, inasmuch as sympathetic fibers accompany the thyroid arteries, we can at least construe an influence, little as we really know of this kind of influence. Let us not forget that this theory does not explain all, for example, why the affection is generally on both sides, or why there are "*formes frustes*" where the swelling of the thyroid is wanting, or where the bulging of the eye is absent. Let us not forget that Filehne has made the meritorious discovery that exophthalmic goiter can be produced by section of the corpora retiforma if lesion of the fourth ventricle be avoided; that other phenomena may accompany exophthalmic goiter, as the tremor and nervousness which point to involvement of the central nervous system itself; that the extirpation of the goiter alone has often cured the disease, and that thus failures by neurectomy of the sympathetic may occur. But, the results thus far are very gratifying, and last, but not least, of all surgical means neurectomy is almost devoid of danger—thus far only two deaths are recorded—while the extirpation of the goiter is very hazardous and necessitates the tying of the three or four thyroid arteries and is not better in its final effects than the neurectomy, while it does not meet the theory half as well.

The theory upon which Jonnesco attempted the cure of essential epilepsy is much less substantial. He thought, simply by producing hyperemia of the brain, to increase its nutrition and thereby possibly to cure inveterate cases, and it may be he thought of the experiments of Kussmaul and Tanner, showing that anemia of the brain produces an epileptic fit. The exasperating character of many cases of epilepsy and the well-known failure of any number of methods, the surgical included, must have led to the attempts at neurectomy, while the physiologic atrophy of the brain mentioned heretofore may have escaped his calculation. At any rate, the results have not been unfavorable as a whole, though not as gratifying as with Graves' disease and glaucoma; while the ultimate effects are, considering the novelty of the procedure (four years) unknown to-day in man.

The final results as far as ascertained and published to date, are: Jonnesco's operation for epilepsy: There were 45 cases (Feb. 11, 1899); 55 per cent. cured, 28 per cent. improved, 15 per cent. not benefited—one case cured of chorea simultaneously. Jonnesco's operation for exophthalmic goiter: Ten cases were operated on; 60 per cent. recovered, 40 per cent. improved. In one case of unilateral resection unilateral improvement followed. Shortest observation was for a period of four months *post operationem*. Jonnesco's operation for glaucoma: There were 8 cases where vision was not lost, and in each there was improvement, particularly in the glaucoma chronic simplex where iridectomy is useless. Here he removed the uppermost ganglia only, except in one case in which the exophthalmic goiter also was present. In all there were forty-two bilateral resections with no deaths from the operation. Later on six epileptics died. This is a grand record, indeed, for four years of assiduous labor, a result entitling Thomas Jonnesco to a place among the stars of the medical firmament, and to the honor of having the operation carry his name, Baracz and Jaboulay notwithstanding, although the latter's first case may have inspired Jonnesco.

Only the cool judgment of the whole medical profession can finally establish the merits or demerits of an operation. In the Société de Biologie, Dejérie criticized sharply the results obtained in epilepsy, particularly Chipault's, who, according to Schober's report, could not refute the statement that in Paris not a single cure had been obtained. Yet Professor Dupuy had also to acknowledge this. Paris having been the nidus of this operation, it does not speak well for its effect in epilepsy.

In glaucoma generally those cases were submitted in which vision was almost lost and iridectomy had been done in vain; still improvements were generally noted where vision was not entirely lost. Mohr had improvement from vision 5/15 to 5/9; field 5 to 10 degrees. Dayreux saw a failure of Abadie's. Demicheri, in Montevideo, had in three cases, very decided improvements.

Panas and Jaboulay saw the hypotonia vanish in three months and assumed that the nervous influence travels afterward through the vagus and trigeminus. Abadie saw in a case of two years' standing vision increase after several months from 1/10 on left, to 1/3, and on the right from 1/2 to 2/3, the pupils retaining their normal conditions, but in another case after a year the vision again deteriorated.

---

[1] Trav. de Neurol. Chirurgie par A. Chipault, Paris, Vigot Frères, 1897.

Dr. T. M. Ball, in St. Louis, Mo., had two improvements; but in a case of atrophy of the optic the result was nil. In exophthalmic goiter the most gratifying results were obtained by others than Jonnesco.

Jaboulay's first case, in which he removed only the middle of the trunk of the sympathetic, made a partial improvement; a second case of his improved rapidly after removal of the ganglion supremum alone, but died after ten days from congestion of the lung.

Combermarle and Gaudier report a case where the exophthalmos diminished; the pulse went down from 200 to 100; the precordial pain vanished, but the goiter remained. Gerard-Marchant saw the exophthalmos vastly diminished; Chauffard and Quénu saw no effect. We must not forget that Jonnesco himself did not extirpate the whole chain of ganglia at first, and that where it was intended, some operations remain technically incomplete, on account of the great difficulty in removing the cardiac fibers. Furthermore, some cases of Graves' disease are not primary, but the tachycardia is secondary to the pressure of a very large thyroid; here only the removal of the thyroid can cure, since the effect of the enlarged thyroid is to stretch, and thus diminish the influence of the vagus.

The number of cases I could gather in the literature accessible to me is very small, and probably this is the case in the at present inaccessible literature. After we know more of the very late physiologic effects in man, we shall know better how much risk is involved for the future well-being of a person deprived of both cervical sympathetics; and, considering the statement of Brown-Séquard about the atrophy of the brain in the animal, I do not wonder that the profession follows Jonnesco slowly. My impression is that the operation will come to stay after all that may be feared as to its sequelæ. The horrible cases of incessant epileptic fits should be operated on first, in larger numbers, as their pitiable condition permits us to consider no risk too great that holds out a prospect of relief. Here the American surgeons ought to study the late effects first; in almost blind glaucomas next, and in true exophthalmic goiter last.

If the corpora restiformia are the center of the affection, Jonnesco's operation interrupts the telegraph line, and this is the most complete theoretic basis of operation in Graves' disease. I have seen a post-mortem report which is in entire keeping with Filehne's experiment; while it is well known that changes in the sympathetic are just as often missed as found post-mortem in Graves' disease, and here, I think, Jonnesco's operation will come to stay, if it can be shown that atrophy of the brain does not follow.

884 Main Street.

The authorities have donated a tract of land near Moscow for the erection of a home for aged and indigent medical women. A society organized for the purpose is collecting funds to build and maintain it. Public sanatoria for consumptives are also planned at Massandra and Essentuki, and subscriptions are pouring in.

COMMON, BUT GENERALLY UNRECOGNIZED SYMPTOMS OF EYE-STRAIN.*

ELMER G. STARR, M.D.
Clinical Professor of Ophthalmology, University of Buffalo.
BUFFALO, N. Y.

It is now, and for several years has been, quite generally recognized that many headaches have their origin in some form of eye-strain; and persistent or frequently recurring headache without other obvious cause very soon suggests to the layman, as well as to the physician, the probability of the existence of some fault in the visual apparatus.

The truth of the relation of eye-strain and headache was not accepted at once by members of the medical profession and for a long period was slow in establishing itself in their minds. To-day, however, there are few who do not recognize this truth.

Almost if not quite as common as headache are other symptoms which are more rarely looked upon as having any relation to vision, but which should properly be classed with headaches as evidence of some imperfection in the eye.

One of the most frequent of these is pain in the back of the neck. This sensation is often described as a pulling or drawing, or a tense feeling. It is frequently mistaken for what is commonly called "muscular rheumatism." The pain often radiates down the back and to the shoulder, or may even manifest itself as a pain in the side. More commonly, however, it is limited to the back of the neck and is frequently more pronounced on one side. The statement that this condition exists is rarely volunteered by the patient who seeks the services of an oculist, because he does not think of it in relation to the eyes. Inquiry as to its existence, however, reveals the fact that it is present in about 80 per cent. of all cases of refractive error presenting themselves. I have come to consider it as almost pathognomonic of eye-strain, and rarely indeed have I seen it fail to disappear with the correction of the visual error.

Another symptom which I would class under this head is mental confusion, or confusion of ideas, or an inability to fix the attention upon a particular object of thought, without great effort. When the attempt is made to focus the attention upon some matter requiring concentrated thought, the mind soon wanders, and it is only by great exertion of the will that it is brought back again to the subject under contemplation. There may be difficulty in carrying out a line of reasoning, some part of it eluding all attempts at placing it connectedly in the line. Patients not infrequently speak of this symptom and observe that it is more troublesome the more the use of the eyes is demanded in the performance of their task.

It is worthy of remark in this connection, that, to the perfected eye found in man as contrasted with the eye of most of the lower animals, we probably owe in large measure the development of the higher faculties of our mind. For without the fovea, that small highly organized area of the retina, as found in the human eye, it would be impossible to give thoughtful attention to an object looked at to the exclusion of other objects. For to an eye without a fovea all objects in focus within the field of vision appear equally distinct. "How could we give exclusive attention to one thing if all other things were equally distinctly seen? Thoughtful attention to the object looked at seems to be a necessary condition of the emergence of the higher faculties of the mind. Concentration of thought on the object thought of is a necessary condition of effective thought work." (Le Comte.)

---

*Read before Fourth District Branch New York State Medical Association, Buffalo, May 8, 1900.

Closely allied to this condition of disturbed mental processes which I have mentioned, and possibly in part depending upon it, is mental inaptitude or backwardness in children. Comprehension seems obtuse and slow. Frequently this condition develops rather suddenly in a pupil who has previously had no trouble in keeping his place with his class, and is then often accompanied by headache and other nervous manifestations. The correction of an existing eye-strain changes all this. School work is done more easily, and frequently the child is wonderfully changed mentally and physically. Instances are common where a child is backward in his classes in school simply because of the effort required to see distinctly. By this I do not mean to imply that vision is not distinct for all distances, but that clear vision is attained only through the continuous exertion of a great amount of nerve force. In fact the possession of distinct "sharp" vision by a person is no evidence that his eyes are free from imperfections and that they are not working hard to maintain good vision. In short "good vision" does not mean "good eyes" although it is usually so considered by the laity.

As illustrating this condition I will give briefly the history of a boy 9 years of age, who until within six months of the time of this history was able to do, without difficulty, the work required of him in his class in school. Now, at the time of his visit, he seems quite incapable of doing the same work done by the other pupils of his class. He is listless and seems slow of comprehension. His appetite is fickle, and sleep is disturbed. He is pale and is losing in weight in spite of the tonics which he is taking. Latterly he complains of headache and occasionally of blurred vision; which latter complaint impelled his mother to bring him for an examination of his eyes. A high mixed astigmatism was found and correcting glasses given. The use of his medicine was stopped, but his glasses were worn constantly. Within a week an improvement in the boy's condition was observed; his school work was resumed and performed without trouble, while his physical condition showed a great improvement.

Irritability is another common result of eye-strain in adults as well as in children. We are all liable to become irritable to the verge of irascibility if overworked, and it is easy to see how a nagging eye-strain kept up hour after hour for days and months may so draw on the nerve-supply as to lead to the same result.

Vertigo is a symptom frequently associated with vision. It may be the result of some marked muscular anomaly, or, more often due to a refractive fault. The vertigo may be transient and infrequent or may be very marked and persistent, so much as to suggest grave intracranial disease. It may bear a close resemblance to Ménière's disease. Many individuals having vertigo present with it that symptom which is characterized by a dread of crowds or congregations. Often great effort is required on the part of these persons to remain quietly in a church or theater filled with people. A feeling of impending danger or the fear of an attack of fainting, or an ill-defined sense of apprehension impels the unhappy sufferer to leave the room to get relief from these disturbing feelings. This may be one of a group of symptoms embraced by the term "nervousness." A very high proportion of those who come to the oculist with refractive errors admit themselves to be nervous.

A case that well illustrates the fact that vertigo may be the result of eye-strain is that of Mrs. V., married, aged 37, who had had constant vertigo after a sudden onset, for ten days. Nausea with some vomiting accompanied it. The distressing symptoms were aggravated by turning the head or body toward the left; especially was this true if done while lying down. These symptoms grew worse and became so distressing that the attending physician feared some brain disease existed and called counsel to aid in making a diagnosis. Eye-strain was suggested as a possible cause of the trouble and as soon as it could be done the refraction of the eyes was measured. They were found to be unsymmetrical. One eye had moderately high compound hyperopic astigmatism, while the other had a mixed astigmatism; the astigmatic axes were unsymmetrical; a slight muscular imbalance also existed. Correcting glasses were at once prescribed and the distressing vertigo gradually disappeared. Some months later, because of an accident to her glasses, the patient was without them for several days, when a return of the vertigo made her hasten to get new ones, which promptly gave her the desired relief. A fact worthy of note in regard to this case is this: Almost at once when the eyes were placed completely under the influence of the mydriatic there was a diminution in the severity of the symptoms, i. e., as soon as the eyes were put to rest by the mydriatic the reflex disturbances began to lessen; and I am sure that very valuable help may be had by the physician in the use of a mydriatic in making his diagnosis, in many cases of suspected eye-strain. A transient mydriatic like homatropin should be used, and some precautions should be observed, such as not to use it in too old subjects, nor in eyes where tension seems greater than normal.

Another rather interesting condition which I frequently find, apparently depending on eye-strain, is a varying or fluctuating character of the handwriting. The writing in the beginning of a letter may be regular and smooth, but after a few minutes its character changes, and becomes more irregular, angular and jerky,and less legible. This condition is found most often in those who do much writing, and I mention it more for its interest than for its importance.

Probably the most frequent of all the results of eye-strain in its various forms is seen in disturbances of the digestive apparatus. For the past eight years I have been careful to make inquiries of patients having refractive or muscular imperfections as to the condition of their digestion, and in the majority of all those who come with refractive errors or visual strain of any kind, I have found a history of some form of indigestion, so-called. Following the progress of a large number of cases, I have seen the digestive disturbances disappear more or less promptly with the correction of the visual defect. In so many instances has it been observed that a recurrence of the symptom follows the disuse of the glasses, or is the first evidence of the need of a change of glasses, that the fact of cause and effect is surely established, and it is abundantly demonstrated that very many cases of digestive derangement have their origin solely in the organs of vision.

A case in illustration of the foregoing is that of Mrs. J. D., a married woman, 37 years of age, who had a serious stomach and intestinal indigestion for 1½ years prior to her eye-examination in May, 1896. I have no analysis of the stomach contents made after a test-meal, but that the function of the stomach was greatly disturbed may be inferred from the fact that at the time of her examination the stomach retained nothing, not even water, longer than twenty minutes. For more than a year she had been under the care of a physician, and had spent three months in a hospital, where she was placed upon the strictest dietetic regimen, and where all resources were exhausted in the attempt to correct her distressing conditions. An examination of her eyes revealed an astigmatic condition, unequal in the two eyes. The muscles were normal in balance. The effect of correcting this eye-strain with glasses was marked. Within twenty-four hours the intense irritability of the stomach and the nausea had almost entirely disappeared; and within a fortnight the patient was eating a varied diet and was free from all symptoms of indigestion. She remained well for more than a year, when some symptoms of returning indigestion prompted her to come for another examination. A slight change in the astigmatism was found and corrected, whereon the disturbing symptoms promptly disappeared.

In the foregoing I have not taken extreme cases to illustrate the conditions, nor extreme conditions for my subject-matter, but have confined myself to a few common, as I think, conditions resulting from eye-strain. a statement which any physician can soon verify for himself. It may be that this matter is familiar to most or perhaps all of you here, but that it is not generally familiar to the medical profession I have many times had impressed upon me by my experience with patients, and this is my reason for presenting it.

523 Delaware Avenue.

DISEASES OF THE PANCREAS.

REVIEW OF THE PRESENT STATUS OF KNOWLEDGE CONCERNING THEM.[*]

CRAYKE PRIESTLEY, M.D.

DES MOINES, IOWA.

The difficulties in diagnosing pancreatic affections are so numerous and gigantic that we rarely find a case in literature where a correct diagnosis has been made before operation or necropsy. However, there are some, and this fact should prove a powerful stimulus to all medical men in their study of this organ. Within recent years, more attention has been given to the pancreas than hitherto, and with results quite gratifying. To these the writer wishes to call attention, with the hope of arousing greater interest in these affections.

Pancreatic hemorrhage may occur as small infiltrations diffused through all or a part of the gland, or it may consist of a large effusion of blood into the gland and the surrounding tissues. Anders[1] has collected 40 cases of pancreatic hemorrhage, and in all except 1, there was hemorrhagic infiltration into the gland itself. In 17 cases, the structures around the pancreas were infiltrated, in 12, the retroperitoneal tissues, and in 5, the lesser peritoneal cavity. This affection is more common in males of rather advanced years. In Anders' collection, mention is made of the use of alcohol in the anamnesia of 14 cases, of dyspepsia in 3, of jaundice in 2, and of traumatism in 3. Heart lesion was found in 2 cases, and primary carcinoma in 1. The attack begins suddenly with severe colicky pain in the epigastrium, vomiting, and all the manifestations of profound shock; death follows very shortly, sometimes immediately, and usually within forty-eight hours. A diagnosis is seldom made before the necropsy.

Of acute pancreatitis we have three recognized varieties; the homorrhagic, the suppurative, and the gangrenous.

In the hemorrhagic form, the organ is enlarged, is of a chocolate color, and shows circumscribed and diffuse infiltration of blood in the interstitial fat tissue. Disseminated fat necrosis is also frequently seen; this consists of numerous small or large, white, opaque areas, situated within the gland or in the subperitoneal fat tissue. This peculiar necrosis is found only in affections of the pancreas. A. Katz and F. Winkler[2] conducted a series of experiments on dogs—fifty-one in number—in which they tied, and then divided the ducts of the pancreas. They found, as a result, marked fat necrosis most pronounced in the areas nearest the ligatures, consequently they concluded that the necrosis is due to the fat-splitting ferment of the pancreas. Hemorrhage was almost invariably found around the areas of necrosis; and it is probable that this increased the tendency to necrosis by lowering the vitality of the affected tissues. The symptoms are sudden, violent, deep-seated pain, and great tenderness in the epigastrium. Fever is moderate. There is a rapid pulse and anxious expression—indications of collapse; also vomiting and constipation or a fatty diarrhea. Jaundice may be present, and is due to pressure of the swollen head of the pancreas on the common duct. The prognosis is bad but not absolutely hopeless, as recovery has been known to take place. Osler[3] records a case which was diagnosed as intestinal obstruction. The abdomen was opened and acute hemorrhagic pancreatitis discovered; the abdominal wound was closed and the patient recovered. This proves beyond all doubt that recovery may ensue, and it is an open question whether these cases are not sometimes considered as biliary colic and go on unrecognized to complete recovery.

In acute suppurative pancreatitis, we find either one large abscess occupying the head, body, or entire organ, or numerous small areas of suppuration scattered throughout the gland. The abscess may rupture into one of the adjacent hollow viscera, in which case broken-down pancreatic tissue might be found in the stools. The infection probably extends from the duodenum along the pancreatic duct into the gland, and there is frequently a history in these cases of repeated attacks of gastroduodenitis. Peritonitis may result from the rupture of one of the small abscesses, or pleurisy from the extension of the inflammation through the diaphragm. In the suppurative form, the symptoms are usually not so severe nor acute, and pain may be slight or absent. Evidences of septicemia become gradually more and more pronounced, there are chills and sweats, with a very irregular temperature and a progressive cachexia; jaundice may appear, as may also fatty stools. The disease runs a course usually of several months.

In gangrenous pancreatitis, the gland frequently presents the same appearance as in the acute hemorrhagic form, except that there is a circumscribed gangrenous area. When the gangrene is extensive, the whole organ may be destroyed. It is found to be a dark brown, soft, shreddy, decomposing mass, loosely attached, or even floating freely in a thin, purulent, foul-smelling fluid which is contained in a sac, formed by inflammatory exudate and the adjacent peritoneum. As in the case of abscess, a communication may be formed with the bowel and the sac contents, and pancreas and all may be evacuated through this channel. Trafoyer[4] reported a case in which the pancreas was discharged per rectum and the patient lived seventeen years afterward. Fat necrosis is usually very extensive in cases of gangrenous pancreatitis. The symptoms are practically those of acute hemorrhagic pancreatitis, but the course of the affection is somewhat more protracted.

---

[*] Read before the Iowa State Medical Society, Des Moines, May 16, 1900.

There is another condition to which attention should be given, but before proceeding further, permit me to record the notes of two cases.

Case 1.—G. H., a male, aged 25 years, with previous history good, noticed pain and swelling in the right parotid region, Jan. 18, 1900; this increased on the following day and the left side became involved. He came under observation January 21, when he presented a typical case of mumps. He was seen again January 25, by which time the parotid swelling had almost disappeared. The temperature was 100, the pulse 80, and the patient complained of a pain and aching in the epigastrium and of very distressing nausea. January 26 the temperature was 101, the pulse 105, and the pain in the epigastrium was intense and accompanied by very great tenderness. He vomited eight times, but the bowels had not moved, nor had he taken any nourishment for over forty-eight hours. The pain was so severe as to require the hypodermic administration of 1/4 gr. of morphin. January 27 the temperature was 100.6, pulse 105, and pain and tenderness in the epigastrium still great but not so intense as on the previous day. He vomited once and had several spells of retching; the bowels moved after he had taken 10 grains of calomel; but on the whole, he was very miserable. January 28 the temperature was 99, the pulse 80, and the pain and tenderness in the epigastrium had moderated considerably, though still present and distressing. He took a small amount of milk, and did not vomit or suffer greatly from nausea. January 29 the temperature and pulse were normal, and he felt much better and relished food. There was not much pain, but the tenderness in the epigastrium still remained. From this time on he improved very rapidly, the tenderness disappearing entirely after about three days.

Case 2.—J. McQ., a male, aged 14 years, had the mumps on the left side only. The disease appeared February 12, but he was not seen until February 16, when the parotid swelling was scarcely noticeable. He complained of severe headache and pain in the epigastrium. The temperature was 102.5 and the pulse 80. February 17 he vomited five times, and the pain in the epigastrium became more severe, and later quite agonizing, and was accompanied by nausea and exquisite tenderness; the temperature was 102.5, the pulse 90. The parotid swelling had entirely disappeared, but he had complete anorexia and obstinate constipation. February 18 the temperature was 100, the pulse 80, and he vomited twice; the pain and tenderness in the epigastrium were severe, but not so bad as on the day before. A small, hard passage from the bowels resulted from a large soapsuds enema. February 19, the temperature and the pulse were normal, and the patient was much better and hungry. There was no pain, but some tenderness in the epigastrium, which continued for two days.

In the foregoing cases, we have all the symptoms of an acute, though brief attack of pancreatitis, and in view of the great similarity, anatomically and physiologically, between the parotid and the pancreas, we are justified in considering that in these cases there was a pancreatitis due to mumps, similar in every way to the parotitis so commonly seen. This may be due to a metastasis, such as not infrequently occurs in the testes, ovaries, and mammæ; or, what seems even more probable, may be due to a secondary affection, the infective material passing through the stomach into the duodenum thus gaining access, through the duct of Wirsung, to the pancreas, as it undoubtedly does through Steno's duct to the parotid. The urine and feces were examined in both cases with negative results; however, when the pancreatic involvement is of such short duration, and is followed, as it undoubtedly is, by complete restoration of function, we could scarcely expect to find evidences of the disturbance in these excretions. There is no way in which this theory can be proved, but the notes of several other similar cases indicated that the explanation given accounts for the symptoms described. H. F. Harris[5] reported a case of diabetes that quickly followed the mumps in a man, aged 42 years; he also found several references in the literature to the fact that this happens not infrequently. It is well known that sometimes mumps produces permanent destruction of the parotids, and it is no more than reasonable to suppose that, in this instance, there was a pancreatic involvement which terminated in complete, or almost complete, destruction of the pancreas. This case tends greatly to strengthen the supposition in regard to the cause of the symptoms in the cases recorded in this paper, and to prove that instances of pancreatic mumps are not at all rare. This can not be proved, because it is seldom indeed that permanent changes result from mumps; and where these changes are not permanent, the organ, after a few days, returns to its normal condition, in which event all symptoms quickly subside. No mention of these cases is to be found in the standard text-books or in current literature, and notes of any would be very interesting.

The treatment of all forms of acute pancreatitis is purely symptomatic, except in the suppurative and gangrenous forms, where, if the condition be recognized, surgical interference may prove serviceable.

Chronic or indurative pancreatitis presents an overgrowth of the connective tissues of the gland with destruction of the parenchyma. A part or all of the organ may be affected. It is hard and indurated, with a smooth surface, and on section, large fibrous bands are seen surrounding or replacing the lobules of the glandular tissue. Fatty degeneration of the cells occurs and here and there may be seen small white spots, due to the accumulation of crystals of the fat acids or deposits of calcium salts, while Wirsung's duct is usually enlarged and sacculated.

The causes given are alcoholism, chronic inflammation of the pancreatic duct, due to repeated attacks of gastroduodenitis, or anything causing obstruction of the duct such as calculi or the pressure of adjacent neoplasms.

The disease begins slowly with the symptoms of chronic gastritis; then comes deep-seated pain in the epigastrium, occurring paroxysmally and accompanied by considerable prostration and great anxiety on the part of the patient. No doubt many cases in the earlier stages are mistaken for chronic intestinal indigestion with acute exacerbations. Jaundice may exist and is usually permanent; it results from pressure by the head of the pancreas on the common duct. Constipation is the rule, but may be interrupted by sharp attacks of fatty diarrhea, and these stools may be colorless even when jaundice is not present.

Glycosuria has frequently been found in cases of chronic pancreatitis, and a few years ago it was thought that in this disease we had at last discovered the origin of diabetes; but this belief, however, was short lived. It has been proved that complete removal of the gland always causes marked glycosuria. If from one-eighteenth to one-twelfth of the gland remains intact, glycosuria is present but not pronounced, while if one-tenth is allowed to remain, glycosuria does not necessarily occur. Thus we see that before sugar appears in the urine as a result of pancreatic lesion, very extensive destruction of the gland must have been brought about. The changes in the gland are permanent, so the treatment must of necessity be to relieve, as much as possible, the symptoms. The administration of minced pancreas has been said to be of value.

Pancreatic calculi are formed of calcium salts, either the carbonate or phosphate, and are generally the result of a chronic inflammatory process of Wirsung's duct, or of some obstruction of the duct from any cause whatsoever. The stones vary greatly in size and number; they may be as fine as sand and be almost innumerable, or there may be one calculus as large as a walnut. Occasionally they ulcerate through into the stomach or bowel and may be found in the stool. They may be so large or numerous as to cause complete obstruction of the duct, in which event a cyst results, or they may pass through the duct, giving rise to pancreatic colic which may be indistinguishable from biliary, unless glycosuria or free fat in the stools should be discovered. Jaundice is common during or after pancreatic colic, thus making the diagnosis even more difficult. The treatment is the same as for gall-stones.

Pancreatic cyst may be congenital, but more frequently it occurs in adults. Von der Haan[6] has reported the only case of a cyst in a child, due to traumatism, the usual cause being an obstruction of the pancreatic duct or one of its branches. If Wirsung's duct is obstructed, one large cyst which may destroy the whole gland results, while if several of the contributing ducts are closed, we may have numerous cysts of small dimensions, the remaining portions of the gland being unaffected and functionating normally. Hematoma are not infrequently the origin of cysts, and traumatism also may result in cyst formations. The consensus of opinion now, however, leans toward considering these as instances of encysted peritoneal effusion, involving the omental bursa. The fluid of pancreatic cysts has a specific gravity of from 1010 to 1026, is of a grayish color, cloudy, and alkaline in reaction. Microscopic examination shows fat globules, epithelium, leucocytes and crystals of cholesterin and the fatty acids. If the cyst is large, we have pressure symptoms such as epigastric pain, jaundice and ascites in addition to the disturbance caused by the absence of the pancreatic secretions in the process of digestion. Vomiting and constipation or fatty diarrhea may be present, and if extensive destruction of the gland has taken place, glycosuria may appear. The tumor, when large enough to be palpated, feels round and smooth, is slightly movable and lies usually between the stomach and the transverse colon. Inflation of the last mentioned organs may aid in locating the cyst, but aspiration of the tumor is a very dangerous procedure and not to be advised, since the treatment belongs to the domain of surgery.

The next and last disease we have to consider is carcinoma of the pancreas. This is generally primary, and occurs more frequently in males than in females, and—as is the rule of carcinoma of any part—in persons past 40 years of age. Scirrhus is the most common form and the head of the organ is most frequently affected. The density varies: if the fibrous tissue predominates, it is very hard and, if degeneration has taken place, it may be even mushy. The neighboring organs and tissues are generally affected either by direct extension of the growth or by metastasis. If the duodenum is affected or pressed on, the stomach becomes dilated, and the portal vein may be compressed and give rise to ascites. Pressure on the inferior vena cava causes anasarca of the lower portion of the body; and if the common duct is involved, intense and permanent jaundice results, accompanied by dilatation of the gall-bladder and enlargement of the liver. If the tail of the pancreas is the seat of the growth, left-sided hydronephrosis may result from pressure on the ureter. (Fitz.)

The disease is seldom recognized during life, but there are some signs which if discovered may lead to a correct diagnosis. These are glycosuria, a deep-seated tumor in the epigastrium, and the presence of undigested muscle fibers in the stools when no diarrhea exists, which is always an indication of the absence of pancreatic secretions.

The prognosis and treatment of pancreatic carcinoma require no discussion.

BIBLIOGRAPHY.

1. THE JOURNAL Dec. 2, 1899.
2. Archiv f. Verdanungskrank., B. iv, H. 3.
3. Osler: Practice of Medicine, p. 459.
4. Wood and Fitz: Practice of Medicine, p. 954.
5. Boston Med. and Surg. Jour., May 18, 1899.
6. THE JOURNAL, July 8, 1899.

SYMPOSIUM ON DENTAL EDUCATION.*

DISCUSSION.

DR. G. V. I. BROWN, Milwaukee—I am sorry Dr. Hill is not present to take part in the discussion of this subject, as his paper is not a set of phrases put together for the day or the time, but is based upon his own practice. Dr. Hill, a physician, is better capable of discussing the pathologic conditions, local and general, that have relations to affections of the mouth than almost any dentist that I know. He sends a great many patients to me: almost every case is diagnosed, and very rarely, if ever, do I find reason to change the diagnosis.

DR. CRYER.—Being only a visitor to this Section, and not having heard all the papers read upon the subject, there is but one point on which I can speak. Throughout the reading and discussion of papers in dental meetings, there seems to be a tendency for the dental profession to find fault with the medical profession for their treatment of the dentists. In my association, as a dentist, with the medical profession, and when I attend their medical meetings, I am treated with the utmost courtesy; when the dental profession is spoken of it is with the greatest respect, and it is constantly recognized according to its worth.

It is claimed by your speakers here to-day that dentists are not recognized by the medical profession. Do we recognize the medical profession as we should? We constantly claim that dentistry is a specialty of medicine as is ophthalmology or laryngology; yet, in Rhode Island, a graduate of the University of Pennsylvania in medicine and dentistry was arrested and taken into court through the instigation of the dental profession of that state, for practicing dentistry without a license. He had taken out the license to practice medi-

---

This discussion is on papers presented before the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association. THE JOURNAL, vol. xxxiv, page 1661 et fol.

cine, and claimed that he had the right to also practice dentistry on account of the medical degree and the license to practice medicine, just as the ophthalmologist and laryngologist would have had a right to practice their specialties. The court decided in his favor, however, giving him the right to practice dentistry. If the dental laws of Pennsylvania could be enforced, they would compel a medical man to attend a dental college and pass an examination with the State Board before he would be permitted to practice dentistry; he might treat pulpitis but would not be allowed to fill a tooth. In fact, I do not know where the line would be drawn. Many of the state dental laws throughout the United States in themselves acknowledge that dentistry is not a specialty of medicine, and still these laws were usually asked to be passed by dental societies.

Dr. J. L. Williams, Boston—I have a full report of the case in Rhode Island, that Dr. Cryer has mentioned. The judge quoted some dozen precedents and the laws of certain states to uphold the decision which he made.

The papers which we have heard all tend to prove the need of a sound medical education as the foundation of a dental practice. This is not new but rather a reversion to original conditions. In 1844, when I wanted to study dentistry, I found no reputable dentist who would accept me as a student, unless I would first study medicine and I therefore spent three years getting a medical degree before entering on the study of dentistry. This shows that dentistry, even at that time, was considered by many as a specialty of medicine, and that it was recognized that a dentist should be grounded in the general principles of medicine and know how to apply them to his specialty.

In 1876 the American Academy of Dental Science passed the following set of resolutions upon this subject:

Whereas, Dentistry is a specialty of the science of medicine,

Resolved, That a thorough medical education is essential to the most successful practice of it.

Resolved, That we deem it expedient and for the best interests of the practice of dentistry, that existing medical schools enlarge their courses of instruction so as to include efficient instruction in the specialty of dentistry, in order that it may be placed on an equality with other specialties of medicine.

In 1890, when I was chairman of this Section, in my opening address, I used these words: "In earlier years there were only a few qualified practitioners who devoted their skill to the treatment of the oral cavity, while the larger number gave their attention to the teeth and so the specialty was called dentistry, but at this day when the knowledge of the principles of medicine and surgery is more general than formerly, and more commonly made available in the treatment of the oral cavity, the term 'dentistry' seems to be too limited and I suggest the use of the word 'oristry' instead." Stomatology has since then been adopted as a better name for the specialty whose field is the mouth. I am glad that the whirligig of time is bringing around the idea that the knowledge of all the basal principles of a medical education is necessary for a dentist. It does not so much matter what the title is that distinguishes the profession, so long as the members have the knowledge necessary, but it would be better to all have the medical degree as a guarantee of the possession of that knowledge. Many of the members of the dental profession already have it, yet many excellent dentists have only the single degree of D.D.S. It is true, however, that no specialty of medicine can be separated from general medicine, for the body is one, and all parts are sympathetic with all others and without knowledge of all the diseases, one can not be properly treated.

Jas. McManus, Hartford, Conn.—I have been interested in all the papers, especially the one read by Dr. Davis. I had the pleasure, in 1865, of hearing Dr. Davis read a paper on the same subject in Chicago. As the paper was read yesterday containing extracts from the other, pleasant recollections of the enjoyable time on the occasion of the former paper came up in my mind and the cordial welcome and glad hand which Dr. Davis extended to every dentist on that occasion. I think Dr. Davis raised the proper sentiment at that time and I have lived up to it ever since. Men active in educational work in the profession of dentistry have been working, as well as they could, up to the line laid out by Dr. Davis, and in my opinion there is no college in the country where a student can not get a thoroughly good education if he will. The trouble has not been with the colleges, so much as with the students; a great many have attended dental colleges without the necessary preparation: but that is a question of the past, the future seems to be quite clear. The student now knows that he has to face a very strict examination, not only in his own college, but also after he leaves college, at the hands of the dental examiners.

This leads me to speak of the Rhode Island case: There was no reason why that matter should get into the snarl that it did, had dental examiners not treated it in a narrow, unreasonable way. I think that while I am justified in saying that the teachers in dental schools are all earnest, honest, conscientious men working for the best interests of their students, the examiners on the other hand have sometimes not been quite so honest and they have been too desirous sometimes to show their power and authority. I think too much has been said about the need of education in dentistry. The colleges are improving as fast as they can, and will do their work thoroughly. In practice, however, it must be dentistry first and oral surgery next. Oral surgery is really a specialty of dentistry. There must be specialists for its practice who will be competent to act as surgeons, but the bulk of the profession will always practice dentistry not oral surgery, but the better grounded a dentist is in the principles of medicine the better dentist he will be as well as better oral surgeon.

Dr. E. A. Bogue, New York—Dr. Williams has brought to my mind the condition of the dental profession in Austria. It is necessary there for a man to be a qualified physician before he can practice dentistry and to become a physician requires seven years, including the academic training. The result is, as may be readily imagined, that dentistry has not advanced very far in Austria. In fact, we hardly know to whom to refer for a good dental operation, those of our patients who may be traveling in that country.

I am a firm believer in the theory of natural selection. Out of two hundred graduates in medicine not more than fifty will take up surgery and probably not more than fifty will take up the practice of dentistry. If a man leans toward surgery, when he is graduated he will take it up, and the same with dentistry. The old rule, as the twig is bent so the tree will incline, governs the matter powerfully. My own inclination led me to have my son go through the medical course first and the dental course afterward. I want him to acquire the manual dexterity for dental practice; but I do not want him to begin practice till he is well enough grounded in the principles of medicine to recognize disease even if he does not treat it, and to direct such patient where to go for needed treatment; and I want him to recognize disease in his specialty and treat it thoroughly and understandingly, and not to confine himself to the practice of dentistry.

Dentistry had two origins, one mechanical, the other surgical. We look back to our barber ancestors as surgeons. A large and very reputable class of practitioners have given their entire attention to the mechanical branch including all operations in the mouth, requiring manipulative ability of a high order; while a smaller class give their attention to surgical diseases of the mouth and associate parts. In Dr. McManus' remark that people want dentistry, presumably he means to refer to operations performed on the natural teeth in the way of filling, regulating, possibly extracting (I hope not often). They also want in a dentist, as I understand it, the ability to understand the epithelial cause of diseases of the mouth, the power to detect sarcoma, to direct the regulation of the teeth; they want him to know on what ground he is treading when he undertakes the movement of these valuable organs which can not be replaced if lost.

Just where we shall draw the line is uncertain but this is sure, preliminary examinations are far and away above what they were twenty or twenty-five years ago and I hope they will continue to advance.

Dr. W. H. Todd, Columbus, Ohio—I have given the subject of education comparatively little thought and do not feel like taking any part in the discussion. My experience has taught me that medical men who are skilled and worthy men are usually not wanting in courtesy to the dental profession. I find they are willing to receive help from me. It is the poor physician who is afraid he will lose a dollar, that is afraid to call or send for his dental neighbor in consultation or treatment.

Dr. G. Lenox Curtis, New York—I regret not having heard all of Dr. Marshall's paper. What I heard was to the point and full of helpful suggestions. The two questions that are under consideration at this session are: How are we going to establish a more satisfactory system for dental education? And how are we to secure in medical schools the teaching of disease resulting from affections of the teeth? It seems to me that at least a high school education is essential to meet the preliminary requirements of a dental or medical education. Dental students should be selected from among those possessing natural tendency for mechanics as Dr. Litch has suggested. I feel sure that he who possesses this tendency and a medical and dental education is best fitted to practice and advance the science of dentistry. Mechanics is not so important to a medical practitioner unless he follows surgery. I think we have too many medical and dental schools: the profession, like many business enterprises, is congested. What we need is a higher standard for graduation. Schools connected with universities afford greater advantages. Instructors should be selected on account of their recognized skill and aptitude to teach and not for political or financial reasons. I believe that a large percentage of our schools is organized and maintained for personal aggrandizement. These conditions do not bring about the best results in education. I am satisfied that many of the professors are qualified to teach and are working diligently and heartily for the education of their students, but I do think there are many incapable of meeting the requirements of to-day. Their instruction, except the fundamental principles, is a recapitulation. My experience in post-graduate medical teaching satisfies me that medical students, with few exceptions, have received little or no instruction in the treatment of oral diseases. Because of this fact medical schools should have dentally educated physicians on their staff. In order to bring this subject forcibly before medical faculties, careful preparation should be made. The distribution of several good papers, bearing upon this subject and circulated among the faculties would show them the importance of considering this step. I would also suggest that action be taken in this Section and at this meeting for an appointment of a committee to consider the best means for presenting this matter to the medical profession. Dr. Rhein's paper is a very strong one, but I consider it too long and believe the latter half weakens his argument on account of so much dental work embodied in it and that only the first part of his paper will be interesting to medical men. The medical student does not require a knowledge of dentistry only so far as it enables him to find the cause of reflected trouble and to know when to refer his cases to the dentist. There is material enough in Dr. Rhein's paper for two excellent essays on different subjects.

Dr. Rhein—Would Dr. Curtis make more clear what part of my paper? I confess I am unaware, where he wants to draw the line as to the portion of the paper I read that does not have distinct bearing on the subject. I wish he would make it more clear to me.

Dr. Curtis—I would like to go over Dr. Rhein's paper with him; I think I could point out to him the part which would not particularly interest medical men. I can not now say just where I would draw the line, but I think at the point where he brings in so much dental work—I think this part of his paper would become tiresome and likely to confuse them as to what should be taught in their schools. I believe that this and similar papers should be subjected to a committee whose duty it would be to see them properly edited. As I recall it, he says dentistry is deficient and deteriorating and that dentists are not up to the standard of fifteen or twenty years ago. I think Dr. Rhein has overlooked the fact, that during this period dental institutions have been established in nearly all parts of the world and that their students are approaching the standard of American students, and it is for this reason that the knowledge of the American dentist does not seem supreme nor stand out so clearly against the horizon as it did twenty years ago.

Dr. Rhein—I fear that Dr. Curtis has listened with one ear slightly closed, or he could not have made such a criticism. I had tried hard to make the paper as condensed as possible and have received a very flattering letter from the secretary of the section commending it.

In considering the subject it is impossible to divide the preliminary education at any point. The idea as expressed yesterday and again to-day, that it would be far better for the technical training of the dental specialist for instance, if he took his dental degree first and his medical degree afterward, shows a lack of appreciation of what proper education should be.

When a man or woman is going to have any part at all in the professional field, it is almost absolutely necessary that the manual training should be commenced in the preliminary educational career; all the improvements in preliminary educational methods have been in this direction. Taking that position then, to give the student an education in the technique of the eye, ear, nose, genito-urinary apparatus, etc., and after he has acquired that picked-up sort of knowledge, to say to him, "now study the general practice of medicine," would be like placing the cart before the horse. It would be like teaching a child fractions before the principles of addition and subtraction. That is the way it looks to me, and I think, to reach a distinct understanding with general medicine, so that our specialty may be placed on the same line as others, the medical man must get his education in general oral knowledge, as he gets his education in regard to the eye or to the ear, not to practice it, but to understand it sufficiently to know whether others practice it well or not. There are a large number of medical men of good standing who have educated themselves in the diseases and conditions of the mouth, and who therefore show a due appreciation of what is due to dentistry, but they are a minority of the medical profession. The average physician has a fair appreciation of the condition of the organs practiced by other sepcialists but no such appreciation of oral conditions.

The part of my paper which Dr. Curtis thought not applicable to the subject was where I showed there were two sides to the question; where I took up the changes that would accrue to the medical profession and to the benefit of our specialty. As far as my observation goes, the position of American dentistry to-day appears to be deteriorating as compared to the rest of the world, and does not compare as favorably as fifteen years ago. I believe this is due to the point I wanted to raise in my paper, viz.: that dental work is not performed by capable men as well as it can be; and to use a very strong expression, that too frequently the confidence of the patient is abused because the dentist finds it more lucrative to serve more patients in a given space of time than it is possible for him, should he do his best by all. Now that was the portion of the paper that I think he considered foreign to the cause.

The parts of this subject are so intertwined that it is impossible to say that what is good for the medical man may not be good for the dentist. What we should consider in a matter of this kind is the benefit of the community at large, and our efforts should be to do what shall be for the benefit of our patients.

I am most anxious that the standard of American dentistry should be kept to the point it has reached, and it can be kept from deteriorating most surely if the medical man who tends our patients as their physician has such knowledge of dental principles that he can say whether the dentist was prostituting his ability as a professional man or not.

Dr. Henry D. Hatch, New York—I do not agree with Dr. Rhein that a physician's education on the conditions of the mouth should be such that he should be able to judge whether the dentist's work was done as it should be; but that he should be educated in the principles of oral surgery and pathology so that in a case of neuralgia, he would know whether to send the patient to a dentist, or to treat the case himself. I do not think the physician should feel that it was for him to pass upon the dentist's work. A lady came to me from an adjoining city. She had a gold crown on a central incisor. I removed the crown, not that I expected to find anything wrong with the tooth, but because the crown was so conspicuous. Under the beautifully polished crown I found a broken brooch extending into the pulp. Not until I had removed this brooch did I learn that the lady had had neuralgia. I give this instance to illustrate how impossible it would be for a physician to judge the dentist's work. I could not have known that anything was wrong till the crown was removed, and certainly a physician could not. In my own personal treatment by physicians I had nothing to complain of. They always treated me on the plane of equality, as a specialist. Whether others are met in the same spirit I do not know. I think, that as a rule, the dentist is correctly looked upon by the physician. When the average dentist makes himself more competent and thorough he will get the credit due him.

The time when a dentist should get the manual training needed in his practice is a difficult question to decide. Some think he should get the M.D. degree before studying dentistry, This would bring him to 24 years of age and perhaps 27, before he gets the baccalaureate, M.D. and D.D.S. The man who reaches the age of 24 before he studies dentistry will never make a good dentist. It would be better were the training to begin before he leaves the high school.

Dr. John S. Marshall, Chicago—About three or four months ago, the secretary of the Section called on me to talk over the question of dental education, and suggested a symposium on the subject. As there were two opinions prevalent in relation to it—one that the dentist should be medically educated, the other that a medical education is not necessary, it was thought expressions from a few of the prominent men in the profession on the subject would be of great benefit. Dr. Talbot then invited these gentlemen to prepare papers. He called on Dr. Davis for a paper, because he knew his position, which is as follows. If the dentist is a specialist in medicine he should be educated as a medical man. He also spoke of the status of the profession and of its recognition by this Association and of the arguments which were brought to bear on this Association in order to obtain that recognition. I believe this Section has done as good work for dentistry as had any dental association in the United States. The character of its papers are as good and better than those presented before the National Dental Association. Besides this there is no politics. We come together for purely scientific work and labor through the whole session to that end.

I am sorry that Dr. Taft's paper is not here. Dr. Taft was asked to write on "Preliminary Qualifications," a very important subject. I touched it lightly in my own paper under the head of "Recommendations." I think that to-day entrance qualifications are too low and ought to be raised. The best way to raise them is to require a medical certificate. As to when the manipulative skill so absolutely essential is to be acquired, I think that Drs. Bogue and Hatch lost sight of the fact that 50 per cent. of the medical student's training is laboratory work which requires his fingers and his eyes to be constantly employed. He gets as much manipulative training except in gold work as does the dental student. He is trained from the first, in the medical class, to use his hands and eyes, and to use them intelligently. I have always held to the view that the only correct way to educate a dentist is to first educate him in medicine, then in dentistry, his specialty.

In Dr. Peck's paper great stress was laid on object teaching. He spoke of vivisection to show the action of drugs and its great value in impressing on the mind of the student the action of the heart, lungs, etc. A student who has seen these things never forgets them. It makes a tenfold deeper impression on his mind than reading.

Dr. Brown's paper was along similar lines, though he tried to show that the two courses of instruction, medical and dental should go together. This idea was carried out in one of the schools in Chicago. The plan was to have the medical and dental students take up the very same course of instruction and the same examination, teachers not knowing the medical from the dental students. In the first and second years the dental students had some training in the mechanical laboratory, and the third year was devoted to purely mechanical and operative work. He believed that that school turned out some of the brightest men to be found in the dental profession to-day.

Dr. Steeves laid some stress on the necessity of a medical education. She has not this education herself, but has been in practice long enough to discover how much better it would be for her if she had.

Dr. Hill, after pointing to the interdependence of the dentist and the physician, said, to-day in most of the dental colleges they are teaching technique to the exclusion of science, turning out splendid jewelers and artisans, but very poor scientific dentists.

I do not desire less time given to manipulative training, none give too much time to that, but the students should be more scientifically trained. One young man, a graduate of one of the best scientific colleges of the country, being asked, What would you do, suppose you were called upon to see a child in convulsions from an erupting tooth? said, "I would give 15 grains of chlorate of potassium." Being asked what he expected to accomplish by such a dose, he said he didn't know. Another case: A lady who had been an assistant for seven years in a dentist's office took her little child to a dentist, also a graduate of a first-class institution, to have him examine the central incisor teeth. The child had been ill and the enamel was unformed on the cutting edges; she took the child to find out whether it was better to file these teeth down or allow them to wear down. The dentist said, "It will be only a little while before the enamel will grow over the ends, just see how it is growing now. Both of these young fellows I am personally acquainted with, and they are both fine manipulators. They make as beautiful gold fillings as any man in this room. These are facts, and they explain why so much stress is laid on the need of scientific training. I do not say it was the fault of the teaching in the colleges that these men did not have this knowledge. They probably were taught them, but in the examinations there should be some way of finding out whether they were learned or not. It's a disgrace to the profession, and I feel ashamed that any school should graduate such men. In regard to what Dr. Rhein said, we almost always hear when anything is said of indivdual training of the dentist that medical men are to blame for their condition. "If the gentlemen who applied to the medical college in Baltimore, wishing to establish a dental chair had had their offer accepted, there never would have been any dental schools." Ask yourself the question: How much science was there in dentistry in 1846? Was it not a handicraft, a purely mechanical calling? What was known of it scientifically at that time? Compared with what we have to-day, it was simply nothing. He did not think it was right to blame the medical colleges for this refusal. They acted according to the best light they had at that time.

In his paper Dr. Rhein called attention to the fact that the principles of dentistry should be taught in medical schools. This has been done. The first medical school that did it was the Cincinnati School, beginning in 1870 or '72; the Syracuse Medical Department was the second in 1879. Dr. Marshall had the honor of being elected to fill this chair. In Chicago all the medical schools established a chair of dentistry in 1882 or 1883. I was elected to the chair in the Chicago Medical College. All these schools, with one exception, still maintain these chairs. I do not know whether the medical schools in New York have such chairs or not.

Dr. James Truman, Philadelphia—The question as raised by Dr. Andrews, seems to me to be one of the most important that the dental mind can take up at the present day. I continually ask myself the question: "Whither are we drifting? Are we drifting toward medicine, or are we going back to the original standpoint of dentistry?" I believe that the profession is gradually drifting toward the M.D. degree, and that it will not be many years before dentists will lay aside the D.D.S. entirely. I am sorry that this is so, for I believe that in proportion as we aspire to build up our curriculum so as to produce M.D.'s, just in that proportion will dentistry deteriorate. This view is based upon an experience of a good many years as a dental educator. I have found that in proportion as the standard of education has been raised, just in that proportion have we deteriorated in our dental acquirements. This may not be an agreeable thought to many, but we can not resist the logic of facts and I look forward to the result of further advancement with dread. Dr. Marshall stated that in proportion as a student is trained in medicine he makes a better dentist. I know that this was not a fact. I have helped to train many medical men in dentistry, but they were almost universally failures as far as dentistry was concerned. It has been well stated that the older a man is the more difficult it is to develop manipulative skill. The work in medical colleges does not teach technical ability. A man can only be taught at the bench to make a success in dentistry. I feel very strongly on this point, and am sorry I have not time to elaborate it, but to me it is very clear that if we go on and add every year to our curriculum, we are going to make very poor dentists. I would like to get the question down to practical details and discuss it in its broadest aspect. In my own school the dental students work right along with the medical, for the first two years, and since this rule has been adopted, I think they made poorer dentists than ten or fifteen years ago. I hope the Section, after further consideration, will see the question in this light, as I am convinced that dentistry is losing ground rapidly by so enlarging the curriculum that the students can not digest it.

Dr. A. E. Baldwin, Chicago—I am glad to have heard Dr. Truman, though I do not agree with his conclusions. I am going to speak of the two professions drifting together, but with a different conclusion. The trend of the two professions seems to be to get closer together. It seems contrary to reason to say that a man will not be better because of more extended knowledge, or in other words, that it will take from my manipulative ability, to know of the physiology,pathology, or the histology of the parts of the human frame upon which I work. It seems to me that the greater my knowledge in these particulars the greater will be my efficiency as a dental adviser. There are a great many things to be taken into account, but these are vital.

I find the dentists are gradually getting over their antipathy to medical men. They are generally recognizing the fact that we are both on the same ground. As we get over this feeling we shall find ourselves becoming broader and better professional men.

Dental education is not primarily manipulative, but our schools should aim to teach, first, what the conditions we find in the mouth mean, and to discover their causes, and the methods of ameliorating them; besides this it is important the student should be placed in a receptive state, so that he may go on with his dental education after he graduates. I do not want to detract from the importance of the manipulative skill. This the student must acquire, but the other is of primary importance.

I would like to know why a medical graduate is a poorer dentist than one who is not. This statement was made fifteen years ago in connection with a school started in Chicago for the purpose of teaching dentistry to medical men only. One of the teachers in that school made the statement at a dental convention several years afterward that the students of that school were very hard to get along with. They could not be taught much, as they thought they knew all there was to know. My private opinion is that with a different corps of instructors the students would have had a different experience. If the teachers had been fitted to teach them the advanced course beginning where the medical course had stopped, they would have been successful, but to teach graduates of the medical college a new pathology, a new bacteriology, and a new physiology was of course uphill work.

The best way to get recognition from medical men is to get in line and recognize work done by them and get our profession in line to advance to the knowledge medical men have. Dr. Rhein speaks of the importance of manual and technique training. It seems to be proper that these should be conducted in a co-ordinate department; but in any case we can not make a good dentist of every student. Some men would be successful as physicians who would never succeed as dentists; others would succeed as dentists who would fail in medical practice. The selection should be made before the student enters college. In truth, not all dental schools are conducted on a professional basis. Some of them are purely financial institutions with the idea of getting as many students as possible; as long as we have that kind of schools we must expect to have trouble with the product.

Dr. W. B. Hill, Milwaukee—I want to plead for the dental education of the physician. You have said he ought to be educated, but I do not know who is going to educate him. I am willing to sit at the feet of any one who will teach me about the mouth. A considerable proportion of the medical profession are looking in vain for some one to teach them. There are those who are competent, but they are not common: and they have not been brought to us. The dentist should be as is the oculist: and physicians would go to him for knowledge as they do to the oculist. We do not go to our fellow practitioner to learn of the eye, nor do we go to the oculist to learn how to fit spectacles, but we do ask him to teach us of the eye that we may know and recognize disease, that we may note disease in preliminary stages, and refer such cases to the proper one for the work. This is what we ask of dentists as to the oral cavity.

I have been studying dentistry for several years and to a certain extent have established myself as a censor on dental work. I not only refer patients to the dentist, but I take them to the dentist and together we determine what is to be done, and together we watch the results, and I am happy to say that we generally cure the patient. But in cases where the work is not done in consultation, work that is referred to the dentist, I think it proper, if the doctor has any dental education, any knowledge of the mouth, that he should see that the work he has ordered is done correctly. I have had a few cases in my practice that emphasize this necessity. One of my patients came to me from a dentist. She had had a tooth filled and was suffering intensely. The dentist told her that if he (Dr. Hill) would give her a little morphin to stop the pain for a few hours, the tooth would be all right; he refused to furnish the morphin and sent her back to the dentist. The end of the matter was that the filling was taken out and the tooth properly treated before the trouble was settled. I relate this to show that physicians ought to know when patients are properly treated by dentists. It is true they might not discern some of the hidden things, but they would be pleased to discern the hidden things that we are capable of if they could be educated on the line of diagnosis. It is no harder for a physician to diagnose from symptoms the involvement of a tooth pulp or the presence of a calculus in it, than it is to determine inflammation of the appendix. I make the plea that medical men should be educated, and the dental profession should train up a lot of men to be specialists in the oral cavity so as to train the medical profession; they need it. It is true in the medical profession we make slighting remarks of yours. This is caused primarily by the ignorance of the physician making the remark, and secondly by the poor training of large numbers in the dental profession.

Hippocrates stated, I believe, that medicine was an art, and there are people who think that if Hippocrates made this statement that it was the truth and has remained true through all these centuries, but it is not true now, although it was then. Now it is a science. Dentistry is a combined science and art. These two can not be divorced, the science being the science of medicine. If we would teach scientific dentistry it is impossible to divorce the mouth from the rest of the body. It is a part and parcel of it. The same blood that circulates in the mouth and teeth circulates in the extremities, heart, liver, and kidneys. If you would be a man to whom we can trust the treatment of the oral cavity, with all its ramifications, with all its nerve supply, with all the possibilities for irritation and remote nervous manifestations you must understand the whole body, and make a study of it in its completeness. If on the other hand your profession is to be one which has to do only with treating the teeth and filling cavities, then it must take the position of being an art merely. The work must under the directing hand of a physician who is competent to judge of the conditions of the mouth as well as the rest of the body.

It has been said that to have a practitioner of dentistry take a complete course in medicine would require so many years he would be too old to acquire the technique which is necessary in dentistry. I believe not that a man should first make of himself a physician, begin practice, then change his mind and go back to learn dentistry, but that he should begin to study with the idea of being a dentist in the highest acceptation of the term, with an educational foundation broad enough to reach any height in his chosen profession. The dental and medical training can be done at the same time and there is no reason it should not be. I do not know who was responsible for the divorce of the dental and medical professions; the question is, how shall we get together? I believe it can best be done by such a course of study as I suggest. W can work toward it and bring the dental and medical students together. We can educate them in the same classes and make them pass the same examinations, and the two boys who have stood shoulder to shoulder in the lecture room will have respect for each other in professional life.

I do not believe with Dr. Truman, that a higher education is a menace to the profession of dentistry. A dentist is a scientific man who has not only his head trained, but also his heart and hand; if this be true, he can not be too highly educated. He can not have a culture too great to enter this profession. My ideal dentist stands head and shoulders above the practitioner of medicine—a man who knows all the physician knows, and his special knowledge beside.

I suggest that we set up the high ideal of the specialist in medicine, and secondly, take in for education the very best talent, a scientific mind, a cultured gentleman, and a deft hand, being the requirements; and that we carry on this education of the physician and dentist if possible, in one institution, giving them both the same foundation, allowing the dentist to add to this the practical work in the laboratory, in the infirmary, in the hospital and in the clinic, until he stands a specialist who is competent to consult with any physician, and thoroughly capable to carry out the desires of the physicans in the treatment of their patients.

Dr. Wilbur F. Litch, Philadelphia—I can confirm from my own experience the statement made by Dr. Truman, that a physician entering a dental school usually makes a very poor dentist, but I do not accept the conclusions which Dr. Truman drew from this fact. In the selection of a vocation or of a specialty, the line of least resistance is followed, and as a rule, that is the line of personal aptitude. The man who, after passing through his school-boy days, determines to be a physician is probably not very highly endowed with mechanical skill. The same may be said of the man who resolves to devote his life to commerce or other non-mechanical callings. Hence, I do not think that the physician is more likely to make a poor operator than the man who comes from trade, the pulpit or the bar. The physician makes a poor operator because he has not been trained from his youth in manipulative processes, not because he has studied medicine. I fully agree with Dr. Bogue that the highest skill in technique, that perfect adjustment of co-ordinate muscular movement which constitutes knack, is attained only where the training is begun early in life. This is well illustrated in piano playing, perhaps the most difficult technique the human organism has been forced to master.

Dentistry is peculiar in the fact that it requires such a high degree of complex technical skill, conjoined with a good degree of scientific knowledge, and the problem is how to arrange our courses of instruction so as to secure these combined results. If we start with medical instruction without any preliminary training in dental technique, there will be that loss of skill which is the result of insufficient training in early life. It is, however possible to arrange the courses of study so that this objection may be, in a measure, overcome. Possibly most of those present have seen the paper of Professor Bowditch, read in Washington before the Medical Association, entitled, "The Medical School of the Future," in which he outlined the difficulties of the situation as regards overcrowding, and the overrating of medical courses, and stated that the probable outcome of the present situation would be courses elective in their character. This experiment will probably be tried first in Harvard. and will give us an opportunity to judge of such a system as applied to stomatology, for I do not doubt that in these medical universities, as they will be called, stomatology will be one of the specialties taught. It is to be hoped that the experiment will be tried and prove successful, not only because it will give us a better class of men in dentistry but because it will be a stimulus to existing dental schools, which will be compelled to advance their courses to the standard of the elective course system, or sink to an acknowledged subordinate place and perhaps cease to exist. Allusions have been made to the ideal instructor as the one who endeavors to teach general principles as well as concrete facts. My observation is that the general instructor of to-day is the one who thoroughly drills men to pass examinations by hammering facts into them, and that it is the quiz master and not the professor who commands the largest following and most earnest attention.

One great trouble we have had and still have in advancing the course of instruction is the indifference of the student to scientific knowledge. Too many of them come to us with the idea that dentistry is simply a money-making trade, their highest aspiration being to learn to put in well-finished gold fillings; to such men dental science is superfluous and useless. I find that the most effectual stimulus to better scientific attainment on the part of students is the fact that in addition to the faculty examination they are compelled to go before state boards. This at the same time has forced upon the colleges more strict requirements and thus has accomplished a double good.

Dr. R. R. Andrews, Cambridge, Mass., has said that the elective system of the universities was just what was needed. As the university makes every man take certain studies to get his degree of A.M. or A.B., and then other studies in elective courses if he wants special degrees, so let the medical university take the medical course to get the M.D. degree and special courses for dentistry and other specialties. There is so much manipulative work in the study of general medicine that I can not conceive how a man could lose manipulative power by going through the medical course. If he has the intention from the first take up dentistry, his attention will be fixed upon dental work and his opportunities for it will be sufficient.

Dr. E. A. Bogue, New York—I hope that Dr. Litch will use all his persuasive powers of either tongue or pen to persuade the examining boards of the future to so examine the studnts turned out from our colleges as to determine not only what they know, but what they can do, and let their decision be based on the latter as much as on the former. Too often it appears as if the examination is simply to learn how many facts have been crowded into the student's head, not whether he can make any use of the fact. Dr. Kimball has said that the dentist owes a great debt to the community, not only the professional community, but the people at large among whom he practiced, also to his assistants, whom Dr. Kimball called his associates; and he carefully went into the *modus operandi* of choosing and training those assistants so as to first be assured it is a worthy man who is to succeed you in serving the public, and to see that as far as your effort will go, he shall be thoroughly equipped for the service. My old preceptor used to say that M.D. meant a miserable dentist. Dr. Varney, because he was a good dentist, became a good military surgeon.

Dr. Alice Steeves, Chicago—During my early experience I spent three years in hospital life, and the skill I obtained there in manipulating instruments has been of much benefit to me in dentistry. I think the dental and medical student should be educated in common.

Dr. G. Lenox Curtis, New York—We work all around the subject how to make dental students. My idea is first a good general education, then the medical education, then select those who have mechanical aptitude to study dentistry. Mechanical and literary ability do not go hand in hand as a rule, but we do not find men with marked mechanical aptitude among physicians. The student of the classics makes the best physician, the mechanic the best surgeon, and dentistry is surgery. Dr. Rhein says, dentistry in America is deteriorating. That this seems so is because of the advance of dentistry in other countries, so our great knowledge does not seem so supreme as it did a few years ago. European dentists are being educated and they have good dental colleges now. So American dentists and American dental institutions do not stand out so clear against the horizon as they did fifteen years ago.

Dr. M. L. Rhein, New York—After listening to the admirable remarks of Dr. Hill, I wish to say that Dr. Hill's words were just what I would like to have said on the subject. I recognize my own inability to express my sentiments as well as Dr. Hill has. Some seem to have thought from my remarks that I feel that members of this Section have received slights in their connection with physicians, but I did not mean this. In my own case I have had no such experience. I was merely trying to draw the distinction which Dr. Hill had made so explicit. Dr. Marshall spoke of the establishment of dental chairs in medical schools in Chicago. In my paper I noted the advance of the schools in the West over those in the East and limited my remarks to the conditions in the East. In this respect, we must recognize the superior advancement of the West. I have no knowledge at the present time, after a great deal of inquiry, of any such education being given to medical undergraduates in eastern medical institutions and I specially limited my remarks in that respect to the East. The necessity for such a paper as mine was made much more marked by Dr. Marshall showing that this ground is covered in the city of Chicago, and is not covered in our eastern medical colleges.

Dr. E. S. Talbot, Chicago—I have been a disciple of Dr. Davis for the last three decades and have been looking forward to the advancement of dentistry and the amalgamation of the medical and dental professions. The fact that diseases of the mouth and of the general system are better understood is the underlying cause. Spencer says there is evolution in everything. There is evolution in dentistry, and those colleges and teachers who do not keep pace with this evolution must take a back seat. Dental colleges will have to take a step in advance and meet the issue. This law can not be overlooked. In this discussion, as always, the manipulative part of dentistry comes to the front. Is it possible that dentistry is based entirely upon plugging teeth? Do not diseases of the gums and of alveolar process constitute an important branch of dentistry? They are more prevalent than decay of the teeth and more to be dreaded. These diseases of the gums and alveolar process follow every disease of the human body, and are produced by changes in mode of living, changes in climate as witness our soldiers in Cuba and the Philippines and the workmen on the mountains in Switzerland, 2600 feet above the level of the sea. If this be true, the dentist must know about the diseases in the human system to practice successfully. Therefore, he must have a medical education. Dental colleges according to the present course can not include medical branches in their curriculum. Dr. Taft has informed me that the University of Michigan has increased the dental course of study to four years, of nine months each with an entrance qualification of a high school education. When all the colleges become able to not only give their students mechanical skill and manipulative ability, but also the necessary foundation knowledge of anatomy, pathology, physiology, chemistry, bacteriology, etc., their graduates will be thoroughly fitted to practice their specialty.

Dr. A. E. Baldwin, Chicago, introduced the following resolution; seconded by Dr. Curtis:

Whereas, It seems evident from the papers presented to our Section, and especially by the able paper of Dr. N. S. Davis that there should be a closer union between the medical profession and our specialty, and

Whereas, To bring this union closer it seems advisable that there should be established in all our medical colleges chairs on stomatology; therefore be it

Resolved, That we elect a committee of seven, consisting of the Chairman, Secretary, and Executive Committee of this Section with two others—of which committee our Chairman and Secretary shall be Chairman and Secretary respectively—to use all legitimate efforts to bring about the above results, and to work for the coeducation of all students in the foundation principles of medical education.

The Chairman appointed Drs. W. E. Walker, of Pass Christian, Miss., and James McManus, Hartford, Conn., on this committee.

SPECIAL ARTICLE.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.*

VII.

ARE TRADE-MARK NAMES NECESSARY.

The object of this series of articles is to try to reach a better understanding than now exists between medicine and pharmacy. That the former must depend on the latter to a large extent is acknowledged, and it is to the interest of both that present conditions be changed. The office of the physician is daily being encumbered with samples of all kinds and varieties of medical preparations, most of which are simply nostrums while some are of therapeutic value and a real advance from a pharmaceutic point of view. It is as much to the interest of honest scientific pharmacy as of medicine that the secret nostrums be banished, and these columns are open to the pharmacist who is willing to assist in the movement, or who may feel aggrieved at any statement made. For this reason space is gladly given to the following, especially as it gives a chance to discuss one phase of the subject.

New York, June 22, 1900.

To the Editor:—It is in the best interest of medicine that original investigation by competent persons should be encouraged. Very much of the advance in therapeutics is traceable to the work of those who have made a study of therapeutics, physiology, chemistry and pharmacy, and applied the knowledge gained to the perfection of such remedies as are decided improvements in medicine. Much of this kind of investigation has been carried on in the laboratories of those who have introduced these special preparations to the profession, and have relied for their reward upon the improved effect of their products in the hands of physicians.

There are many cultivated physicians who make a specialty of original research in pathology and diagnosis; these have contributed very largely to the great advance made in these studies of late years but unfortunately, the study of therapeutics has not made the same progress. I fear that the reason for this lies in the fact that the study of therapeutics and physiologic chemistry, as well as other branches of chemistry, have been too superficially taught.

If we stop for a moment to consider that a physician is constantly called upon to treat diseases, by chemical means, the gravity of the oversight will be apparent. The fact that the vital element in the organism is also a factor, while it does not nullify the argument, very greatly increases the complexity of the problem. Thus the lack of an equal knowledge of these two last links in the round of medical acquirement—therapeutics and chemistry—often handicaps the investigator in such a manner that he is unable to utilize his exhaustive studies in other directions, by his unfamiliarity with that essential and crowning knowledge which enables him to apply in a scientific manner, the indicated remedy to the morbid state which he has demonstrated.

It will thus be seen that many who have made therapeutics, physiology, chemistry and pharmacy a special study; have utilized such acquirements in improving the pharmaceutical condition of important remedies which are relied upon by the whole medical profession in the treatment of disease; have made such study common property with the profession at large by constant printed communications embodying the complete physiological arguments involved and affording the physician an opportunity to carefully weigh their value, to adopt or reject the statements made, are engaged in a work worthy of the most appreciative consideration of the medical profession, and should be encouraged to the utmost by them.

---

*The first of this series of articles appeared in The Journal of April 21.

As was before stated, such manufacturers have devoted themselves to the service of the medical profession; have given their entire time to this work for years; many of them have pursued strictly ethical means in introducing their specialties to physicians alone; have given the products introduced their correct pharmaceutical names; and have relied upon the use of their own names in connection with their preparations to induce physicians to prescribe the originators' products, as their sole protection against dishonest competition.

Failing to appreciate the character of the service rendered, or deceived into the belief that such preparations were no improvement over those made by any pharmacist or manufacturer, who, moved by cupidity and self-interest, and without the necessary knowledge to successfully imitate such specialties, has dispensed crude, imperfect substitutes in prescriptions, the physician has been largely imposed upon; the reward for important service in medicine has ben diverted from its rightful recipient as the manufacturer finds that he is, to a large extent, booming the sale of vile imitations of his perfected products, for the effects of which he is held accountable in many cases; results promised are not secured; patients suffer.

Under these conditions, whenever such a manufacturer originates anything new, he is compelled in self-defense to give it a trade-mark name. This is not an attitude opposed to the physician; in fact it is in his best interest, as it renders him able, by ordering by this trade name, to secure the particular manufacturer's product he desires, and largely prevents the fraud perpetrated by many dishonest pharmacists. Such products are usually fully described by those who place them on the market, the active ingredients and proportions of the same are carefully given, and the physician knows what he is prescribing. There is another class of preparations which do not appeal to the confidence of cultivated physicians; mere mixtures of well-known and often-prescribed medicines, which involve no advancement in any direction, but are placed upon the market for the sole purpose of making money, and have no *raison d'etre* for their existence; these could be as well compounded by any pharmacist. They are on the market and are also given trade names; the law protects them in this privilege, they are vested rights and can not be interfered with. The remedy here lies with the physician himself; he should not prescribe them.

It has been proposed that manufacturers should patent their preparations, publish a complete working formula for their preparation, and enjoy (?) the exclusive sale of such for the period allowed—17 years. Experience has taught me that the only protection against the ravages of piratical manufacturing houses, who make a living by stealing the products of the brains of others and seek to monopolize the returns due the original investigator for his labor and expense in introduction, lies in withholding the manipulations employed, and taking out a trade-mark name.

Trade names have been adopted by nearly every legitimate manufacturer in the country; they have been driven to it by the dishonest practices of others. They are responsible for their existence. They are the ones who seek to abolish them. They interfere with their dishonest practices and they naturally wish them done away with. Very truly, yours,

R. W. Gardner.

To much of the foregoing hearty assent must be given. The conditions portrayed by Mr. Gardner are fairly in accord with other close and competent observers. Far from satisfactory, these conditions are shared by other branches of medicine in all that pertains to educational, professional and business relations. As has been pointed out time and again, it is the lack of thorough education and practical training in materia medica, chemistry and pharmacy, on the part of many medical graduates which is primarily responsible for their patronage of medicinal articles which are unworthy of support. This proposition is self-evident. The physician should be as competent to carefully discriminate in the selection of a remedy, or formulate a prescription for it, as he is to diagnose the disease. Lack of knowledge and practice in this respect places him at a disadvantage, weakens his self-reliance, impairs his usefulness. He will either fall into a "rut," believing it best to hold fast to that which has proved good, or cast about for every new-fangled remedy or combination that appears. In either event he is neither contributing to science nor doing his duty to his patrons.

But granted that all physicians had acquired a fairly comprehensive knowledge of materia medica and therapeutics, there yet remains the pharmacist. While there is a tendency to reversion to the older plan of the English apothecary in so far as physicians dispensing their own medicines, yet it is not believed that the separation of medicine from pharmacy, which has been going on so long, will continue.

The causes for this retrogression are well-known and need not be considered. But, especially engaged in the preparation, compounding and dispensing of medicine, the pharmacist should be regarded as indispensable and as such be entitled to a position in the great field of medicine. Unfortunately, the status of the pharmacist is not on the average any better than that of the physician on matters pertaining to pharmacy, so that it may be said that only a minority of either are qualified to fully perform their respective services, viz., prescribing and compounding and dispensing. It is for these reasons that existing conditions prevail and will continue as long as physicians will try anything and everything through their lack of information, or because they can not afford to trust pharmacists in preparation and compounding, owing to the unsatisfactory pharmaceutical education and training on the part of the latter.

The trade element in pharmacy is now rampant and is already bearing fruit, but there will be a better, more highly educated class of pharmacists who will deserve and will enjoy full medical confidence. In the meanwhile, there is need for patient and careful discrimination; unqualified condemnation will accomplish nothing. Every wholesale manufacturer naturally thinks that his article should have the preference. This is the case with Mr. Gardner. From an ethical standpoint, his manufactures deserve medical preference because they respond to ethical requirements. The preparations of hypophosphites are properly designated by pharmaceutic titles and his name is a guarantee of excellence. Probably every physician desiring to use hypophosphites knows of Gardner's and is far more likely to specify his make than if they were designated by some arbitrary fanciful title, such as for example: "Hyper-phos-ol," or "Phos-syr-ol," or some other hyperbolic combination or "verbicide."

It is not believed that the trade-names will afford protection against substitution, because any one who will substitute one brand of an article for another without the prescriber's consent, would not hesitate to indulge in the same practice with trade-name articles. On the other hand, it would alienate the favor and preference of many medical men who are opposed to trade-names on ethical and other grounds, not the least of which is the taxing of their memories with new and meaningless names. The multiplication of these coined names has been so great as to prove not only confusing but even dangerous to prescribers, owing to their often great similarity. Besides such names have especial fascination and charm for the cultivated laity who are constantly on the lookout for new remedies for self-medication and subsequent exploitation to their friends and relatives. Since Mr. Gardner has pursued the laudable course of addressing himself to the medical profession exclusively, he certainly would not favor such method.

The criticism concerning the exploitation of "mere mixtures" which have no "*raison d'etre*," but "to make money" for somebody and that "these could be well compounded by any pharmacist," is well taken. But here is where Mr. Gardner treads on dangerous ground. If he had been more explicit as to what are defined as "mere mixtures" he would have contributed greatly to the solution of this question. While the articles of his manufacture are official in the pharmacopeia and any qualified pharmacist should be able to make similar preparations, as has already been observed in these articles, their satisfactory preparation as a class involves certain conditions not always met by the average druggist. But would any other manufacturer agree that his articles were "mere mixtures" and had no "*raison d'etre?*" Certainly not.

It was contended in one of the earlier articles of this series that originality or invention was entitled to the protection that a patent affords, but such protection should not extend through trade-mark to the name of the article, but only to the proper name or symbolic devices. Our correspondent's opinion that the suppression of the manipulations and employment of trade-names is the only protection is antagonistic to the basic principles of medicine and pharmacy, and contrary to the course pursued by him some years ago. When advocating that the most complete information be furnished pharmacists, he himself contributed a very elaborate and excellent collection of formulas with full working processes for these very preparations. This information entered into the pharmaceutical literature and some of the preparations were incorporated in the pharmacopeia. This was the ethical plan. It is still followed by some manufacturers; why should it not be by all? Upon it rests all progress. The leading reliable manufacturing pharmacists, as for instance, Squibb, Wyeth, Sharp & Dohme, Parke, Davis & Co., and others, do not resort to trade-mark, their own names being sufficient. Those who do are chiefly the promoters and outsiders, who, through the use of trade-names, seek to rob the legitimate manufacturers of their just returns. As to who are responsible for the attempt to abolish trade-names, the charge of esoteric motives is gratuitous. The two most representative bodies concerned, the AMERICAN MEDICAL ASSOCIATION and the American Pharmaceutical Association are committed to the principle.

It is believed that Mr. Gardner and all reputable manufacturing pharmacists appreciate these facts: 1. The physician is entitled to and demands the fullest information concerning the products he is asked to prescribe and use; 2, in order to insure their identity and that they may gain a place in medical literature, all medicinal preparations should be designated by pharmaceutically descriptive titles and not by mysterious names, accompanied by befogging literature; and, 3, the manufacturer who adopts the above two propositions and carries them out honestly and honorably will add prestige to his products, dignity and reputation to his name, which, on the label of a bottle, would be worth more than any copyrighted proprietary title.

Therapeutics.

Treatment of Croupous Pneumonia.

At the Eighteenth Congress for Internal Medicine, held recently at Wiesbaden, Pel, of Amsterdam (*Berliner Klinische Wochenschrift*, 1900, No. 18, p. 398), pointed out that in most cases of croupous pneumonia, Nature unaided is capable of effecting a cure through the compensatory powers of the body for neutralizing pathologic processes. The attacked organism possesses various protective influences through which it opposes the morbid process and neutralizes it toxic effects. The important part played by leucocytes and fibrin is indicated by the hyperleucocytosis, and the hyperfibrinosis of the blood, frequently present. Possibly, elevation of temperature is an adjuvant of these two factors. The fate of the pneumonic patient is thus determined, not alone by the conditions present in the lungs, but also by those in the fluids of the body. The constitution or the individuality of the patient, which determines the intensity of antitoxin-formation, as well as the strength of the protective agents, is of decisive importance. In cases of pneumonia that pursue a less favorable course, certain constitutional anomalies influence the abnormal irregular course. The danger to life is greater in patients with emphysema, bronchitis, nephritis, diabetes, in the aged and the reduced, in the neurotic, and especially in the alcoholic, when attacked by pneumonia, than in the healthy. Objective investigation has shown that there is no single remedy by means of which it is possible to shorten or to influence favorably the pneumonic process. The value of serumtherapy in this connection is as yet undecided. Some of the remedies proposed as specifics may, however, be employed for the relief of symptoms. Thus, venesection may be indicated in the presence of severe dyspnea, cyanosis and feeble pulse, and also of beginning pulmonary edema, and it may be of life-saving value. Digitalis in small doses may act as a cardiac tonic, but it is indicated only when pneumonia occurs in a patient with disease of the heart, and cardiac weakness appears, or cardiac insufficiency becomes a prominent feature. Large doses, however, are not to be recommended. The less the physician interferes in cases of pneumonia of regular course, the greater is the probability of successful termination. This does not, however, mean that the physician should do nothing. There yet remain the institution of an intelligent hygiene, of careful nursing, and of proper diet, and the mitigation of the most distressing symptoms, in order that the conditions of natural recovery may be rendered more favorable. Nothing should be considered too slight or too insignificant for consideration. For the distressing cough and embarrassed expectoration, the powder of ipecac and opium may be administered; for the severe pain in the side, if necessary, subcutaneous injection of small doses of morphin; and, later, for the embarrassed expectoration, an expectorant. Irregular and atypical cases require, on the whole, a stimulating course of treatment. In such cases there is danger from heart-failure. While premature and excessive stimulation may do harm, the opportune employment of such an agency may be the means of saving life. Alcohol occupies a place in this connection, exerting a stimulating and invigorating influence. Excess, however, is to be avoided, especially in the young. Camphor is the most reliable restorative, given at first in small doses, and, when the danger is great, in large doses, and especially subcutaneously in combination with ether. It may often be the means of saving life. Methodical sponging of the skin is agreeable to the patient, and exerts a favorable influence. The elevation of temperature does not require the use of antipyretics, and is unattended with danger. It is probable that the fever is a conservative and a useful reaction on the part of the infected organism. Prophylactic measures are, however, indicated. The constitution of the patient should, as far as possible, be preserved intact, in order that, should he be attacked by pneumonia, the natural protective influences may become operative in full vigor. The principal indication here is to avoid excesses and over-exertion in every direction, even during health.

Treatment of Tubercular Cystitis.

The *Clinica Moderna* gives the following:

In the first stage—viz., before surgical intervention is called for—it is requisite to combat the purulence of the urine and the pains. To that end one of the following formulæ may be used:

R. Codein sulphatis ....gr. ivss
Salol ....gr. xc

M. divide into twenty powders. Sig. One powder to be taken after each meal.

Or:

R. Cocain hydrochlorit
Ext. cannabis indicæ, āā ....gr. ivss
Guaiacol carbonatis......................gr. xc

M. ft. pl. No. xx. Sig. One pill to be taken after every meal.

Against fermentation of the urine urotropin may be given in 4½-gr. doses four times a day.

Lactic Acid in Gynecology.

Dalche has found lactic acid a natural antiseptic for the vaginal cavity. In 3 per cent. solution it destroys the bad odor and greenish-yellow color of leucorrhea and lessens the quantity of the discharge. It causes curative desquamation when applied in half-strength in endometritis and endocervitis. It causes no danger.

The author, after douching with lactic-acid solution 1:35, puts in tampons of 1:33 in glycerin every eight days, with daily hot-water douches in the interim.—*Merck's Archives.*

Bed Sores.

R. Argenti nitratis............ .... gr. xl
Aquæ dest. ....fl℥ii

M. Sig. Paint red and tender spot daily.

Indications: To be employed over red and sore spots that threaten to break. Also employed if surface ulcerates.

R. Hydrarg. perchlor.......................gr. ii
Spir. rect.................................fl℥i

M. Sig. Use locally.—*Erichson.*

R. Alumen
Sodii chloridi, āā..........................℥ss
Aquæ
Alcoholis, āā .... Oi

M. Sig. For local use, twice daily.—*Forbes: Dominion Med. Mon.*

Agalactia.

℞. Strychninæ sulphatis .... gr. i
Pilocarpinæ hydrochloratis .... gr. i
Sacchari lactis .... ʒiss
Alcohol, q. s.

M. et ft. tabellæ triturationes No. lx. Sig. One tablet every four hours.

Indications: The various malt extracts, with or without cod-liver oil, are available adjuvants. Massage of the breasts is also recommended.

℞. Ext. ergotæ
Ext. nucis vomicæ, āā .... gr. vi
Quininæ hydrochloratis .... gr. xxiv

M. et ft. pl. No. xxiv. Sig. One pill every six hours.

Indication: Use in anemic subjects.

℞. Ext. pilocarpi fl .... fl℥ii

M. Sig. Teaspoonful two or three times a day.—*Bartholow: Dominion Med. Mon.*

Spermatorrhea.

In spermatorrhea and anaphrodisia of neurasthenia, Bozzolo and Mangianti advise:

℞. Cornutin citratis .... gr. ss
Cretæ preparatæ .... gr. xlv
Gum arabic .... gr. xxxiss

M. ft pil. No. xx. Sig. From two to four pills to be taken daily.—*La Medicine Mod.*

Bleeding Gums.

After the extraction of teeth, Vian recommends the following as an efficient styptic to check the bleeding:

℞. Chloroformi .... ʒi
Acidi tannici
Menthol, āā .... ʒss
Tinct. krameriæ .... ʒi
Aquæ dest., q. s. ad .... Oi

—*Louisville Med. Mon.*

Erysipelas.

℞. Acidi carbolici
Tinct. iodin
Spiriti rect., āā .... ℥iii
Ol. turpentini .... ʒx
Glycerini .... ℥iii

M. The site of the disease is to be painted with this mixture every two hours and then covered with antiseptic gauze.

℞. Ichthyol .... ʒx
Petrolatum .... ʒviii
Lanolin .... ʒxv

M. To be applied locally.—*Louisville Med. Mon.*

Alopecia.

℞. Resorcini .... ʒii
Acidi salicylici .... gr. xxx
Olei ricini .... flʒi
Spirits rectified .... flʒvi
Olei bergamot .... flʒi

M. Rub well into the scalp every night.

When greater stimulation is desired, use:

℞. Mercuric chlorid .... gr. xii
Betanaphthol .... gr. xl
Castor-oil .... flʒii
Spirits rectified
Bay rum, āā .... fl℥iii

—*Schamberg: Polyclinic.*

Warts.

Louvel-Dulongpre (*Med. Neuigkeiten*) advocates the following painless treatment, which also has the advantage of leaving no cicatrix. A concentrated solution of potassium bichromate in boiling water is prepared by gradually adding to the latter enough of salt to make a saturated solution. On cooling, a certain quantity of the salt will again be precipitated. The supernatant fluid is to be applied once a day by means of a brush.

Cardiac Stimulation for a Child.

℞. Spir. etheris comp .... m. lxxx
Tinct. nucis vomicæ .... m. xl
Tinct. lavandulæ comp .... m. lxxx
Aquæ cari, q. s. ad .... ℥iv

M. Sig. One tablespoonful every four hours to a child of 8 to 12 years.—*Ashby: Med. Record*

Asthma.

℞. Ext. euphorbiæ piluliferæ fl .... fl℥i

M. Sig. Thirty to sixty drops, as required. —*Payne.*

℞. Pulv. stramonii fol.
Pulv. belladonnæ fol., āā .... ℥i
Pulv. potass. nit .... ʒiss
Pulv opii .... gr. xv

M. Sig. Burn a little and inhale the fumes.

℞. Potass. iodid .... ʒviss
Tinct. lobeliæ .... flʒviiss
Aquæ dest .... flʒxvss

M. Sig. From a teaspoonful to a tablespoonful in a glass of beer before meals—*Dujardin-Beaumetz: Dominion Med. Mon.*

Bites of Insects, Etc.

℞. Liq. ammon.
Collodii, āā .... gtt. xc
Acid. salicyl .... gr. iii

M. Sig. Apply a drop upon each bite.

℞. Naphthalin
Vaselin. āā q. s. ad saturated.

M. Sig. Rub in a few drops every four hours.—*Louisville Med. Mon.*

Sodium Benzoate in La Grippe.

According to the *Medical News*, no drug has given more favorable results in the treatment of la grippe than benzoate of soda. It may be given in capsule or powder form, the usual dose being ten grains three or four times a day. When muscular symptoms are pronounced the following combination acts admirably:

℞. Sodii benzoatis .... ʒii
Salol .... ʒi
Phenacetin .... gr. xxxvi

M. et ft. chart No. xii. Sig. One powder every four hours.

Belladonna in Bronchopneumonia.

A. H. Frere says that the great value of belladonna in asthma and whooping-cough is well recognized and when we come to consider the main actions of this drug on the nervous and vascular systems, we find there are many reasons why belladonna should prove of value in bronchopneumonia. As an antispasmodic; as a stimulant to the cardiac muscles; as a stimulant to the vasomotor and respiratory centers; and lastly, as diminishing secretion, it must tend to relax the tubes, to obviate the stasis of the vessels around the bronchi, and facilitate the breathing. He says that he has been accustomed to employ iron in these cases with great benefit, having regard to the fact that this remedy increases the number of blood-corpuscles and the oxygen-carrying power of the same.—*Merck's Archives.*

Abortion (To Prevent).

℞. Tinct. opii deodorati .... flʒii
Chloralis .... ʒii
Ext. hyoscyami fl .... flʒi
Syr. acaciæ .... flʒiv
Ext. viburni prunifolii. q. s. ad .... fl℥iii

M. Sig. One or two teaspoonfuls every hour or two until moderate somnolence.

Indications: In threatened abortion, give in sufficient doses to secure the continuous moderate effects of opium and chloral. Complete rest in bed, light diet, and daily moderate evacuation of bowel.

℞. Ext. opii
Ext. hyoscyami alcoholici, āā .... gr. iii
Ol. theobromatis, q. s.

M. et ft. suppositoria No. vi. Sig. One by bowel as required.

Indications: In threatened abortion employ every hour or two until somnolence. Bowels to be moved daily by mild laxative of cascara or saline or by an enema.

℞. Hydrargyri iodid. avi .... gr. x
Sacchari lactis, q. s.

M. et ft. tabellæ No. xl. Sig. One after meals.

Indications: In habitual abortion due to syphilis, increase dose until slight soreness of gums or tendency to diarrhea, then reduce to tonic dose. Continue during pregnancy.—*Dominion Med. Mon.*

Infantile Constipation.

Dr. L. Emmett Holt has said that the conditions found in young children were such as to make the treatment of constipation in these little patients proportionately easy and satisfactory. He always insisted on a careful scrutiny of the whole of the child's daily life. The nurse was often to blame for the constipation in the infant. In infants under six months of age constipation was often due to the use of modified milk in too small percentages, so that too little residue was left. Under such circumstances the indication was to increase the total solids. The bad cases of chronic constipation in children of 5 or 6 years of age that he had seen had been almost without exception in children who were exceedingly healthy and robust. He could heartily recommend cascara as being probably the most valuable drug in the treatment of cases in which there was loss of expulsive power. Still better than drugs, in his opinion, were suppositories.—*Medical Record.*

Vaginismus.

Dr. Touvenaint (*New Yorker Med. Monatschrift*) advises the following:

R. Stront. bromid.
Potass. bromid.
Ammon. bromid.. āā ....℥1¼
Aquæ dest ʒ8
M. Sig. Tablespoonful twice a day.
Or:
R. Zinci valerianat ....gr. 5/6
Quinin. valerianat ....gr. 1½
Ext. opii.
Ext. belladonnæ, āā ....gr. 1/6
M. Ft pil. No. 1. Sig. From 3 to 6 pills daily.
Locally:
R. Ext. krameriæ ....gr. 1½
Morphin. hydrochlor ....gr. 1/3
Ol. theobrom ....ʒi
Ft. suppositoria vaginal.
Or:
R. Cocain hydrochlor ....gr. 3
Ext. belladonnæ ....gr. 1½
Strontii bromid ....gr. 4
Ol. theobrom ʒ1¼
M. Ft. suppos. vaginal.—*Ex.*

Salol and Cocain in Burns.

Dr. Capitan (*Cronica Medica*) asserts that the following ointment suppresses pain and suppuration in burns and promotes healing:

R. Salol ....gr. 120
Cocain hydrochlorid ....gr. 7½
Vaselin ....gr. 900

Dr. Capitan uses in addition compresses moistened with solutions of corrosive sublimate in water of .25 to .5 per cent. strength, or of borated water, 1:50.

Medicolegal.

Separation Agreements on Account of Health.—While much controversy has arisen as to the validity of separation agreements, and although judges have frequently and in strong language deprecated the cause and effect of them, and condemned agreements by which they were accomplished, nevertheless, the Supreme Court of Kansas declares, in King vs. Molohan, that it may be regarded as settled law in England and this country that a valid agreement may be made for an immediate separation between husband and wife, where the conduct of one is such as to render a separation necessary for the health and happiness of the other, or when their relations are such as to make separation inevitable.

Cognizance Taken of Mortality Tables.—The Appellate Court of Indiana states, in Chicago, Indianapolis & Louisville Railway Company vs. Neff, that the court will take judicial knowledge of the United States mortality tables, and of other standard tables of the same character. It also says that where a witness has shown his competency to testify as to the expectancy of a life the proper course is to ask him to state the expectancy and let him refer to the tables in order to refresh his memory, and not to ask him what is the expectancy of the life as shown by the tables.

What Constitutes "Sound Health."—The Supreme Court of Ohio holds, in Metropolitan Life Insurance Company vs. Howle, that, in life insurance, "sound health" means that state of health which is free from any disease or ailment that seriously affects the general healthfulness of the system, not a mere indisposition. And it pronounces unobjectionable the following charge to the jury: "Sound health," as used with reference to life insurance, means that state of health, free from any disease or ailment, that affects the general soundness and healthfulness of the system seriously, and not a mere indisposition, which does not tend to weaken or undermine the constitution of the assured. The word "serious" is not generally used to signify a dangerous condition, but rather a grave or a weighty trouble.

Fright from Witnessing Another's Peril.—The Appellate Court of Indiana thinks it remarkable that no precedent was cited to it, and that it was itself unable to find any, of an action having been successfully maintained similar to the case before it of the Cleveland, Cincinnati, Chicago & St. Louis Railway Company vs. Stewart wherein the latter-named party sought, and recovered a judgment for, damages for "nervous prostration" caused by fright from seeing her daughter in peril attributed to the negligence of the railway company. In other words, it says that it was not cited, by the learned counsel engaged, to any case, nor has it been able, after the most diligent research, to find any case, holding that fright occasioned by imminent danger to one person can be made the basis of an action for damages by another. And, in the face of the authorities, it declares that it is not willing to establish such a precedent by an affirmance of the judgment to that effect in this case. Witnessing an injury or a threatened injury to another, even though it causes fright, the court goes on to say, is not in itself an injury to the person witnessing it. There must be some direct physical connection between the cause and effect. Hence, the fact that one is frightened by observing another in danger, and that such fright brings on nervous prostration, gives no cause for action to the former. Nervous prostration, it also considers, is largely a mental, and not a physical, condition.

Board of Health as Part of City Government.—The Board of Health for the City of New Orleans owes its origin to the provision in the act of 1898 making it incumbent upon the council or legislative body of each and every incorporated municipal corporation of the state to establish and organize a town or city board of health. It is a part of the city government, the Supreme Court of Louisiana holds, in State, on relation of the board, vs. Common Council. It has not had conferred upon it, by the general assembly, an unrestricted power, for example, of determining how much money should be appropriated for its purposes by the common council in any given year. Of course, having been entrusted with the special and important duty of guarding the public health, it can not but keenly appreciate a situation which might leave it crippled in its action. But, the court insists, there is no more ground for independent action on its part in determining the amount of money it shall have to expend, than there would be for the police, or any other department of the city government. The intention of the general assembly was that the board of health and the council should act together for the attainment of any object in which they have a common interest. The city is not unlimited in its power to raise funds; there are other important objects besides the preservation of the public health to be attained, and, where the constitution has ordained, the citizen has but to obey, and to discharge his duty as best he may, with the limited instrumentalities placed in his hands. So, the court holds, if the appropriation for the board of health be too small it will have to diminish its force and curtail its expenses. The court has no right to assume that the common council is any less solicitous for the health of the city than the board itself, and it has no authority to order the council to enlarge the amount placed by it on its budget for the prospective expenditures of the city board of health.

Legal Compensation for Suffering and Death.—According to the Supreme Court of Arkansas, in assessing damages for wrongs causing death, the law does not undertake to find a sum equal to the value of life to the deceased or for which the person killed would have voluntarily suffered death. That would be impracticable; for to most persons life is a priceless gift, which would not be surrendered for the value of an entire railroad paid to their estate. Nor, in allowing a recovery for pain and suffering, does it aim to fix a sum that would lead one willingly to endure such pain; for few would consent to have a leg crushed off, and bear the loss, for many times the sums allowed. The injury being irreparable and already suffered, the jury, after hearing the evidence, are allowed to assess a sum which, in their judgment, they deem a reasonable compensation: having regard for the severity and duration of the pain and suffering. They are given great latitude in such cases, for courts do not undertake to measure pain and suffering: but their judgment is not altogether uncontrolled, and, when such questions are brought before the judge on motion for new trial, in determining whether the proper bounds have been exceeded, he must, to a large extent, be governed by the practice of courts in such cases as shown in the decisions. Now, all of these decisions, so far as the court knows, hold that in cases of instantaneous death, nothing can be recovered for pain and suffering. And the same rule, it says, is applied when, though life remains a few moments, unconsciousness instantly follows the injury; for in such a case no conscious suffering is shown. The burden of proof is on the plaintiff to show that the deceased, as a result of the injury, underwent conscious pain and suffering. And an administrator can recover only such an amount as the deceased might have recovered had he been miraculously restored to life and health at the moment of his death. In view of all of which, the court holds, in the case of the St. Louis, Iron Mountain & Southern Railway Company vs. Dawson, that where a child between 6 and 7 years of age was run over and so injured that she died in a moment or so, even if the evidence justified more than nominal damages, an award of $4000 to her administrator for her pain and suffering must be considered excessive.

Night Medical Service.—The charter of the new City of New York provides for what is called the night medical service. Any physician may apply to the police captain of the police precinct in which he has his office to be registered as a physician to be called upon by the police to do such medical service; and upon the Registrar of Vital Statistics certifying that he is in good and regular standing in his profession he shall be so registered. On the application of any person residing within such precinct for medical attendance between 10 o'clock at night and 7 o'clock the next morning, the police officer in charge at the precinct station-house must detail an officer to call upon a physician so registered and conduct him to the residence of the patient. After the medical service is performed, the accompanying officer has to give a certificate to that effect to the physician, stating the name and address of the patient, and that the physician is entitled to $3 for such service. Such physician must then request payment thereof of the patient, and in default of such payment the captain of the precinct has to indorse such certificate; "and thus indorsed it shall be the duty of the cashier of the department of health to pay at sight the fee aforesaid." And the charter is mandatory that the Board of Estimate and Apportionment and the municipal assembly shall make an appropriation for such purpose each year, and put it in the tax levy; the sum not to exceed $3000, unless otherwise provided by said board and the municipal assembly. But notwithstanding this, it was made a defense, in the case of Dixon vs. the City of New York, that when the night medical services which it was here sought to recover for under these provisions were rendered, there was no money appropriated to pay for such night medical service. This defense, however, Mr. Justice Gaynor would not accept. He holds, at a trial term of the Supreme Court of New York, that the appropriation for this service is one which said board and municipal assembly are required to make, and that they can not, by failing to make it, prevent the purposes of these provisions of the city charter from being carried out, and can not prevent such expenses being incurred, any more than they can in a similar way prevent the mayor and corporation counsel from collecting their salaries. They are empowered to fix a limit which the expense of the night medical service shall not exceed. This they may do in good faith, but they may not refuse to make an appropriation for it. And the plaintiff, it is held, had a right to presume that they had obeyed the mandate of the statute, and was entitled to a judgment.

Privilege in Case of Infant Patients.—Infants and others laboring under a disability, the appellate term of the Supreme Court of New York holds, in Corey vs. Bolton, are covered by the word "patient," where a physician or surgeon is prohibited by statute from disclosing any information which he has acquired in attending a patient, unless there be an express waiver upon the trial or examination by the patient. Such a statute, it maintains, should have a broad and liberal construction, to carry out its policy, and, so construed, would cover all patients, regardless of their legal status. Certainly one who has been a patient prior to a disability does not become any the less a patient because of the disability. This much being settled, the court takes up the question of waiver in the case of an infant patient. A construction that the waiver can not be made by persons under a disability, it says would suggest that the statute was rather for the protection of those opposed to these persons, than in their favor. Consequently, it does not put that construction upon it. It holds, as the reasonable construction to be put upon the law, and it is not only, as before stated, includes in the word "patient" all persons, regardless of disability, but, besides giving them the privilege of the privacy, gives them the right to waive it. But how, for example, can an infant waive the privilege? A waiver is an intentional relinquishment of a known right, and must be by one capable of binding himself, and so can not be made by an infant personally, for he has a right to be protected against his own imprudence. It is not to be assumed, the court goes on to say, that the statute contemplated that persons under a disability should waive personally, annd therefore some representative must have been in the minds of the lawmakers as authorized to make the waiver. With respect to infant patients who are not parties to an action at the trial of which the waiver is sought to be made, the guardian of the person would seem to be the most appropriate person to make the waiver; for to this guardian are confided the rights which pertain to the person of the infant, and the right of waiver given by the statute has been held to be one which pertains to the person and character of the patient, and not such as belongs to a representative of property rights. The guardian should, however, never be permitted to make a waiver prejudicial to the interests of his ward; but it does not seem that it is necessary that it should affirmatively appear, upon a waiver by such a guardian, that the waiver is a benefit to the infant. The guardian may be permitted to exercise his own judgment with respect to the question of prejudice to the child, and unless called upon to do so, no showing need be made by him primarily in order to be able to make the waiver. Of course, the court says, the ward would not be so bound by a guardian's waiver that he could not at any later time assert his privilege, if it appeared that the waiver had been to his prejudice; and so, as to him, the rule that the privilege, if once waived, is waived forever, does not apply, under all circumstances. Nor has the court been able to discover any sufficient reason for confining an infant's right to waive to any particular action, or for holding that the infant's interest must be so involved that the waiver will be to his pecuniary advantage. It may be an infant's interest, it thinks, beyond any requirement for the privacy allowed by the statute, to waive, that the ends of justice be furthered. The parents being the natural guardians, and so the guardians of the person, the court holds, can make the waiver. Whether a guardian *ad litem*, or one appointed for the purposes of a suit, can, in a proper case, make the waiver, the court passes with the remark that it was not necessary in this case to determine.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, JULY 7, 1900.

HEALTH AND SUMMER RESORTS.

So many people now leave city homes for a summer sojourn in the country that the question of health during the change of residence has become very important. At most of the summering places public spirit and the feeling that it is a paying investment lead to the taking of sanitary precautions that will insure as far as possible the health of summer visitors. Each year sees such an addition to the number of those who leave town during the hot months, that the enforcement of sanitary regulations may not keep pace with the increasing crowd of visitors. The present summer, coming as it does in the midst of a period of almost unexampled prosperity, is apt to test the capacity of most summer resorts to its utmost. When the number of visitors exceeds expectations, ordinary sanitary precautions prove unavailing. In Germany stringent legal regulations give more or less assurance of the enforcement of thorough sanitary measures. In default of regulation in America, physicians are called upon to know the details of the sanitation of places to which families under their care go.

The most important matter is the water-supply. The best practical index of its wholesomeness is the number of cases of typhoid that have occurred in a town during the spring and preceding fall. This is, as a rule, easy to ascertain. No typhoid means pure water. There is one exception to the rule. If there has been an undue proportion of gastro-intestinal affections, and especially if these have been dysenteric in character, the non-occurrence of typhoid may mean only the absence of specific infectious material. Water may be contaminated by sewage, but there being no typhoid in the neighborhood, cases of the disease are not produced. The importance of a single case will almost surely lead to an epidemic.

Next to the water-supply in its sanitary importance comes the milk-supply. As milk forms such a large part of the diet of children it can scarcely be considered second in import even to water. Children especially are sent to the country for the summer, and their lack of resistive vitality during the developmental period renders them especially liable to infections. It is a common fallacy that away from cities milk must be fresh and good. As a matter of fact the precautions taken to preserve city milk often assure a much better article than is obtained by those living in the country. Ice is a most important factor in the preservation of milk. It inhibits micro-organismal development. It is used liberally for city milk and, even though the milk is distributed from twelve to fifteen hours after milking, it contains very few more bacteria than it did originally. In the country the use of ice is more neglected. It is important then to know the source of the milk that is used, and to be assured of its careful preservation on ice until the time not only of its distribution but of its consumption.

There are other dangers, but of secondary importance. Of late years botulism—poisoning by spoiled meat—has come to occupy a much larger place in medicine than heretofore. Its symptoms are due to the presence of one or more specific microbes, which have recently been isolated and studied. They occur in sufficient numbers to be virulent, especially in canned meats that have been left open for some time before being consumed. The bacillus botulinus, as it is called, multiplies very rapidly in albuminous substances that have been kept from contact with oxygen for some time and then are freely exposed to the air. In our time the use of preserved meats has become so general during the summer that a word of warning in this matter is important.

"WHAT KNOWLEDGE IS OF MOST WORTH?"

In an article entitled "A Consideration of Herbert Spencer's Essay on Education," David Starr Jordan,[1] president of Leland Stanford University, points out that Spencer placed first on the list in importance among the leading kinds of activity constituting human life, "those activities which directly minister to self-preservation," and next in order those that indirectly operate toward the same end. Probably no one will deny the paramount importance of perfect physical and mental health. Ill health, whatever its cause, "deducts more from complete living than anything else," and shortens by at least one-half the possible duration of life. Hence Spencer concludes "that, as vigorous health and its accompanying high spirits are larger elements of happiness than any other thing whatsoever, the teaching how to maintain them is a teaching that should yield in moment to no other whatever." And Jordan goes on to point out that it is not merely hygienic rules that should be inculcated, but such a knowledge of physiology that the student may formulate "his own rules of health for himself." This does not mean, however, "every man his own physician," but that every educated person should have sufficient scientific knowledge to be able to tell a scientific physician from a quack. No physician but will assent to the statement that "because of the fundamental value to the individual, hygiene, with the laws and facts of physiology and biology, should have a leading part in any well-ordered scheme of education."

It is a healthy sign of the times to find that prominent educators place a true knowledge of the laws of health first in their answer to the question—"What knowledge is of most worth?" But how many of our academies, colleges, and universities are fully prepared to give their students the knowledge that is worth most? Probably not many would be able to met the requirements that scientifically-educated physicians might wish to exact

---

[1] The Cosmopolitan, June, 1900.

In fact, perhaps as yet not a single course of studies has been arranged with the object of meeting requirements of this character as the primary object in view. And yet our educational institutions of to-day are far better prepared to meet criticisms along these lines than those in England were when Spencer startled the educational world with his question, "What knowledge is of most worth?"

The field is a large one, and at this time and in this place it may be sufficient to indicate that the prominence given to natural sciences in our better schools, and to physical culture, makes for common-sense as regards matters of health. It is not so much sciences as wisdom that is necesary in order to understand and to obey the laws of physical well-being, and the day is still distant when there shall be "no medical fraud so shameless that educated men will not give it their certificate."

CHRONIC, HYPERPLASTIC TUBERCULOSIS OF CECUM.

There occurs a form of localized, circumscribed tuberculosis of the bowel that may be successfully treated by operation. This is the hyperplastic form of tuberculosis, the counterpart of which is seen also in other tissues, such as the skin, larynx and lymphatic glands. The thickening of the intestine may be so marked as to produce a swelling grossly a carcinoma. As pointed out by Crowder[1] in his study of two cases of this affection, in one of which a carcinoma of the cecum coexisted, this form of intestinal tuberculosis is most frequent in the region of the cecum. Its history in pathology is brief, having been first described in 1890 by Durante; since then the subject has been discussed extensively by German and French surgeons, but no general summary of the knowledge of the condition appeared in the English language before Crowder took it up and gave it a thorough consideration. Indeed, the text-books just now are beginning merely to mention it. This is the reason we call especial attention to this form of intestinal tuberculosis.

The first case recorded by Crowder occurred in a colored girl of 14; a tumor of the cecum was removed by resection; end-to-end anastomosis was practiced, and recovery ensued. The patient gave a history of recurring cramp-like pains in the abdomen for about eight months; after a time transitory swellings appeared, and a mass as large as a lemon was felt in the cecal region. There was no evidence of any tuberculosis elsewhere in the body.

The second case occurred in a woman of 54; here there was no operation, and the hyperplastic cecal tuberculosis was associated with carcinoma, springing from the margin of an old tuberculous ulcer. There was an inguinal fistula of long standing. Crowder found but one previous instance of this association in the cecum, the case of Salzer from Billroth's clinic. In Crowder's second case there was a chronic tuberculosis of the lungs.

The great inelastic thickening of the cecal wall observed in these two cases, as well as in others in general, is due to overgrowth of the fibrous and muscular structures and to the formation of a non-degenerated, persistent tuberculous granulation tissue in the submucous coat especially. There is almost always stricture at or near the ileocecal valve. Constrictions also occur in the ileum due to similar conditions. In addition to ulceration, the mucous membrane presents quite constant and characteristic papillomatous outgrowths of varying size and form. Tuberculosis of the retrocecal glands is frequent. Tuberculous peritonitis rarely develops. As stated, the tuberculous tissue in the cecum has but little tendency to disintegration.

Of 84 patients, 40 were male, 44 female; the majority were between 20 and 40 years of age. As regards the genesis of this interesting form of tuberculosis, it is noteworthy that there is frequently found in these cases a latent, active or inactive pulmonary tuberculosis. In destructive tuberculosis of the intestine, on the other hand, there is commonly destructive, extensive involvement of the lungs. This indicates that intestinal tuberculosis, almost without exception secondary, takes now a destructive form, now a hyperplastic and chronic form, according as the general resistance of the organism varies. At the same time the character and the number of bacilli present undoubtedly also have something to do with determining the nature of the lesions.

In conclusion, it is to be noted that the hyperplastic, localized tuberculosis, referred to in the foregoing, hereafter must be considered carefully in the differential diagnosis of intestinal new growths and that it is a form of intestinal tuberculosis amenable to surgical treatment, as shown in the first case described by Crowder and in the cases recorded by Lennander and Krogius.[2]

MONOGAMY AND LONGEVITY.

An English physician, Dr. Harry Campbell (*The Lancet*, June 9), insists on the importance of cultivating a high racial standard to prevent racial deterioration and claims that this can not be done alone by sanitation and prevention of disease. There must be also a vigorous weeding out of the unfit if we are to insure a healthy race, and ignoring of this fact is one of the most grievous fallacies. The elimination of the unfit in the natural way acts beneficially by limiting their production of offspring repeating their own defects. He lays it down as an axiom that all non-accidental deaths occurring before the close of the reproductive period are, racially considered, deaths of the unfit therefore, in a racial point of view, beneficial. This effect is greatest when death occurs before the procreative period, and ceases altogether when it takes place after its close. He also assumes that it is in the order of nature for all organisms to die soon after the cessation of their reproductive activity and that this is true of men applying these ideas to the question of human longevity. Dr. Campbell argues that the procreative period of the male of our species is certainly prolonged beyond the Psalmist's three score years and ten, and that we owe to this the ability of any of us to exceed that limit in our lives. "Had no man," he says, "during the last 100,000 years got offspring after the age of 50, we should all probaby tend to die of old age about this time."

---

[1] Am. Jour. of Med. Sci., 1900, cxix, 668.

[2] The Journal, xxxv, 1010.

Children of aged fathers, he claims, are the saving leaven of the race, as regards longevity; the mother's reproductive period being limited as to time, she can cut no figure in the question, according to his views. In civilized communities, however, the tendency for the vigorous long-lived man to leave more children than the less robust is restricted—he has children generally by but one wife and she nearly his own age. Monogamy thus reduces him in this regard to the level of the inferior man and "robs the race of a number of individuals whose birth would diminish the racial tendency to disease in the later years and increase the racial span of life." This, he contends, increases the liability to certain diseases, especially those of advanced life, such as cancer, since the contribution to the species of the short-lived cancerous individual may be as great as that of his more physically favored brothers. The injurious influence of monogamy can not, however, be counteracted by discarding it, since that is a sociologic impossibility, as Dr. Campbell admits. He sees no remedy except in voluntary abstinence from marriage on the part of the unfit, and goes so far as to suggest that by judicious discrimination in this respect we may not only reduce the tendency to disease, but may even extend the span of life almost indefinitely.

There is no doubt that judicious regulation, not to say restriction, of marriage could improve the race, but there are some things in Dr. Campbell's theories that will hardly bear criticism. He apparently ignores the very great probability that the children of long-lived fathers begotten in their most vigorous maturity are likely to be better fitted to produce a healthy and long-lived posterity than those born in their decadence or old age. The only justification of his line of argument is that, by begetting children up to an advanced stage of life, they might furnish a larger quantity of descendants without regard to quality, which last is not supposed to have improved by the advanced age of the father or the great inequality of age in the parents. Polygamy is therefore not so certainly favorable to racial improvement as he appears to think; in fact, it might be distinctly unfavorable. According to his view, moreover, with the tendency to die at the close of the reproductive period, man ought to be much longer lived than woman, which is not the case. His paper is a suggestive one, but, like many others by some of the medical Weissmanites and Neo-Darwinians, it fails in a full appreciation of all the facts involved in the problem it treats.

MISMANAGEMENT IN THE BOER WAR.

Our English cousins are evidently passing through the same experiences that we had in regard to hospital management, or mismanagement, in the field. All kinds of charges and counter-charges are being made, some of which border on the sensational. The army medical department is receiving considerable censure, although most of it is directed against the government for its lack of appreciation of the necessities of the case and of the demands that would be made on the medical services by a large army fighting under such circumstances. When all has been said and cool judgment takes the place of hystericism, it will probably be found that no one is to blame, but that the trouble results from the fact that in time of peace there is little preparation made for war, as far as the medical department of the army is concerned. This experience may teach a lesson, and as a result the medical department in all countries will be more liberally treated in the future, but this is doubtful. The navy in all its departments is always ready for war. When the army is placed on a similar footing, then and not till then, will the basis for complaints of mismanagement cease to exist.

CONSUMPTION IN COLORADO.

The Colorado State Medical Society has appointed a committee or board consisting of the Secretary of the State Board of Health and the chief health officers of Denver, Colorado Springs and Pueblo, to investigate tuberculosis in that state. They are to make a thorough study of all the local problems of the disease and especially the question of its primary origination in the state, concerning which there appears to be much anxious difference of opinion. The report of their studies is to be given, as far as it can be made complete, at the next annual meeting of the society. There is reason to hope that the results of this investigation will have a very decided value and that they will relieve some of the apprehensions that now exist as to the dangers of the immigration of tuberculosis patients into Colorado. It is, of course, not to be expected that they will find that no cases of consumption originate in Colorado—it would be very remarkable if some did not—but the investigation, if thoroughly carried out, can not fail to deduce facts of interest and we trust will help to allay some of the excesive fear of contagion that may exist there as elsewhere in health resorts for consumptives.

ALCOHOLIC STIMULANTS NOT A NECESSITY.

Dr. Charles E. Woodruff, of the U. S. Army, in a communication in a lay journal, the *Detroit Tribune*, discusses the use of alcoholic stimulants, and claims that in certain states of exhaustion they are valuable. But he goes further than this and maintains that in some climatic and social conditions they are also essential. Thus he says, "As we go south, more of the normal people feel the need of stimulation to counteract the effects of the heat, until we reach lands where every one drinks moderately," and in another place he says that in the unnatural conditions of modern city life they are also needed and that "the liquor traffic is a necessity of modern deadly city life." His claim elsewhere made that alcohol is beneficial to soldiers in the tropics is discussed and refuted from military statistics in a late (June 21) issue of the *Boston Medical and Surgical Journal* and hardly needs further notice, but a word at least can be given as to the other unguarded statement above quoted. The liquor traffic may perhaps be called an essential element in modern deadly city life, without which it would be far less deadly, but the doctor will be quoted far and wide as proclaiming it a sanitary necessity, especially by liquor dealers. His previous utterances as regards the need of liquor in the tropics have attracted considerable attention by the lay press. These later ones will probably attract more, and put him in a position before the public of advocating views which are more and more being actively repudiated by the medical profession, which he certainly can not desire.

THE TOXIN OF THE GONOCOCCUS.

In view of the prevalence of gonorrhea and of the obstinacy of this disease to treatment, all new facts in regard to the biology of its microbe must be of interest. De Christmas and others have demonstrated that the gonococcus elaborates toxic substances capable of producing suppuration and fever in animals, and a purulent urethritis in man. The latter is characterized by abundant pus formation and heals spontaneously in a few days. The toxic substance or substances are found partly in the bodies of the cocci, partly dissolved in the liquid of the culture medium. De Christmas states that animals may be immunized against the toxin by the inoculation of successively increasing doses thereof. These observations have been questioned by other writers who found the gonococcus more or less feeble in its power to produce toxin. Evidently the composition of the medium upon which it is grown plays an important rôle in the elaboration of toxin. Recently De Christmas, seeking some good method for making the effects of the toxin evident, studied the results of the intracerebral injections of gonotoxin. The resulting symptoms were so definite that he selected this method for studying various problems in the biology of the gonococcus—problems that present great difficulties of solution because of the well-known cultural peculiarities of this microbe. The injection of filtered cultures into the brain of guinea-pigs is followed by spastic and paralytic phenomena ending in great dyspnea and death about sixteen hours afterward. De Christmas reports a number of interesting observations based on more elaborate and diversified experiments of this nature. He finds that the toxin is present in solution in the culture medium (ascitic fluid 1 part, bouillon, with 1 per cent. peptone 2 parts); that it does not concern a diffusion of toxin from dead cocci, but an actual biologic function which is not exercised except under certain favorable conditions. The toxin is not dialyzable, and it resists heating to 60 C. for at least one hour, but it is changed by exposure to 75 C. for fifteen minutes. Subcutaneous injection of the toxin results in the formation of an antitoxic substance in the blood of the animals used. This antitoxin neutralizes the gonotoxin outside of the body, and when injected into the brain before the toxin is injected, or into the circulating blood, it suspends the toxic action of the toxin. If verified, these results may become the starting-point of further investigations that may bear fruit in the treatment of gonorrhea.

PHYSICIAN'S RIGHT TO REFUSE CALLS.

The lay press in Great Britain and in this country has been recently handling the old theme whether a physician has the right to refuse to answer calls. A London coroner's jury, it seems, denounced as inhuman the action of some doctors in refusing to attend a case, and the papers followed its lead. A prominent American journal admits the legal right of the physician to refuse his services, but says that more is expected from him than from the ordinary tradesman, and that we look for some spirit of self-sacrifice from the medical profession. The doctor, according to popular notions, must give his services wherever wanted and at all times, without regard to his own personal comfort or welfare, and his refusal is counted as inhumanity. This is a satisfying sort of self-righteousness, easily assumed, that disposes of other people's rights so freely. A physician has as good a right to refuse to answer a call for his services as has a mechanic or a lawyer, and if he has good reasons, such as fatigue or overwork, no just charge of inhumanity can be made against him. He has also as good a right to refuse to work for nothing as any other man, and it would be better for the profession collectively if he oftener availed himself of this right. There is no profession that does as much for charity as the medical, and this is true to such an extent that a large section of the public has come to regard what is thus done for them as in the natural order of things and deserving of no acknowledgement. No one wishes to see any moral deterioration or increase of commercialism in the profession, and, indeed, there is no danger of its members as a class repudiating the honorable traditions from the past, but there is no need, on the other hand, that they should acquiesce in the unjust assumptions of pseudo-philanthropic posers, to lay down their rules of conduct and morals for them. That London jury was very probably made up of men who would, in their way of business, do far worse than the doctors whom, in their vicarious conscientiousness, they condemned, without scruple or remorse. As physicians we wish to exercise charity for all, even the offensively self-righteous, but the common cheap virtue of this kind in the daily press sometimes makes us tired.

DELAYED SUPPURATION DUE TO TYPHOID BACILLUS.

For a long time a discussion was waged as to whether or not the typhoid bacillus is a pyogenic organism; but the evidence would seem to have decided the question in the affirmative, the bacillus being found in pure culture in various suppurative processes. Sometimes such lesions have become manifest only many years after the primary infection. In one instance, the bacillus was found in a case of suppurative cholecystitis more than eighteen years after the original disease; in another, in a case of axillary abscess, seven years afterward; in a third, in a case of osteomyelitis, six years afterward; and in a fourth, in a case of abscess of the tibia, four years afterward. To these a further case is added by Bush and Symes[1] in which an abscess of the tibia persisted for seven years after an attack of typhoid fever. The patient was a woman, 25 years old, in whom, during convalescence from an attack of typhoid fever at the age of 18 years, a painful swelling appeared in the upper and anterior portion of the left tibia, which was incised, with the discharge of a quantity of pus. The wound was completely healed at the end of three weeks, but almost immediately a second collection of pus accumulated and it was discharged spontaneously. From time to time, there was a discharge from this wound, until within two years. When the patient came under observation, she presented a doubtful swelling over the front of the upper third of the left tibia at the site of an old scar, with much tenderness in the neighborhood. An incision was made over the scar, and pieces of bone were gouged away until the center of the bone was reached. A small bead of pus then appeared, and on the removal of more bone, an abscess-cavity containing a small sequestrum was disclosed. The cavity was scraped, and the sequestrum removed. Recovery was uninterrupted, and the severe pain that had been present for many years was relieved. On microscopic and cultural examination of the pus, the typhoid bacillus alone was isolated. In explanation of the manner in which the foci of suppuration are caused in cases of typhoid fever, it is suggested that the typhoid bacillus passes from the bowel into the portal system, is carried to the liver, and enters the biliary channels, and finally the gall-bladder, where it may excite suppurative cholecystitis, or form the starting-point of a biliary concretion. Sometimes, however, general blood-infection takes place, and local foci of suppuration are excited, either by the lodgment of bacteria in tissues of low vitality, or by masses plugging minute vessels.

---

[1] Practitioner, April, 1900, p. 413.

Medical News.

Dr. H. L. E. Johnson, Washington, D. C., is arranging for reduced rates of transportation to the meeting of the Third Pan-American Medical Congress at Havana, Cuba, Dec. 26-29, 1900.

Dr. William Osler, Baltimore, delivered the address at a conversazione of the Medical Graduates' College and Polyclinic, London, on July 4. His subject was "The Teaching of Practical Medicine."

About the middle of August the Columbia River quarantine station will be ready for service. Work on the wharf and buildings for the disinfecting machinery and bath-rooms was commenced this week and under the terms of the contract must be finished within sixty days.

At the coming meeting of the Canadian Medical Association to be held at Ottawa, Sept. 12-14, Mr. Edmund Owen, London, England, will deliver the address in Surgery. Others who will take part are: Drs. Shattuck, Boston; Louis Gerster, A. M. Hamilton and Dr. Fox, New York City; Nicholas Senn, Chicago. Dr. William Gardiner, Montreal, will deliver the address in gynecology.

Maternity Hospital.—An effort is being made to establish a maternity hospital at San Juan. The city government has given the land, and the Woman's Aid Society of Porto Rico is trying to raise $25,000 for the erection and equipment of the buildings. This Society is made up mostly of wives of army officers and has done much-needed work in caring for great numbers of suffering women and children.

Ambulance Work in South Africa.—Dr. J. R. MacNamara, of Chicago, who has been in South Africa in charge of the "Chicago Ambulance Corps," has returned home, after the practical dispersal of the corps. He said that he could not fulfill any of the functions of an ambulance director without having an adequate staff to assist him, and that under the conditions that existed in the Boer army, the operation of ambulance organizations, as we understand them, was an impossibility.

The "Three D's" Crusade.—At the meeting of the Oxford branch of the National Association for the Prevention of Consumption, Prof. Clifford Allbutt sketched clearly the main facts as to the nature of the disease and indicated the principles on which preventive measures must be based (*Brit. Med. Jour.*, June 23). He epitomized the precautions as an active crusade against the three D's—damp, darkness and dirt—a crusade which, as he said, every individual could carry out in his own home. In getting rid of these evils, they would at the same time be getting rid of many other pests besides tuberculosis, and would be raising the standard of the general health. There is wisdom in inculcating the general principles of hygiene in public meetings, for general hygiene appeals most strongly to the public mind when its application to a special evil is forcibly impressed.

OHIO.

Cincinnati.

Dr. E. W. Mitchell sails for Europe, July 7, and will be away three months.

The Cincinnati Academy of Medicine devoted the evening of June 25 to the memory of the late James T. Whittaker, a notice of whose death appeared in The Journal, June 9.

At the recent examinations for entrance into the United States Marine-Hospital Service, Drs. Edward Francis and John Boggess were two of the six successful candidates, out of forty who competed.

APPOINTMENTS IN COLLEGE OF MEDICINE AND SURGERY.

The changes announced in the faculty for the coming year are: Dr. David De Beck, professor of ophthalmology; Dr. H. P. Dickmen, assistant; Dr. Clark Hiller, physiology; Dr. H. Freudenberger, pathology and bacteriology; Dr C. T. Pearce, dermatology and genito-urinary diseases.

WISCONSIN

Dr. W. R. Hicks has been appointed assistant-surgeon in the United States Marine-Hospital Service, and will be stationed at Menomonie.

The Board of Medical Examiners has granted licenses to over one hundred physicians, who had already registered, but who wished this further qualification in order to become members of the State League of Licentiate Physicians, which has recently been formed.

DELAWARE.

At the annual meeting of the Medical Examining Board, Dr. Irving Vallandingham was elected president, and Dr. J. H. Wilson, secretary.

At the recent examinations conducted by the Medical Council of Delaware, nine physicians were licensed to practice within the state.

KENTUCKY.

Dr. E. B. McCormick, of Owensboro, has been appointed superintendent of the Western Lunatic Asylum at Hopkinsville.

KENTUCKY SCHOOL OF MEDICINE.

The fortieth commencement exercises of the Kentucky

School of Medicine were held on the evening of June 26. This school now requires a four years' course before granting a diploma, and is in a flourishing condition. The doctorate address was delivered by Dr. Roswell Park, Buffalo, N. Y. Degrees were conferred on thirty-six graduates.

TUBERCULOSIS.

The Governor of Missouri has issued an edict quarantining cattle from Kentucky because of the alleged existence of tuberculosis among them. Tuberculosis exists among cattle in almost every part of the state and it needs such quarantines to arouse the legislature to the necessity of waging war against this disease. The State Board of Health petitioned the legislature to make an appropriation to prosecute this work, but was unsuccessful. A large sum of money is awarded the boards of health in other states to use in this manner, but Kentucky has only $5000 appropriated for all its work, the inspection of cattle included.

OSTEOPATHY.

All states have been looking to Kentucky as to its course in the osteopathy cases, especially since the masterly decision of Judge Sterling B. Toney, of Louisville, declaring that osteopaths could be prosecuted under the present laws, that they were practicing medicine and should hold regular diplomas from a regular or other recognized school. The case in which this decision was rendered was carried to the Court of Appeals and a decision just rendered reverses the action of the lower court and grants a perpetual injunction against the State Board of Health from interfering with the osteopaths! The opinion holds that the American School of Osteopathy and similar schools are not medical colleges within the meaning of the law, and the act of the legislature does not apply to the graduates from these schools; a graduate from one of these schools is in no sense a physician or surgeon and does not practice medicine. It holds that they may be prosecuted for prescribing or administering medicine or performing surgical operations without holding the certificate of the State Board of Health as prescribed by law.

NEW YORK.

The Associated Physicians of Long Island met in Northport, June 18. A business session was held in the morning and the afternoon was spent yachting on the bay.

Dr. Arthur Ross has been appointed professor of diseases of the throat and nose at the Albany Medical College, to fill the vacancy caused by the resignation of Dr. John M. Bigelow, who has been made emeritus professor.

New York City.

Dr. Smith Ely Jelliffe left June 28 for a trip through Norway and Sweden.

Rear-Admiral James Rufus Tryon, U.S.N. (Retired), has been appointed physician-in-chief of Sailors' Snug Harbor, Staten Island.

Dr. Reginald H. Sayre sailed for Europe June 30, on the *Lucania*.

SENEY HOSPITAL.

The new pavilion for surgical operations, that is attached to the Methodist Episcopal Society, has been opened to the public. It is large, well lighted and well equipped with all modern appliances, and is fire proof. At the dedicatory exercises, Drs. Geo. R. Fowler, John B. Roberts and Lewis S. Pilcher made addresses.

MARYLAND.

Plans for the new building of the Peninsular General Hospital, at Salisbury, have been prepared. It will be a four-story brick building with two three-story octagonal wings, and will have sixty-six beds.

MEDICO-PHARMACEUTICAL ETHICS.

At the recent meeting of the Maryland Pharmaceutical Association, held at Hagerstown, seven rules were submitted which had been drafted by a joint committee of three each from the Association and from the Medical and Chirurgical Faculty of Maryland. Six were adopted: That pharmacists shall refuse to prescribe for customers except in emergency cases, and physicians shall carry emergency remedies only; substitution of one article for another in prescriptions is prohibited; physicians shall regulate their charges and pharmacists theirs; pharmacists not to refill prescriptions when directed by doctors not to do so; druggists must see doctors before filling prescriptions supposed to contain errors; druggists not to disclose contents of prescriptions to customers. These rules will be submitted to the Medical and Chirurgical Faculty for action. The Association refused to endorse the rule that druggists shall not place caution labels unless ordered by the doctor.

Baltimore.

Dr. Wm A. Fisher sailed for Europe, June 16.

Dr. J. J. Carroll will spend the summer in Europe.

Dr. Wm. Osler is in England, where he will remain for the summer.

The College of Physicians and Surgeons has appointed Drs. J. Hall Pleasant and Thomas R. Brown, both graduates of the Johns Hopkins Medical School, as professors in clinical medicine.

The remains of the late Stephen S. White, passed assistant-surgeon U. S. N., who died recently at Sitka, Alaska, arrived in Annapolis, June 27, and were interred at the Naval Academy Cemetery.

Dr. John C. Hemmeter sailed for Europe June 27. He will deliver addresses before the British Medical Association at Ipswich, and before the International Medical Congress in Paris.

The Barnard Sanitarium was incorporated June 27, by Dr. James L. Barnard and others. The purpose is to establish a medical and chirurgical hospital and a nurses' training school. The capital stock is $500, divided into 500 shares of $1 each.

A children's ward has been opened at the City Hospital, and has been furnished by a lady in memory of her son. A separate apartment is provided for each child, and the apartments communicate by folding doors with an intervening play-room. There are already ten inmates.

DEATH DURING CHLOROFORM ANESTHESIA.

On June 20, a man aged 52 died at the University Hospital, during chloroform anesthesia, preliminary to an operation. Three months previously, he had fallen and broken his leg. Under treatment the bones united, but when he began to use crutches, he suffered from severe shooting pains in the limbs. He was advised to have the bones rebroken and reset, and it was while he was being chloroformed, preparatory to examination, that fatal narcosis suddenly took place. The anesthesia was being conducted with an Esmarch inhaler, by one of the resident physicians of the hospital, and all approved measures were employed in the efforts at resuscitation.

CONVICTED OF MANSLAUGHTER.

Dr. George C. Worthington was sentenced to ten years in the penitentiary, for manslaughter, June 27. This is the maximum penalty provided by the law. He was twice convicted of causing the death of Miss Amelia Miller on June 30, 1899, by a criminal operation. After the first conviction, a new trial was granted because one of the jurors was under age. Motion for a new trial was overruled June 26, by the supreme bench. It is said that his attorneys will take the case to the Court of Appeals; meanwhile the judge has refused him bail.

JOHNS HOPKINS HOSPITAL REPORT.

The report of the Johns Hopkins Hospital for the year ending January 31 states that there were in the hospital on that date, 264 patients, of whom 133 were males and 131 females. Of these 203 were white and 61 colored. During the year 3816 patients were admitted, 1963 males and 1853 females. The total number treated—including those remaining from the previous year—was 4074, viz.: white, 3273; colored, 801. Of these 3002 were discharged well or improved, 143 were unimproved, 90 transferred to other departments, and 254 died, while 321 applicants were not treated. The mortality was 6.23 per cent. of the cases treated. The daily average under treatment was 263. The total number of visits made by patients to the dispensary was 58,870.

ILLINOIS.

At the meeting of the Jacksonville Medical Club, held June 16, H. C. Campbell was elected president; Edward Bowe, vice-president; D. W. Reid, secretary, and E. F. Baker, treasurer.

Chicago.

Dr. J. T. Stanton sailed for Europe, June 30.

Dr. W. M. Harsha sailed for Glasgow on the *City of Rome*, June 30.

Dr. Palmer Findley, medical inspector, has returned to duty after a year spent in the hospitals of Europe.

Dr. M. Meyerovitz has been reappointed by Governor Tanner, a member of the State Board of Health.

At the commencement exercises of the German Hospital Training School for Nurses, held June 26, Dr. Julius H. Hoelscher delivered the address.

By the will of the late T. B. Blackstone, $25,000 has been left to Passavant Memorial Hospital; $25,000 to St. Luke's Hospital, and $25,000 to the Chicago Relief and Aid Society.

The commencement exercises of the Harvey Medical College were held June 22. Degrees were conferred on a class of seventeen by the president, Dr. Frances Dickinson.

Dr. E. S. Pettyjohn has sailed for Europe. He will make extensive examinations of different hospitals for the insane in Germany.

At a meeting of the Chicago Society of Internal Medicine, held June 28, the following officers were elected: president, Dr. John A Robison; vice-president, Dr. James B. Herrick; secretary, Dr. Edward F. Wells; treasurer, Dr. M. L. Goodkind. Censor for the North Side, Dr. Henry B. Favill.

The Fourth of July in Chicago was attended by less than the usual number of casualties. One man was killed by a stray bullet, and forty-four were injured by fire-works during the day. Heat caused seven deaths and ten prostrations. Seventeen were injured during the Pullman road race.

HEALTH DEPARTMENT.

There are now twelve smallpox patients in the Isolation Hospital. All with one exception are doing well, and this one will probably recover. None of the patients has ever been vaccinated. Dr. Spalding, chief medical inspector, states that of the fifty-nine smallpox patients who have come under the notice of the department in the last sixteen months, not one had a mark denoting successsful vaccination. Four smallpox patients were taken from one house on June 16 and 17, members of one family, none of whom had been vaccinated. Four other members of the same family and a number of neighbors who had been vaccinated, were exposed again and again, before the nature of the disease was appreciated, and none contracted the disease. The last patient taken to the Isolation Hospital was a waiter in a club, a member of which was taken ill with a pustular eruption not diagnosed as smallpox, and eventually returned to his home in the country. On June 28, just fourteen days after this waiter had been exposed, he was seized with smallpox, and is now seriously ill at the hospital. Other vaccinated employees of the same club, who had been exposed in the same way, have not contracted the disease.

PENNSYLVANIA.

Through the will of Mrs. Mary Yost, a resident of Pottstown, the sum of $500 has been given the Pottstown Hospital and a like sum to the Presbyterian Hospital at Perth Amboy, N. J.

OLEOMARGARIN LAWS.

It is said that the Dairy and Food Commissioner recently returned to Harrisburg from Philadelphia, where he had been looking after matters relative to the violations of the oleomargarin law. It is understood that he informed the agents that if they did not obey the instructions of his office they would be discharged. Since the wholesale arrest of parties violating the oleomargarin laws of the state, a considerable number of disclosures have been made public, relative to the manner of ferreting out this crime. At a recent meeting of Pomona Grange No. 5, of Columbia and lower Luzerne counties, a resolution was adopted to the effect that there had been sold 12,000,000 pounds of oleomargarin in Pennsylvania, and further that "whereas the proven complicity of the State officials with violators of the laws passed to prevent injury and fraud, financial and physical, to the people merits the sincerest censure," etc. The resolution ends by demanding the resignation of the Secretary of Agriculture and other officials. It is claimed that the sale of this amount of oleomargarin means a loss of $4,000,000 to the dairymen of the state.

Philadelphia.

Through the will of Charles G. Trucks a contingent bequest of $2000 will revert to the Pennsylvania Hospital for the Insane.

The following resident physicians have been chosen to compose the resident staff of the German Hospital: Drs. J. W. Curry, Frank Dye, Paul G. Mueller, Fred M. Paul, and G. H. Hunsicker.

The amount of suffering from the heat during the last week of June was terrible. The extreme heat began on June 29, and continued three days. On the 27th there were 3 prostrations reported; on the 28th, 14, and on the 29th, 5.

On June 29, 11 cases were called before Magistrate Stratton for alleged violations of the pure food laws. Most of the defendants were charged with selling oleomargarin for pure butter, and were held in bail, ranging from $400 to $800.

Foundations are being laid for the annex to St. Timothy's Hospital to be known as the Percival Roberts Memorial. The new structure will be three stories in height, and 49 by 139 feet. It will be constructed of brick and terra cotta, and when finished will have cost $55,500.

On account of the noise and tumult generally aroused on July 4, the mayor gave orders to prevent the firing of guns, pistols, or explosives of any kind within a square of the hospitals; and further, that if anyone was ill at a private house and a request was made to abate the noise, the officer must see to it without further orders.

DIPHTHERIA.

Three cases of diphtheria were discovered in the Italian quarter of West Manayunk, June 23, and an epidemic is feared. It is said that all the residents in the neighborhood are in the habit of slaking their thirst by placing their mouths to a pipe which leads to an adjoining spring. So far no cases have occurred among adults. Prompt action has been taken by the officials to prevent the further spread of the contagion.

CONTAGION IN WALL PAPER.

The work of scientists along the lines of preventive medicine is gradually being disseminated among the laity. The latest indication is the fact that the "Paper Hangers' Union" has issued a public address warning the people against the danger of repapering houses over old paper, on account of contagion. One case is mentioned in which a member refused to place new paper over the old, in a room in which there had been a death from smallpox. There are about 800 paper hangers in the city, 500 of whom belong to the Union.

CANADA.

The following have been appointed house physicians at the Winnipeg General Hospital: Drs. R. J. Brandson, John Halpenny, Jas. Little, and A. R. Taylor.

Quarantine Officer Dr. J. C. Sinclair, at Rossland, B. C., is at present having considerable trouble with the people coming in over trails, and thus evading quarantine regulations and proper inspection.

Dr. Cameron, who has been in charge of the smallpox cases in the quarantine station at Winnipeg, has been relieved from his duties, as the patients have all fully recovered.

EXTENT OF LEPROSY IN CANADA.

In answer to questions in the Dominion Parliament by the Hon. Colonel Prior, member from British Columbia, the Minister of Agriculture stated that there were nineteen lepers in the lazaretto at Tracadie, fourteen being from the Province of New Brunswick, one from Prince Edward Island, three from Manitoba (the disease having been contracted in Iceland), and one from Nova Scotia. One of the Manitoba cases died in 1897, and another in July of the same year. The minister also stated he had been informed of the presence of lepers in the lazaretto at Darcy Island, British Columbia, late in the autumn of 1897. These are not now under the control of the Dominion Government, but are in the hands of the government of the province of British Columbia.

DISEASES OR AILMENTS FOR WHICH PATIENTS RECEIVED TREATMENT IN ONTARIO HOSPITALS DURING 1899.

Appendicitis, 527 cases, 321 being males and 206 females; chorea, 24 males and 54 females; catalepsy, 7 males and 5 females; hysteria, 47 males and 224 females; locomotor ataxia, 28 males and 3 females; spina bifida, 6 males and 4 females; otitis media, 73 males and 60 females; cataract, 113 males and 106 females; glaucoma, 17 males and 17 females; iritis, 63 males and 34 females; fracture of the sternum, 6 males and 1 female; cirrhosis of the liver, 45 males and 15 females; gall-stones, 41 males and 43 females; hydatids of the liver, 1 male; pneumonia, 255 males and 151 females; pleurisy, 134 males and 97 females; phthisis, 359 males and 384 females; diabetes mellitus, 42 males and 14 females; cancer of uterus, 136 cases; fibroid of uterus, 123; ectopic gestation, 18. Of zymotic and general diseases, there were 2 cases of anthrax occurring in men; diphtheria, 203 males and 287 females; erysipelas, 64 males and 70 females; typhoid fever, 891 males and 661 females; cerebrospinal fever, 1 male and 2 females; puerperal fever, 15 cases; gout, 7 males and 2 females; acute rheumatism, 183 males and 179 females; gonorrheal rheumatism, 26 males and 9 females; epithelial cancer, 112 males and 83 females; encephaloid, 15 males and 12 females; schirrus, 12 males and 44 females; melanotic, 1 female; cancer unspecified, 38 males and 45 females; goiter, 7 males and 36 females; tetanus 8 males and 5 females.

Toronto.

Dr. R. J. Dwyer, Superintendent of St. Michael's Hospital, leaves at an early date to spend a year at the European Hospitals.

The house staff at the Toronto General Hospital for the year 1900-1901, has been appointed as follows: From Trinity University—Drs. W. A. Kerr, George A. McLaren, A. T. Stanton, H. A. Smith, and E. Weir; from Toronto University—Drs. E. D. Carder, J. Gow, Goldwin H. Howland, A. C. Kendrick, and A. J. McKenzie.

ST. MICHAEL'S HOSPITAL.

Number under treatment Oct. 1, 1898, 157; admitted, 1905; births in the hospital, 65; total number under treatment, 2127; discharges, including infants, 1843; died, 115; under treatment Sept. 30, 1899, 169; male, 1117; female, 1010. Revenue, $34,929.84; expenditure, $35,059.26. Eighty-five cases of typhoid fever and one of puerperal fever were registered.

ONTARIO MEDICAL COLLEGE FOR WOMEN.

This year's record at the Ontario Medical College for Women has been unusually satisfactory. Gratifying evidence of success is seen in the appointment of three of the graduates to positions as house surgeons in three large American hospitals. Dr. B. Chone Oliver goes to the Women's Hospital, Philadelphia, where Dr. Margaret Gould, one of the class of 1898, holds the position of assistant resident physician. Dr. Mabel L. Hanington will succeed Dr. M. Ethel Fraser, of the class of 1899 in the New England Hospital for Women and Children, Boston, whose resident physician and superintendent, Dr. Stella M. Taylor, is also a graduate of the Ontario Medical College for Women. Dr. Mary E. Crawford succeeds Dr. Minerva Greenaway in the West Philadelphia Hospital for Women. Two members of the class of 1899, Drs. Janet Hall and Anna C. Macrae, have just returned from abroad, having spent a year in the hospitals of Dublin, Edinburgh, London and Paris. One-half the number of this year's graduates have volunteered for service in the foreign field.

The Italian *Gazetta Ufficiale* announces that 8000 lire have been appropriated by the government for an international congress of physiology to be held at Turin next year.

Correspondence.

No Evidence of Plague in San Francisco.

San Francisco, Cal., June 18, 1900.

To the Editor:—Past experiences have fully demonstrated that our professional brethren who are appointed members of health boards are often tainted with a malady common to nearly all politicians, namely, the desire for notoriety derived from sensational newspaper articles appertaining to their respective offices. The sensational reports and interviews sent abroad regarding the so-called "plague" in San Francisco long before sufficient time had elapsed for a scientific or even a superficial examination are striking evidence of this desire, as the etiology of plague is as yet *sub-judice;* and, as the material and opportunity for investigation was limited in the alleged San Francisco cases, the profession will no doubt welcome a critical and impartial analysis of the evidence now before us.

At the April meeting of the San Francisco County Medical Society I discussed two papers read before the society on "Plague in San Francisco," substantially as follows: I have taken no part in the agitation in regard to the so-called "plague" in San Francisco, preferring to wait until the alleged evidence thereof was properly laid before the profession. Careful analysis of the completed evidence justifies me in saying that there is not a scintilla of positive evidence that any of the cases investigated officially or unofficially, can be considered as plague, for the following reasons:

1. More than a year's experience with the plague in Bombay, Calcutta, and other places in India has convinced me that post-mortem examination alone is not sufficient to make a scientific diagnosis, but must be supplemented by the clinical history.

2. None of those who investigated the San Francisco cases had any knowledge of the clinical history; nor had any of them ever had opportunity to observe the various clinical changes that a body undergoes during an attack of the plague.

3. Various contagious and infectious diseases, such as syphilis tuberculosis, actinomycosis, erysipelas, typhoid fever, pneumonia, septicemia, pyemia, "scrofula," etc., are nearly always attended with large and suppurating glands in various organisms of the body.

4. Bacilli invade the blood and internal organs immediately before and after death which can not be differentiated microscopically or by other methods now known to the profession.

5. The bacilli found in the blood, glands and internal organs of a Lascar dying from what was diagnosed as the plague in London, England, differ radically from those alleged to have been found in the San Francisco cases. Those from the Lascar showed no end stains in specimens prepared from cultures, while those in the San Francisco cases showed end stains throughout. This peculiarity caused the London investigators to assume that those found in the Lascar were the true cause of plague.

6. The specimen with which the San Francisco investigators compared their own products has a somewhat interesting history which renders it absolutely worthless as a standard of comparison. During a former plague scare, the Board of Health attempted to palm off this specimen on Dr. Kinyoun as one prepared by Prof. Kitasato while investigating the plague in China for his government. Dr. Kinyoun, however, returned the specimen with a note stating, that, being a diplococcus it might cause pneumonia, but never plague.

7. We have yet to learn whether the alleged Kitasato specimen was obtained from man, animal or culture; it should also be borne in mind that Kitasato claims that the plague is caused by a diplococcus.

8. Inoculation with matter direct from a dead body, causing abscess and death, with finding of bacteria that show end-stains, is not conclusive evidence of plague; nor will such phenomena, caused by inoculation with cultures, be accepted by scientific men as conclusive evidence of infection and death by a specific micro-organism. No reputable investigator has as yet claimed to have obtained pure cultures, and poly- or

pleo-morphism of the bacteria found in plague cases completely obscures bacteriologic investigation.

9. Rats, mice, guinea-pigs, rabbits, monkeys and similar lower animals succumb readily to ptomains and other organic poisons generated during the disease processes allied to plague.

Chas. G. Kuhlman, Ph.G., M.D.

Association News.

Is Your Address Correct.

A list of members of the American Medical Association will be published in an early number of The Journal. It is important that this list be correct and we would therefore ask each member to examine the label on his wrapper and, if not correct, notify us immediately so that the name may be correctly printed in the list. Subscribers who are eligible for membership and desire to be enrolled are requested to make application at once so that their names also may appear in the published list.

American Medical Association.

The following is a list of the delegates to the Atlantic City meeting:

ALABAMA.

Medical Association of the State of Alabama—Geo. W. Brown, W. E. B. Davis, J. W. Hirst, D. L. Wilkinson.—Total, 4.

ARIZONA.

Arizona Medical Association—Wm. Duffield, Chas. H. Jones.—Total, 2.

ARKANSAS.

Arkansas Medical Society—Edwin Bentley, G. S. Brown, Wm. Britt. Burns, S. P. Collings, J. A. Dibrell, Jno. R. Dibrell, M. S. Dibrell, F. L. French, W. P. Illing, R. W. Lindsey, W. J. Robinson, A. H. Scott.—Total, 12.

CALIFORNIA.

Los Angeles County Medical Association—Norman Bridge.

Pasadena Medical Society—Jas. H. McBride, F. C. E. Mattison.

San Francisco County Medical Society—J. Henry Barbat, F. B. Carpenter.

Mdical Society of the State of California—Wm. LeMoyne Wills.—Total, 6.

COLORADO.

Colorado State Medical Societty—C. E. Edson, A. M. Holmes, S. Law.—Total, 3.

CONNECTICUT.

Connecticut Medical Society—M. A. Bailey, W. L. Barber, C. H. Bill, L. D. Bulkley, F. E. Castle, C. J. Fox, E. G. Fox, R. S. Goodwin, E. D. Hall, N. R. Hotchkiss, J. M. Keniston, R. W. Kimball, C. A. Lindley, S. D. Otis, G. A. Shelton, C. S. Rodman, J. W. Wright.

Fairfield County Medical Society—F. C. Graves.

Hartford County Medical Society—J. W. Beltz, I. G. Case, T. D. Crothers, M. M. Johnson, D. F. Sullivan.

New Haven Medical Association—McDonnell.

Connecticut State Dental Association—James McManus.—Total, 25.

DELAWARE.

Delaware State Medical Society—Willard Springer.

DISTRICT OF COLUMBIA.

Medical Association of the District of Columbia—W. H. Atkinson, N. P. Barnes, J. Wesley Bovée, S. M. Burnett, H. C. Garrow, Ida J. Heilberger, D. Percy Hickling, Harry Hurtt, H. L. E. Johnson, Geo. M. Kober, Frank Leech, D. Olin Leech, S. E. Lewis, Geo. J. Lochboeler, M. G. Motter, Mary Parsons, C. W. Richardson, W. M. Sprigg, J. Ford Thompson, Wm. C. Woodward.—Total, 20.

FLORIDA

Florida Medical Association—J. Harrison Hodges.

GEORGIA.

Medical Association of Georgia—A. W. Calhoun, T. D. Coleman E. L. Connally, W. B. Hardman, J. L. Hiers, Floyd W. McRae, Geo. H. Noble.

ILLINOIS.

Illinois State Medical Society—C. M. Bowcock, C. H. Brobst, George F. Butler, W. J. Eddy, W. A. Evans, Joseph Hall, C. B. Horrell, E. Fletcher Ingals, George N. Kreider, Denslow Lewis, J. H. Miller, J. R. Pennington, M. T. Shutt, George H. Simmons, S. C. Stremmel, F. J. Sullivan, F. H. Werner, H. M. Starkey.

Chicago Academy of Medicine—A. E. Halsted, C. E. Paddock, F. X. Walls.

Chicago Medical Society—Frank Allport, Robert H. Babcock, A. E. Baldwin, Frank Billings, D. R. Brower, R. R. Campbell, F. G. Connell, A. J. Cory, J. Homer Coulter, Richard Dewey, B. B. Eads, Rosa Engelman, H. B. Favill, Christian Fenger, William Fuller, H. T. Godfrey, L. D. Gorges, F. C. Greene, L. L. Gregory, A. Hakanson, R. N. Hall, W. S. Hall, E. L. Hayford, L. Hektoen, J. Hollinger, A. F. Lemke, L. L. McArthur, A. W. McLaughlin, John S. Marshall, Liston H. Montgomery, J. B. Murphy, J. R. Neeley, A. J. Ochsner, Hugh T. Patrick, O. L. Pelton, Robert H. Porter, C. J. Phillips, Edwin Pynchon, Wm. E. Quine, Arthur R. Reynolds, S. C. Stanton, D. A. K. Steele, J. H. Stowell, J. C. Stubbs, E. E. Tansey, H. A. Tyler, S. J. Walker, Ernest Wende, C. A. Wood, T. A. Woodruff.

Chicago Medico-Legal Society—Wm. L. Baum, E. T. Dickerman, Henry Gradle, Norval Pierce.

Chicago Ophthalmological and Otological Society—W. A. Mann.

Chicago Pathological Society—M. Herzog, B. M. Linnell.

Chicago Pediatric Society—A. C. Cotton.

Chicago Society of Internal Medicine—N. S. Davis, Jr., Robert H. Preble, J. H. Salisbury, Fenton B. Turck.

Esculapian Society of the Wabash Valley—Mark Rowe.

Fox River Valley Medical Association—Geo. T. Allen, J. A. Rutledge.

Morgan County Medical Society—Carl E. Black.

Will County Medical Society—Wm. Richards.

Winnebago County Medical Society—D. Lichty.

Iowa and Illinois Central District Medical Association—C. C. Carter, J. P. Comegys, G. L. Eyster, J. R. Hollowbush, E. M. Sala, J. G. Swensson.—Total, 95.

INDIANA.

Indiana State Medical Society—L. L. Ball, A. E. Bulson, L. C. Cline, G. J. Cook, Peter Drayer, L. H. Dunning, Joseph Eastman, J. Rilus Eastman, T. B. Eastman, E. D. Freeman, J. R. Garber, J. K. Geary, H. Graham, C. Hicks, J. L. Hicks, R. E. Holder, J. N. Hurty, J. H. Justice, G. W. H. Kemper, E. M. Kessinger, W. A. Kremer, G. W. McCaskey, P. Y. McCoy, E. J. McOscar, Charles Marvel, J. H. Oliver, L. F. Page, H. O. Pantzer, A. Pierson, M. F. Porter, J. Z. Powell, J. H. Ranke, C. C. Ray, E. E. Rice, W. H. Ristine, F. M. Sawyer, L. Schneck, C. Q. Shull, Martha J. Smith, A. E. Sterne, J. A. Sutcliffe, L. B. Terrill, J. L. Thompson, H. C. Utz, G. W. Van Benschoten, E. Walker, W. P. Whery, F. E. Wiedeman, A. L. Wilson, W. N. Wishard, F. B. Wynn.

Cass County Medical Society—J. A. Little.

Marion County Medical Society—A. W. Brayton.—Total, 53.

IOWA.

Iowa State Medical Society—S. Bailey, J. M. Barston, William Beatty, E. Burd, J. F. Clarke, R. E. Corniff, D. W. Crouse, D. W. Finlayson, Jas. R. Guthrie, Jno. Hamilton, G. F. Jenkins, Wm. Jepson, J. M. Knott, Van Buren Knott, L. W. Littig, Donald Macrae, Jr., W. D. Middleton, E. E. Munger, R. A. Nash, Geo. Park, F. A. Powell, C. M. Robertson, S. E. Robinson, W. Ruml, F. E. Sampson, J. L. Sawyer, J. A. Scroggs, J. C. Shrader, M. W. Thomburg, B. N. Torrey, V. L. Treynor, E. J. Waddey, C. F. Wahrer, A. L. Wright.

Austin Flint Medical Association—N. S. Morse.

Mitchell County Medical Society—A. D. Bundy.—Total, 36.

IDAHO.

Idaho State Medical Society—E. E. Maxey.

KANSAS.

Kansas Medical Society—F. F. Green, R. S. Moyer, W. F. Sawhill, E. T. Shelley, D. W. Williston.

Golden Belt Medical Society—W. R. Crawford.—Total, 6.

KENTUCKY.

Kentucky State Medical Society—Jas. D. Bullitt, T. B. Greenley, W. A. Guthrie, Joseph Hopson, J. W. Irwin, R. C. McChord, J. N. McCormack, L. S. McMurtry, J. Morrison Ray, G. M. Reddish, Dudley S. Reynolds, W. W. Richmond, H. M. Skillman, Leon L. Solomon, J. A. Stucky, Henry E. Tuley, Ap Morgan Vance, Jos. E. Wells.

Carlisle County Medical Society—Wm. L. Mosby, George Payne.

Louisville Clinical Society—M. K. Allen, Thos. P. Satterwhite.

Southwestern Kentucky Medical Society—Jas. R. Lee, W. R. Moss, J. M. Peck, J. R. Scarborough.—Total, 26.

LOUISIANA.

Louisiana State Medical Society—O. Joachim.

MAINE.

Maine Medical Association—Franklin B. Ferguson, Alonzo Garcelon J. Walker, M. C. Wedgwood.—Total, 4.

MARYLAND.

Medical and Chirurgical Faculty of Maryland—M. B. Billingslee, John D. Blake, J. C. Clark, J. E. Crouch, W. H. Feddeman, G. A. Fleming, H. Friedenwald, J. S. Fulton, Nathan Herman, J. T. King, A. D. McConachie, W. H. Marsh, H. O. Reik, J. T. Smith, David Street, Wm. E. Wiegand, T. C. Worthington.

Washington County Medical Society—C. R. Miller, W. M. Nihiser, O. H. W. Regan, V. M. Reichard.—Total, 21.

MASSACHUSETTS.

Massachusetts Medical Society—B. P. M. Ames, H. D. Arnold, Walter P. Bowers, G. J. Engelmann, Geo. E. Fuller, E. P. Gerey, F. B. Harvey, Geo. W. Jones, H. O. Marcy, W. H. Merrill, J. L. Morse, J. C. Munro, O. K. Newell, Ezra Palmer, E. G. Parker, G. Ryder, F. G. Smith, E. A. Tracy, A. H. Tuttle, C. O. Thompson, F. G. Wheatley, H. Williams.

Bristol South District Medical Society—D. de N. Hough.

Franklin District Medical Society—John W. Crane.

Hampden District Medical Society—W. M. E. Mellen.

Hampshire District Medical Society—A. G. Blodgett.

Plymouth District Medical Society—Gilman Osgood.—Total, 27.

MICHIGAN.

Michigan State Medical Society—W. C. Gates, W. H. Hougher, Donald Maclean, E. S. Pettyjohn, Victor C. Vaughn, D. W. C. Wade, C. L. Wilbur.

Bay County Medical Society—Louis Plessner.

Detroit Academy of Medicine—Albert B. Lyons.

Detroit Medical and Library Association—J. H. Carstens, Chas. T. McClintock, Fred. W. Robbins.

Wayne County Medical Society—Emil Amberg, R. W. Gillman, C. Henri Leonard, R. P. Loughead, Hal C. Wyman.—Total, 17.

MINNESOTA.

Minnesota State Medical Society—J. W. Chamberlain, J. E. Crewe, A. W. Dunning, Geo. G. Fitel, H. H. Kimball, H. P. Ritchie, F. C. Todd, M. P. Van Der Horck.

Minnesota Academy of Medicine—H. M. Bracken.

Ramsey County Medical Society—Edward Boeckmann, A. J. Stone.

Winona County Medical Society—G. J. Tweedy.—Total, 12.

MISSOURI.

Medical Associataion of Missouri—J. M. Allen, A. H. Cordier, W. B. Dorsett, C. W. Fassett, J. R. Fritts, J. D. Griffith, J. N. Jackson, S. C. James, A. R. Kieffer, M. P. Lewis, F. E. Murphy, C. A. Ritter.

Jackson County Medical Society—Geo. O. Coffin, David R. Porter, J. H. Van Eman, A. M. Wilson.

St. Louis Academy of Medical and Surgical Sciences—James Moores Ball.

St. Louis Medical Society—W. L. Dickerson, H. C. Fairbrother, J. Ellis Jennings, I. N. Love, Justin Steer.

South-East Missouri Medical Association—M. Rosenthal.—Total, 23.

MONTANA.

Montana Medical Association—Donald Campbell, F. W. McCrimmon, T. J. Murray.—Total, 3

NEBRASKA.

Nebraska State Medical Society—C. C. Allison, J. O. Carter.

B. B. Davis, W. L. Dayton, R. C. Moore, F. S. Owen, J. L. Sutherland.—Total, 7.

NEW HAMPSHIRE.

New Hampshire Medical Society—D. S. Adams, H. W. D. Carvelle, George Cook, J. W. Parsons.—Total, 4.

NEW JERSEY.

Medical Society of New Jersey—H. W. Elmer, D. C. English, J. P. Hecht, E. Hollingshead, A. McAllister, H. A. Stout, J. W. Ward, Charles Young.

Atlantic County Medical Society—W. E. Darnall, Wm. M. Pollard, Wm. M. Powell, E. A. Reiley.

Bergen County Medical Society—D. A. Currie, H. C. Neet, D. St. John.

Burlington County Medical Society—J. J. Flynn, F. S. Janney, Alex. Marcy, W. P. Melcher, R. H. Parsons.

Camden District Medical Society—J. S. Baer, W. A. Davis, W. H. Izard, A. L. Le Fevre, H. F. Palm.

Cape May County Medical Society—B. T. Abbott, W. A. Lake, J. C. Marshall, Eugene Way.

Cumberland District Medical Society—J. C. Applegate, S. T. Day, Jos. Tomlinsou.

Essex District Medical Society—C. H. Bailey, Edward J. Ill, Geo. R. Kent, A. Mercer, R. C. Newton, J. W. Read, H. P. Roden, M. Skinner, T. Y. Sutphen, J. T. Wrightson.

Glouscester County Medical Society—J. G. Edwards, G. E. Reading.

Hudson District Medical Society—M. Allen, T. R. Chambers, S. A. Helfer.

Hunterdon District Medical Society—T. W. Bebout, E. W. Clasaon, Geo. L. Romine.

Monmouth County Medical Society—A. J. Jackson, I. S. Long, S. J. Wooley.

Morris County Medical Society—I. W. Condict, B. D. Evans, F. W. Flagge.

New Jersey State Dental Society—A. Irwin.

Passaic County Medical Society—R. M. Curtz, J. L. Leal, M. A. Mackintosh, J. M. Stewart.

Salem County Medical Society—B. A. Waddington, B. W. Ferguson, E. Morrison, J. B. Pellett, H. D. Van Gaasbeck.

Union County Medical Society—Jas. S. Green, J. B. Harrison, F. C. Ord, S. T. Quinn.

Warren County Medical Society—L. C. Osmano, C. B. Smith, Wm. Stites, A. C. Van Syckle.—Total, 74.

New York State Medical Association—Thos. J. Acker, H. Arrowsmith, Douglas Ayres, L. Grant Baldwin, Lorenzo Burrows, N. B. Bayley, J. P. Brown, J. D. Bryant, Jas. H. Burtenshaw, Henry W. Carpenter, Geo. H. Cocks, Geo. F. Cott, Mary Gage Day, Frank W. Dennis, E. D. Ferguson, H. Gilbert, G. W. Goler, J. W. S. Gouley, J. W. Grosvenor, G. T. Harrison, F. W. Higgins, A. H. Hubbell, A. P. Jackson, A. A. Jones, I. D. Le Roy, M. C. O'Brien, C. S. Parkhill, Charles Phelps, W. Evelyn Porter, Wm. R. Pryor, F. C. Raynor, Frank D. Reese, De Lancey Rochester, N. J. Sands, E. H. Squibb, C. G. Stockton, J. Ullman, G. H. Witter.

New York County Medical Association—J. H. Abrahams, J. H. Asch, W. H. Bates, R. Bayly, Carl Beck, L. F. Bishop, H. J. Boldt, J. R. Campbell, R. H. M. Dawbarn, E. V. Delphey, C. E. Denison, E. Denison, M. Elzarian, L. Fischer, J. A. Fordyce, W. Freudenthal, A. H. Goelet, J. R. Goffe, S. Goldstein, Wm. S. Gottheil, J. A. Gottleib, E. Ellot Harris, N. J. Hepburn, L. W. Hotchkiss, Wm. J. Irwin, M. W. Jamison, W. H. Leszynsky, Ogden C. Ludlow, Anna Lukens, M. L. Maduro, Thos. H. Manley, Emil Mayer, Jas. B. Moore, Jas. Moran, John Morrisey, C. E. Quimby, T. F. Reilly, W. A. Shufelt, H. M. Silver, L. M. Silver, E. Franklin Smith, H. Stern, Parker Syms, W. S. Terriberry, W. R. Townsend, Jas. P. Tuttle, J. W. Wainwright, J. J. Walsh, A. W. Warden, J. E. Weeks, F. H. Wiggin, J. A. Wyeth, L. W. Zwishon.

Hornellsville Medical and Surgical Association—J. G. Kelly.

Kings County Medical Association—L. C. Ager, John Byrne, A. W. Ford, J. J. Kindred, C. E. Lundgren, E. L. Oatman, J. O. Polak, S. Sherwell.

Dental Society of the State of New York—Henry D. Hatch, M. L. Rhein.—Total, 101.

NORTH CAROLINA.

North Carolina Medical Society—J. F. Highsmith, Chas. L. Pearson, H. B. Weaver.

Bowan County Medical Society—J. S. Brown.

Buncombe County Medical Society—C. P. Ambler, M. H. Fletcher, Eugene B. Glenn.—Total, 7.

NORTH DAKOTA.

North Dakota State Medical Society—J. N. Wear.

OHIO

Ohio State Medical Society—F. D. Bain, N. R. Coleman, P. M. Foshay, Rufus B. Hall, W. D. Hamilton, F.F. Lawrence, W. J. Means, L. B. Tuckerman, D. C. Wilson.

Academy of Medicine of Stark County—Robt. A. Biechele, Edw. D. Brant, John P. DeWitt, E. J. March, Esther M. Tyrrell.

Adams County Medical Society—J. S. Berry.

Belmont County Medical Society—A. C. Beetham, J. A. Clark, E. C. Cope.

Academy of Medicine of Cincinnati—B. F. Beebe, C. L. Bonifield, J. C. Culbertson, M. H. Fletcher, M. L. Heidingsfeld, C. R. Holmes, Arthur L. Knight, E. W. Mitchell, Edwin Ricketts.

Clarke County Medical Society—Allen H. Vance.

Cleveland Medeal Society—J. E. Cook, Wm. T. Corlett, H. F. House, Wm. H. Humiston, Thos. Chas. Martin, A. J. Pressey.

Clinton County Medical Society—A. T. Quinn, N. B. Van Winkle.

Cuyahoga County Medical Society—Frank S. Bunts, O. B. Campbell, Wm. S. Lower.

Eastern Ohio Medical Association—G. P. Ikirt, J. A. McCullough, E. Pearce.

Muskingum County Medical Society—C. M. Lenhart.

Pike County Medical Society—J. B. Ray.

Toledo Medical Association—W. C. Chapman, A. DeVilbiss, Agnes M. Gardiner, O. Hasencamp.

Union Medical Association of N. E. Ohio—J. T. Marchand, T. J. Reed, E. O. Morrow, R. J. Murphy, O. B. Walter.

Warren County Medical Society—Ortho Evans.

Ohio State Dental Society—W. A. Price, W. H. Todd.—Total, 56.

PENNSYLVANIA.

Medical Society of the State of Pennsylvania—Henry Beates, W. T. Bishop, Alex. R. Craig, Ira J. Dunn, I. C. Gable, Geo. W. Guthrie, John W. Groff, J. A. Horne, T. A. James, A. Koenig, S. W. Latta, F. P. Leuahan, T. M. Livingston, W. B. Lowman, H. S. McCounel, H. G. McCormick, Thos. J. Mays, D. W. Nead, W. M. Pratt, S. D. Risley, J. B. Roberts, L. L. Rogers, Chas. D. Schaeffer, F. Schill, Jr., Thos. B. Schneideman, W. S. Stewart, Lewis H. Taylor, H. F. Tomb, A. W. Urmson, W. M. Weidman, DeForest Willard, J. H. Wilson, John L. Wright.

Allegheny County Medical Society—M. G. Adair, L. F. Ankrim, S. Ayres, E. B. Borland, H. L. Burroughs, M. C. Cameron, J. B. Crombie, J. M. Duff, K. Emmerling, J. J. Green, C. C. Hersman, G. M. Kelly, J. A. Kirk, Wm. H. Kirk, Adolph Lewin, J. A. Lippincot, J. G. McCandless, T. M. T. McKennan, S. H. McKibben, G. W. McNeil, J. W. Macfarlane, E. E. Mayer, E. S. Montgomery, E. H. Small, W. Snively, R. W. Stewart, E. E. Wible, J. E. Willetts, J. H. Williamson, Jas. Witherspoon.

Armstrong County Medical Society—T. F. Stockdill.

Beaver County Medical Society—G. J. Boyd.

Berks County Medical Society—H. Bucher, W. S. Buehler, F. W. Frankhauser, H. S. Reeser.

Blair County Medical Society—W. M. Finley, J. M. Gemmill, J. H. Hogue, J. W. Rowe, O. H. Shaffer, D. K. Smith.

Bradford County Medical Society—G. Conklin, Francis Chaffee, I. H. Woodhead.

Bucks County Medical Society—J. B. Carrell, Wm. S. Erdman, Henry Lovett, J. King Love, Wm. Martin, Geo. A. Parker, E. E. Pownall, Howard Pursell, J. H. Slack, G. E. Stuart, L. S. Walton, A. S. Wilson.

Butler County Medical Society—J. Clinton Atwell, A. C. Davis, T. K. McKee.

Cambria County Medical Society—J. A. Lynch, F. B. Statler, W. E. Troxell.

Center County Medical Society—Edith H. Schad, J. L. Seibert.

Chester County Medical Society—E. J. Hadfield.

Clearfield County Medical Society—F. B. Read.

Cliuton County Medical Society—F. P. Ball, J. M. Corson, R. B. Watson.

Columbia County Medical Society—J. W. Bruner, A. Graydon, John J. Stacey.

Cumberland County Medical Society—S. S. Bishop, Geo. C. Borst.

Dauphin County Medical Society—F. W. Coover, J. F. Culp, W. H. Jones, John Oenslager, D. B. Traver.

Delaware County Medical Society—W. K. Evans, Harry Gallager, F. F. Long, M. A. Neufeld, Walter Webb.

Elk County Medical Society—A. R. Bevier, Alfred Mullhaupt.

Erie County Medical Society—D. N. Dennis, A. G. Krum, D. H. Strickland.

Fayette County Medical Society—J. L. Cochran, J. W. Gordon, H. B. Guiher, J. S. Hackney, U. H. McMullen, J. S. Van Voorhis.

Franklin County Medical Society—A. H. Strickler.

Greene County Medical Society—J. T. Ullon.

Huntington County Medical Society—Ella M. Gerlock, Bruce P. Steele.

Indiana County Medical Society—W. B. Ansley, L. S. Clagett, A. T. Rutledge.

Jefferson County Medical Society—A. P. Cox, W. C. Newcome, T. R. Williams.

Lackawanna County Medical Society—Reed Burns, C. E. Foster, C. L. Frey, R. H. Gibbons, E. G. Roos, M. J. Williams.

Lancaster City and County Medical Society—S. A. Bockius, R. M. Bolenius, A. G. Bowman, Geo. L. Cassel, W. H. Herr, J. B. Kohler, A. M. Miller, D. W. Syter, A. M. Underwood, W. J. Wentz.

Lawrence County Medical Society—Robt. G. Miles.

Lebanon County Medical Society—S. P. Heilman.

Lehigh County Medical Society—J. L. Hornbeck, P. J. Kress, H. H. Reigel, F. C. Seiberling.

Luzerne County Medical Society—D. Barney, J. T. Howell, F. C. Johnson, Henry Kunkle, C. W. Prevoat.

Lycoming County Medical Society—G. F. Bell, S. Davis, W. E. Delaney, N. L. Johnson, J. A. Klump, C. W. Youngman.

Mercer County Medical Society—F. G. Byles.

Montgomery County Medical Society—D. H. Bergey, J. L. Eisenberg, P. Y. Eisenberg, W. McKenzie, L. W. Read, E. E. Richards, H. F. Slifer, J. Q. Thomas, H. H. Whitcomb, S. N. Wiley.

Northampton County Medical Society—B. Haughwout, D. H. Keller, W. H. McIlhany, A. Stout.

Philadelphia County Medical Society—L. H. Adler, H. B. Allyn, O. H. Allis, T. G. Ashton, T. M. Balliet, S. T. Banes, J. M. Barton, Henry Beates, Jr., W. H. Bennett, Bernard Berens, Geo. M. Boyd, C. W. Burr, H. W. Catlett, Robt. H. Chase, Solomon Solis-Cohen, Judson Daland, T. M. Drysdale, A. A. Eshner, C. P. Franklin, M. H. Fussel, Geo. M. Gould, E. E. Graham, W. J. Hearn, F. P. Henry, W. M. Hinkle, Guy Hinsdale, W. W. Keen, A. O. J. Kelly, J. V. Kelly, Ellwood Kirby, D. Braden Kyle, J. P. Mann, E. E. Montgomery, J. H. Musser, C. P. Noble, Jos. Price, Mordecai Price, McCluney Radcliffe, W. D. Robinson, Edwin Rosenthal, J. F. Schamberg, Geo. E. de Schweinitz, B. F. Stahl, Alfred Stengel, Wm. J. Taylor, Frank Woodbury, G. G. Davis.

Schuylkill County Medical Society—A. F. Bronson.

Susquehanna County Medical Society—Samuel Birdsall, Edw. R. Gardner, J. G. Wilson.

Tioga County Medical Society—C. W. Webb.

Venango County Medical Society—J. E. Taylor, W. L. Whann.

Warren County Medical Society—Jas. Gass, W. M. Robertson.

Washington County Medical Society—S. A. Lacock, J. A. McKean, J. N. Sprowls.

Westmoreland County Medical Society—H. C. Diltz, F. L. Marsh, C. E. Snyder, Chas. A. Wynn.—Total, 248.

RHODE ISLAND.

Rhode Island Medical Society—M. E. Baldwin, J. T. Farrell, Frank D. Gray, W. J. McCaw, F. T. Rogers, E. P. Stinson, G. T. Swartz.—Total, 7.

SOUTH CAROLINA

Medical Society of South Carolina—J. L. Dawson.

South Carolina Medical Association—Davis Furnon.—Total, 2.

TENNESSEE.

Tennessee State Medical Society—E. C. Anderson, W. S. A. Castles, A. E. Cox, Duncan Eve, G. W. Gallion, W. F. Glenn, L. B. Graddy, T. J. Happel, J. Y. Herron, Wm. Krauss, G. C. Savage, J. A. Witherspoon, J. S. B. Woolford.

West Tennessee Medical and Surgical Association—J. E. Adkinson.—Total, 14.

TEXAS.

Texas State Medical Association—J. H. Barham, I. E. Dodson,

J. E. Gilcreest, Bacon Saunders.—Total, 4.

UTAH.

Utah State Medical Society—C. P. Hough, Chas. G. Plummer.—Total, 2.

VERMONT.

Vermont State Medical Society—E. S. Allbee, L. M. Bingham, M. R. Crain, George Davenport, D. C. Hawley, J. Sutcliffe Hill, Henry D. Holton, A. I. Miller, C. W. Strobell.—Total, 9.

VIRGINIA.

Medical Society of Virginia—H. C. Beckett, Chas. A. Blanton, L. C. Bosher, John P. Davidson, Jos. A. Gale, J. R. Gildersleeve, B. C. Keister, H. H. Levy, Hugh M. Taylor, J. N. Upshur, J. A. White.—Total, 11.

WASHINGTON.

Washington State Medical Society—W. C. Cox, Fred N. Essig.—Total, 2.

WEST VIRGINIA.

Medical Society of the State of West Virginia—G. A. Aschman, J. F. C. Brownfield, R. H. Cramer, J. L. Dickey, L. Eskey, Wm. P. Goff, R. W. Hall, E. A. Hildreth, T. M. Hood, Z. T. Kalbaugh, D. C. Louchery, J. W. McDonald, D. P. Morgan, J. L. Pyle, R. J. Reed, Wm. H. Sands, C. F. Ulrich.

Harrison County Medical and Surgical Society—Chas. Amos.

Wheeling and Ohio County Medical Society—W. R. Taylor.—Total, 19.

WISCONSIN.

Wisconsin State Medical Society—B. J. Bill, Oscar Chrysler, W. H. Earle, W. B. Hill, W. F. Malone, U. O. B. Wingate, H. V. Würdemann.

Fox River Valley Medical Society—J. S. Reeve.

Milwaukee Medical Society—Lewis Nolte.—Total, 9.

UNITED STATES ARMY.

A. A. Woodhull.

UNITED STATES NAVY.

Robert A. Marmion.

UNITED STATES MARINE-HOSPITAL SERVICE.

Eugene Wasdin.

Report on the Pathological Exhibit.

When it is remembered that the movement to inaugurate a Pathological Exhibit at the Atlantic City meeting of the ASSOCIATION was not begun until the fall of 1899, the results achieved are little short of remarkable. The large amount of labor necessary in placing the Exhibit and the inability of the Committee to learn beforehand what it would contain, have made the preparation of a catalogue out of the question. For similar reasons classification was in many respects faulty. Only a summary of the exhibits is possible in the report, which follows:

Section A—Bacteriology and Clinical Diagnosis.		
Cultures of various pathogenic bacteria	80	
Common urinary deposits	15	
Stained preparations of various blood conditions	30	125
Section B.—Public Hygiene.		
Traveling bacteriological laboratory for diagnostic purposes	1	
Cultures of bacillus icteroides	16	
Cultures of plague bacillus	16	
Diseased meats	97	130
Section C.—Retrogressive and Progressive Tissue Changes. Tumors.		
Gross specimens	14	
Photographs	8	22
Section D.—Disturbance of Development.		
Gross specimens	3	
Photographs	3	6
Section E.—Diseases of Blood-making Organs and Ductless Glands.		
Gross specimens	12	12
Section F.—Diseases of Circulatory System		
Gross specimens	29	29
Section G.—Diseases of Respiratory System.		
Gross specimens	15	15
Section H.—Diseases of Gastro-Intestinal Tract.		
Gross specimens	83	83
Section I.—Diseases of Urinary Organs.		
Gross specimens	91	91
Section J.—Diseases of Reproductive Organs.		
Gross specimens	25	
Photographs	10	35
Section K.—Diseases of Nervous System.		
Gross specimens	25	
Sections of entire brain	9	
Pathological brains, hardened and infiltrated with wax	12	
Photographs of pathological brains	50	
Drawings	25	121
Section L.—Diseases of Bones and Joints.		
Gross specimens	17	17
Section M.—Diseases of Eye.		
Gross specimens	91	
Photographs	18	109
Section N.—Dermatology.		
Gross specimens	2	
Photographs illustrating histopathology of skin	27	
Photographs of cases	44	
Photomicrographs of skin yeast	25	
Cultures of skin yeast	18	116
Section O.—Photographs.		
Illustrating different types of insane	500	
Of different clases of criminals	42	
Skiagrams	43	
Miscellaneous photographs	82	667
Section P.—Miscellaneous exhibits	32	32
Grand Total		1610

Colorado State Medical Society: A. M. Holmes.—Especially worthy of note in this collection were a rhabdo-myosarcoma, an intradural tumor of the spinal canal and a teratoma.

Indiana State Medical Society: Frank B. Wynn.—The largest quota of gross specimens came from this society, which has had a pathologic exhibit at its annual sessions for three years past

Kentucky State Medical Society: James M. Bullitt.—Rare specimens in this display were one of actinomycosis of the lungs and a mammoth ovarian cyst weighing 245 pounds. The effect of the collection was enhanced by the use of Kaiserling fluid as a preservative.

Missouri State Medical Association: Hugo Summa.—This was a collection of high average excellence. Among the rare specimens were pancreas annulare and pentastoma constrictum.

New Jersey State Medical Society: F. W. Bailey and John Bruyere.—The most interest specimens in this display were of cerebral porencephalia, horse-shoe kidney and invaginated intestine.

New York State Medical Association and Carnegie Laboratory: Edward K. Dunham, Leon T. Lewald, Roland E. Benville, D. Hunter McAlpin, Jr., and J. W. Draper Maury.—The collection from New York was conspicuous for the average excellence of the specimens and the beautiful manner in which they had been prepared, Kaiserling fluid having been used to preserve the natural colors. Beautiful illustrations were thus given of the different stages in pneumonia, of pulmonary hemorrhage and tuberculosis, acute and chronic. A remarkable specimen of congenital cystic kidney was in the exhibit.

Wisconsin State Medical Society: H. V. Würdemann and Gustav A. Kletzsch.—This exhibit consisted of a fine collection of diseased eyes mounted in gelatin.

Pepper Laboratory of Clinical Medicine, Philadelphia: Alfred Stengel, C. Y. White, Samuel S. Kneass, George M. Purves, and Joseph Walsh.—Demonstrations were made of the Widal test for typhoid fever. Cultures and cover-slip preparations of the pathenogenic bacteria were also shown; also stained preparations of the various blood conditions, as malaria, leukemia, pernicious anemia, etc., all of which were made interesting and instructive.

Polyclinic Laboratories, Philadelphia: T. S. Kirkbride, Jr., H. D. Williams, Edward A. Shumway and J. Colton Deall—In this exhibit were numerous macroscopic mounts of diseased eyes, with accompanying microscopic sections. One of metastatic carcinoma of the choroid was particularly interesting. It also included photographs of ruptured tubal pregnancy and some ingenious laboratory devices of original pattern.

Medico-Chirurgical College, Philadelphia: Mihran K. Kassabian.—In this exhibit a large number of skiagrams were presented showing foreign bodies, fractures, vesical calculi, and tuberculous conditions of the lungs.

Johns Hopkins Hospital, Baltimore, Md.: William H. Welch and Harry T. Marshall.—In this collection the sequence of pathological changes found in typhoid fever and tuberculosis of the intestines was beautifully illustrated

Lakeside Hospital, Cleveland, Ohio: W. T. Howard, Jr., and Roger G. Perkins.—This collection was excellent. Among the rarer specimens were a myoma of the uterus complicating pregnancy of only a few weeks' duration, typhoid ulcer of the larynx and congenital pia-arachnoid cyst of the cerebellum.

New York Pathological Institute, New York City: Ira Von-Gieson and Henderson B. Deady.—Many original drawings were exhibited, a number of gross slides of the brain and a unique and complete method of keeping records of cases, autopsies, etc.

Government Hospital for Insane, Washington, D. C.: A. B. Richardson and I. W. Blackburn.—This exhibit was highly creditable to the pathologic work done in the institution. The large collection of photographs, illustrating the different types of insanity was especially interesting. Noteworthy among the gross specimens were those of brain tumor, hydrocephalus, and extreme atrophy of the convolutions.

U. S. Marine-Hospital Service: M. J. Rosenau.—A very complete traveling bacteriological laboratory, for diagnostic purposes was displayed: also cultures of the bacillus icteroides and the plague bacillus.

U. S. Bureau of Animal Industry: D. E. Salmon.—Diseased meats were collected from various government inspecting stations, and preserved in cold storage, thus enabling visitors to see them in a comparatively fresh state. This display was large and made an impressive object-lesson in public hygiene. The extensive and multifarious lesions of tuberculosis in animals constituted the striking feature of the exhibit.

Besides the foregoing exhibitors there were many individuals who sent single specimens. It is impossible in this brief report to give all their names. In this list would be included President W. W. Keen, who contributed rare specimens of aneurysm of the aorta and of the renal artery.

The successful inauguration of the first pathological exhibit of the Association has been alike gratifying to the executive officers and to the committee which had the work in charge. It was a wholesome change to have a large exhibit free from commercialism. The Association expressed its approval by making the feature permanent and making a liberal appropriation for its continuance. The valuable service rendered by the large corps of pathological workers can not easily be repaid. No stronger evidence could be adduced of the high scientific spirit and unselfish devotion to the advancement of medical science, which animated their efforts. Their sole compensation is in the consciousness of a great duty well performed and the heartfelt approbation of professional colleagues.

In testimony of appreciation as to the practical and scientific value of the exhibit, the following expressions are quoted from a large number similar in character, recorded in the Register. Roswell Park: "A most interesting and valuable feature of the meeting." Ferd C. Valentine: "Unqualifiedly the most important and instructive contribution to the advance of medical science in the Association. The authors of this exhibit are doing more than if they contributed a thousand papers." Wm. E. Quine: "The most instructive feature of the meeting and extremely creditable to all who contributed."

Prof. Wm. H. Welch, in a letter to the committee, says:

> You have done a really great work for the Association, and immensely increased the interest and importance of our meetings by the exhibit and the formation of a Section on Pathology.

Virchow, the renowned father of modern pathology, writes thus concerning the movement:

> I have received your letter of April 14, concerning the pathological exhibit. As I wish to help you in this important work, I will send you from Berlin upon my return there, some printed papers. I hope that your countrymen will recognize the intimate relationship of a practical knowledge of pathology, not only to expert diagnosis, but also to successful treatment.

Deaths and Obituaries.

S. S. Fowler, M.D., died in Marionville, Pa., June 19. He was born in Manchester, England, but spent his youth in Canada, where he was educated in the Toronto schools. He was graduated from the Medical Department of the University of Michigan; and after two years' service in the Civil War, located in Chicora, Pa., where he lived until 1878, when he moved to Marienville. He was vice-president of the Pennsylvania State Medical Association; and had twice represented his county in the legislature.

Alfred Hitchcock, M.D., Farmington, Maine, died June 14, aged 41 years. He was graduated from Bowdoin College and from the Portland Medical School. He then served as house physician in the Maine General Hospital and practiced in Strong, before locating in Farmington. He was a member of the Franklin County Medical Association, and of the Maine Medical Association.

Joseph D. Smith, M.D., St. Joseph, Mo., died June 21, aged 72 years. He was born in Virginia, and educated in Louisville, Ky. During the Civil War he was surgeon of the Ninth cavalry, Missouri State Militia. After the war he located in St. Joseph, where he was for a time professor in Ensworth Medical College.

J. M. McNulty, M.D., city health officer, died in Santa Barbara, Cal., June 23, aged 74 years. He was graduated from the Geneva (N. Y.) Medical College in 1846. For a number of years he practiced medicine in San Francisco, but, owing to the necessity for a change of climate, located in Santa Barbara fourteen years ago.

Lloyd N. Horwitz, M.D., died in Helena, Mont., June 23, aged 38 years. He was graduated from the Jefferson Medical college in 1882, and afterward served for some time as resident physician in the Philadelphia Hospital.

T. Sumter Means, M.D., Spartanburg, S. C., died June 18, aged 68 years. He was graduated from the medical department of the University of Pennsylvania in 1859. He began the practice of his profession in Glenn Springs, but twenty years ago moved to Spartanburg.

William F. Howard, M.D., Lawrence, Mass., died at his home, June 14, of typhoid fever, aged 31 years. He was graduated from the Bellevue Hospital Medical College in 1896. He was a member of the staff of the Lawrence General Hospital.

Samuel Luchsenger, M.D., Milwaukee, Wis., died June 23, following an operation for appendicitis. He was graduated from the Milwaukee Medical College in 1898.

George S. Ward, M.D., Newark, N. J., died June 25, aged 73 years. He was graduated from the College of Physicians and Surgeons in New York City in 1849.

King Wylly, M.D., University of Virginia, 1869, of Savannah, Ga., formerly of Sanford, Fla., died suddenly from apoplexy at Saratoga, N. Y., June 24, aged 50 years.

Henry Leinfelder, M.D., Prairie du Chien, Wis., died June 20, after an operation for appendicitis. He was a graduate of the Milwaukee Medical College of the class of '97.

F. M. Logsdon, M.D., Bieville, Texas, died June 16, aged 45 years. He was graduated from the Louisville (Ky.) Medical School in 1892.

J. W. Wingard, M. D., Martinsburg, Pa., died June 14, aged 64 years. He was graduated from the University of Pennsylvania with the class of 1860.

B. W. MacNichol, M.D., Jefferson Medical College, 1884, died in Westchester, N. Y., June 22.

DEATHS ABROAD.

We note the deaths of:

Professor Korsakoff, of Moscow, the author of numerous works on neurology, etc., editor of the journal established by the Pirogoff Medical Society, and co-editor of the *Klinitchesky Journal*.

Prof. C. T. Crudeli, of Italy, senator and formerly member of the medical faculty at Rome.

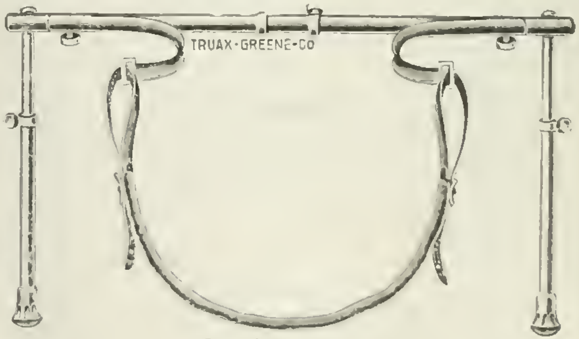
New Instrument.

New Leg Holder Securing a Perfect Lithotomy Posture Without Assistants.

BY WILLIS W. DEAN, M.D.

SIOUX CITY, IOWA.

The crutch here represented is made of light gauge bicycle tubing of various sizes, which telescope one within the other both when adjusted and when packed for transportation. It consists essentially of a cross-bar made in three separate pieces, each twelve inches long, the two outer and larger pieces telescoping the center one, working on it with a sliding motion, and capable of being fixed at any required length by set-screws. It also has two bands or half circles, also adjusted by set-screws, that slide on the cross-bar, and fix the thighs at any required angle from the body. Into each end



Dean's Gynapod.

of the bands are eyelets to which is attached the strap that passes over the shoulders. When in working order, the cross-bar will be under the knees, and the bands around the inner portion of the thigh immediately above the knees. This will give any position desired, and to maintain that position I have devised leg attachments, also made of tubing, and sliding on each end of the cross-bar. The legs are each made in two parts, and may be lengthened and shortened with ease. On the distal end of each is placed a crutch-cap to prevent slipping when adjusted for work. This is a very satisfactory device, as it secures the lithotomy posture, and fixes the legs at any desired angle from the body. It can be adjusted and used on any table, chair, bed or lounge, is aseptic throughout, and weighs in its entirety less than three pounds. It is inexpensive, very portable, and the cross-bar and legs can be packed in two pieces, the greatest length being one foot.

Miscellany.

Program of Entertainments, International Medical Congress.—Aug. 2, the day on which the Congress opens, a fête will be given in the evening by the president of the council in behalf of the French Government.

Aug. 3.—A fête will be given in the evening by the President of the Congress.

Aug. 5.—Reception for the members of the Congress, by the President of the Republic, at the Palais de l'Elysée.

Aug. 7.—A fête will be given by the Municipal Council of Paris in the Salons of the Hôtel de Ville.

Aug. 8.—A fête will be given in the evening in the Palais du Sénat and the Jardin du Luxembourg, by the officers and organization committees of the Congress.

Other entertainments have been arranged in most of the Sections. The wives, daughters and sisters of members are included in the invitations to these entertainments. A committee of ladies has been formed to receive and entertain the wives, daughters and sisters of members of the Congress.

Pentosuria.—Among the group of glucoses are found bodies containing five carbon atoms and carbon and oxygen in the proportion to form water. These bodies are called pentoses. Salkowski and Jastrowitz (*Centralblatt f. die Med. Wissenschaften*, 1892) have found pentose in diabetic urine. Kütz and Vogel (*Zeitschrift f. Biologie*, 1896) have found pentose in the urine of diabetes mellitus and diabetes induced by phloridizin respectively. Since the quantity of pentose excreted was insignificant, and has been found in connection with glycosuria, its detection was of no practical value. Later, however, Blumenthal (*Berliner Klin. Woch.*, 1895, No., 26, 1897, No. 12) and Salkowski (*Zietschrift f. Physiologische Chemie*, 1899) have reported each one case and recently Biat (*Zeitschrift f. Klinische Medizin*, 1900, p. 473) reported two additional cases of chronic pentosuria wherein this carbohydrate was excreted by itself. Since urine containing pentose gives the same reaction as grape-sugar with Trommer's test and Fehling's solution, and such a patient may be subjected unnecessarily to the hardships of the restricted diet of a diabetic, it is obvious that in order to avoid such blunders, all urine containing sugar when detected by the above tests should be controlled by other tests.

Pentose, unlike grape-sugar, is unfermentable, and does not polarize light to the right. The general use of the polarimeter is precluded on account of its cost, but the fermentation test should be made with Einhorn's cheap fermentation apparatus, which requires but a few minutes to prepare. Notwithstanding the fact that only four cases of chronic pentosuria have been reported up to the present, it is to be expected that when the differential tests are made in all urine containing sugar, the number of cases of pentosuria will increase, and eventually some light will be thrown upon the origin and significance of this hitherto unexplained phenomenon.

Can This be True?—The Illinois State Board of Health has just learned that a medical college, a member of the Association of American Medical Colleges, and one which was in good standing with this Board, admitted to the senior class of the institution last January, and is about to graduate, an applicant who presented evidence of having taken one course of lectures in a medical institution in Chicago, and of having "passed the first and second doctorate" in "the University Libre of Brussels" in November, 1899.

According to the records of the State Board of Health the medical history of this candidate is quite interesting. It appears that he practiced illegally in Chicago in 1894, and to avoid prosecution appeared before this Board to undergo examination in the undergraduate branches. He then claimed to have studied medicine for four years and had attended three courses of lectures in the Amsterdamche Universeit, Holland. Failing in this examinataion he became connected with the so-called "Illinois Health University," and with J. Armstrong, T. A. Bland and other lesser lights, issued diplomas to all comers until the supreme court of the state, in 1897, deprived this concern of its corporate privileges. Later, with the persons named he conducted the so-called "Independent Medical College," the immediate successor of the "Health University," and disposed of diplomas as heretofore. According to the published announcements, he held the "chair" of Practice of Medicine in both institutions.

Being convicted of illegally practicing medicine in 1898, on suit brought by the State Board of Health, this applicant who passed the "first and second doctorate," went to Michigan, and shortly aftetrward, as agent of the "Independent Medical College" took a trip to India, in which country he disposed of many hundred "diplomas" issued by this corporation. He returned to the United States late in 1899, and it is presumed by the Board, that on his route he dropped off at Brussels and, visiting the "University Libre," passed the "first and second doctorates."

The secretary of the Illinois Board, in commenting on the matter, to the dean of the college in question, makes the following pertinent remarks:

"For the information of this Board I will ask if it is the custom of your faculty to grant two years' advanced standing to persons who present credentials showing that they have passed examinations at certain universities in the United States and abroad? I can see no evidence of attendance upon any courses of lectures; in fact, I do not believe that you hold there was any such. Were the examinations referred to, the passing of the "first doctorate" and the "second doctorate," bona fide, and taken in any reputable university in the world, there would be no justification whatever for the granting of advanced standing. Your action is not only in violation of the rules of this Board, of the Association of American Medical Colleges, but also of your own published requirements, which state in effect that you demand of each student as a condition of graduation an attendance upon four full courses of lectures in four separate years."

Sanatorium for Lepers in France.—It is estimated that there are about four hundred lepers in France. They are scattered about in Brittany, in the Pyrenees, on the shores of the Mediterranean, and in Paris, where they number 150. Among the lepers there are missionaries and nurses who have fallen victims to their devoted care of sufferers in other countries, and officials and soldiers who have contracted the disease in the colonies. An anti-leprosy committee has recently been formed on the initiative of Dom Santon, a member of the Benedictine Community of Ligugé, who is also a doctor of medicine, for the care of the lepers in France and the prevention of the spread of the disease. Dom Santon has for many years past devoted himself to the study of leprosy, traveling for that purpose in many parts of the world. After conference with the Council of Hygiene he has acquired a property in the Vosges, where he proposes to establish an asylum for lepers to be called the St. Martin Sanatorium. The plans have been approved by the French Government.—*Brit. Med. Journal.*

"Osteopathic" Examining Boards.—The osteopaths of Ohio wanted a State examining board of their own. All other empirics or quacks would doubtless also like to be examined by boards of their own choosing. This would make all examining boards superfluous.—*N. Y. Med. Journal.*

Societies.

COMING MEETING.

Michigan State Medical Society.—Mackinac Island, July 11-12, 1900.

Columbia County Medical Society.—The annual meeting of this Socity was held in Bloomsburg, Pa. June 19. The officers elected were: president, J. S. John, Bloomsburg, first vice-president, A. B. McRae, Berwick; second vice-president, H. W. McReynolds, Bloomsburg; secretary and treasurer, W. M. Reber, Bloomsburg.

Sioux Valley Medical Association.—The fifth annual meeting of this Association was held in Sioux Falls, S. D., June 20-22. The following officers were elected: president, J. N. Warren, Sioux City, Iowa; first vice-president, M. W. Richey, Le Mars, Iowa; second vice-president, G W. Cross, Yankton, S. D., secretary, G. G. Cottam, Rock Rapids, Iowa; treasurer, S. A. Brown, Sioux Falls, S. D. The 1901 meeting will be held in Sheldon, Iowa.

Central Wisconsin Medical Society.—At the annual meeting of this society held at Madison, June 26 and 27, the following officers were elected: president, J. M. Evans, Jr., Evansville; first vice-president, John E. Doll, Lake Geneva; second vice-president, J. A. Jackson, Madison; third vice-president, W. H. Palmer, Janesville; fourth vice-president, C. A. Rood, Reedsburg; censors, Carl Kordenat, Reedsburg; S. B. Buckmaster, Janesville, and J. F. Bennett, Beloit; Clarke Gapen, Madison; secretary and treasurer, C. S. Sheldon, Madison.

Philadelphia Academy of Surgery.

June 4, 1900.

Vice-President, Dr. J. R. Harte in the chair.

CYST OF THE THYROID.

Dr. R. G. LeConte reported a case of unilateral cyst of the thyroid, occurring in a man aged 28. It had existed for about four years, constantly became larger, and at last caused pressure symptoms. At the operation, Kocher's angular incision was made, the superficial veins were ligated and the tumor removed. On the tenth day an uneventful recovery was reported.

TUBERCULAR PERITONITIS.

Dr. LeConte also reported a case in which abdominal section was made, with drainage: fecal fistula later developed, necessitating end-to-end anastomosis. The duration of the disease was somewhat indefinite. A large collection of straw-colored fluid developed in the abdomen, which was withdrawn. ninety-four ounces being removed at one time. The blood count showed 5,600,000 red and 50,000 white corpuscles, and later the hemoglobin fell to 57 per cent. Great emaciation was noted, and at one period the patient weighed only sixty-five pounds. The abdomen was opened and drained, but a fistula persisted. This was curetted, a drainage-tube was inserted and gauze packing placed about it. Owing to non-union the wound was again opened several weeks afterward and it was found that a considerable amount of gauze had remained at the site of the operation. An end-to-end anastomosis was done by means of the O'Hara forceps and recovery ensued. In his opinion the presence of the gauze probably aided in the cure, as it ensured drainage.

Dr. G. G. Davis had several years ago operated on a similar case, in which he believed that the introduction of strips of gauze might have been of greater avail than washing with normal saline solution, which had been employed.

EXCISION OF SUPERIOR MAXILLA.

Dr. R. H. Harte reported a case in which he had excised the superior maxilla for a tumor involving that region. The first incision was carried upward from the angle of the jaw to the outer edge of the upper lip, then onward to the opposite side. Another incision followed the inferior maxillary bone, then upward to about the middle of the nose. Recovery ensued on the tenth day.

PERFORATING GASTRIC ULCER.

Dr. Harte reported a case simulating appendicitis, in which the onset was sudden and the patient in a state of collapse on admission to the hospital, with pain in the region of the appendix. The abdomen was hard. At the operation, the appendix was found only slightly abnormal; it was, however, noticed that a large amount of gas escaped on primary incision. The wound was closed but the patient died, and at the autopsy, a perforating gastric ulcer and several other small ulcerated spots were found. Statistics of operations for this condition show a mortality of about 89 per cent.

ANTITOXIN IN TETANUS.

Dr. Addenell Hewson reported a case of tetanus in which antitoxin had been repeatedly used, without effect.

Dr. G. G. Davis believed that the question of the beneficial effects of tetanus antitoxin was still unsettled. He had two years ago reported two cases in which cure had been attributed to this remedy, but lately had lost two of a similar nature, in which the antitoxin had been used.

Dr. W. J. Taylor believed that writers who have reported most cures from the use of antitoxin have generally given the remedy in more or less chronic cases. It is important, therefore, that the type of the disease be specified. In acute cases, he believed that full doses of bromids and chloral, frequently repeated day and night, would be as beneficial as antitoxin. His attention had been called to the tendency for tetanus to develop after injury due to the explosion of fulminating caps, which had been attributed to the character of a certain kind of earth which is usually used in the manufacture of these explosives.

Dr. LeConte had seen six or seven cases of acute tetanus with only one recovery, and in this case full [illegible] chloral and bromids had been given.

Colorado State Medical Society.

Thirtieth Annual Convention, Denver, June 19-21.

The following recommendations of the committee on literature for the education of the public with regard to quackery were unanimously adopted:

1. That the Society appropriate the sum of $25 to be awarded in prizes by a committee of three appointed by the incoming president, for the best essays pointing out the dangers to the public health and morals, especially to the youthful members of the community, from quackery as promulgated by public advertisements.

Such essays, if deemed satisfactory to the committee of award and suitable for popular distribution, should be published by said committee of award in one or more medical periodicals, and reprints of same furnished to the members of this Society for gratuitous distribution.

2. That the secretary of the Society send out a circular letter to the editors of all medical periodicals published in the United States, requesting them to publish from time to time, a list of such lay periodicals whose columns are free from advertisements tending to debase and deceive the public.

3. That the Society send the following letter:

The Colorado State Medical Society to the Colorado State Editorial Association, Greeting:—The evident lack of censorship, on the part of the daily and weekly press, of advertisements tending to encourage bestiality, criminal lust and the commission of the crime of abortion, together with the purpose on this Society's part to lessen as far as possible the unhealthful and injurious effect of quackery, especially upon the young, led it to call your attention to the fact of the gross immoral and health-injuring character of advertisements which are accepted for publication by newspapers of to-day. It is assumed that carelessness rather than wilful intent on the part of a calling endowed with higher and nobler purposes is to blame for this state of affairs.

This Society, therefore, respectfully and earnestly recommends and requests that you take up and discuss this matter and establish for objectionable advertisements a limit beyond which newspapers and periodicals represented in your Association can not go and remain in good standing.

Wishing to hear from you on this matter, and assuring you of our cordial desire to aid as we may be able to do in this work, we remain Yours respectfully,

Colorado State Medical Society.

The election of officers resulted as follows: president, W. P. Munn, Denver; first vice-president, R. F. Graham, Greeley; second vice-president, W. T. Little, Canon City; third vice-president, William Dow, La Junta: corresponding secretary,

H. B. Whitney, Denver; recording secretary, M. C. T. Love, Denver; assistant recording secretary, W. A. Kickland, Denver; treasurer, W. J. Rothwell, Denver; trustees, J. T. Eskridge, A. Steadman, W. E. Wilson, S. A. Solly, E. J. A. Rogers, H. Works, of Pueblo, J. H. Hall; committee on membership, Drs. S. G. Kahn, of Leadville, C. K Fleming, C. A. Powers, D. F. Dayton.

Chicago Surgical Society.

May 11, 1900.

LIPOMATA.

Dr. **John E. Owens** reported two cases. The first was that of a woman, who, some years ago, called him to the southern part of the state to operate for appendicitis. There was tumor, pain, nausea and vomiting. The tumor and pain were located in the region of the appendix, and on examination he found a movable mass, slightly tender on pressure. At the time of his visit, the acute symptoms had subsided and she felt fairly well. The attacks were recurrent and quite severe, but were relieved by small doses of salines. Whenever the bowels began to move, the symptoms rapidly disappeared, and in the course of a few days she would be well. She had advanced heart disease, and the cardiac symptoms at each attack were so distressing that she insisted on an operation, although she was informed that she might die on the table. She died about two days after the operation, from cardiac disease. There were no wound complications. The original diagnosis was made in a tentative way. The opinion was expressed that the tumor had too much mobility for an inflamed appendix, and that it was not sufficiently movable for a floating or movable kidney. Being approximately ovoid and about two inches in length, the tumor and its surroundings closely resembled a small kidney, and a concavity, corresponding to the hilus of the kidney, could be felt, and also the outer convex surface, but still the mobility was too slight for a floating kidney. When the operation was performed something was found in the colon just above the ileo-cecal valve, and on opening the bowel, a submucous fatty tumor was discovered. The conditions seemed to be such as to have eventually led to a spontaneous cure, inasmuch as the mucous membrane over the outer parts had ulcerated. It was enucleated and, without stitching the mucous membrane, the bowel was closed in the usual manner. The location of the tumor, as well as its variety, and the diagnosis are points of interest.

The second case, which he saw with Dr. I. N. Danforth, was that of a lady about 60 years of age, who had a large tumor of the thigh, of twenty-five years' growth. It extended from Poupart's ligament to the patella, and apparently involved the whole circumference of the thigh, twenty-nine inches. A shallow depression extended from the popliteal space to the ischium. The tumor was painless, but lately she had found it in the way during walking and sitting so that she was necessarily confined to the house. He first thought it was a cyst, and on Dr. Danforth's inquiry as to what would be done in regard to it, he answered it should be tapped and its contents determined. She was admitted to St. Luke's Hospital and the thigh tapped, with a negative result. He thought that it was a cyst because of its uniform consistency, its slow growth, and the absence of dimpling, so common in fatty tumors. Furthermore he had previously observed, in the case of fatty tumors, the tremulous impulse elicited by striking it with the fingers. This was very evident even when the tumor was struck at one extremity of its long diameter while the hand was applied to the other. This led him to believe that the tumor was a cyst with gelatinous contents, but considering the possibility of the existence of a sarcoma, he made a small opening through the skin, inserted a strong bullet probe and succeeded in reaching the superior surface of the femur. The bone felt natural and smooth. The question of cyst and sarcoma was abandoned and, on dissecting a little further, a lobule of fat presented itself, which made the diagnosis of lipoma clear. The operation was long, as the muscles on the front of the leg were spread over it in several irregular layers, and their fasciculi and aponeuroses so involved with the growth as to render its removal somewhat difficult. The vessels were pushed by the growth inward and downward. The patient made a good recovery.

Dr. **Daniel N. Eisendrath** had seen a very interesting case of diffuse symmetrical lipomatosis in a man, who exhibited himself all over Europe. A large fatty tumor was removed from the neck, but returned within six months, behaving apparently like a malignant growth. It is supposed that these tumor have some relation to nerve influence, as they are associated with certain disturbances of the spinal nerve. Dr. Owens' case was interesting, as it in some way resembled a malignant growth pushing aside the muscles and aponeuroses, springing from the intermuscular tissue and invading the surrounding tissue like a malignant tumor. He had looked up the statistics of the weight of the lipomata, and found one recorded which weighed fifty pounds, although tumors weighing over ten are rare. The one removed by Dr. Owens must have weighed about twenty-five pounds.

CHOLECYSTECTOMY AND CHOLECYSTOSTOMY.

Dr. **Ernest J. Mellish** discussed these operations and reported cases. The first was cholecystectomy, in a married woman, aged 57; family history negative. Her husband died of gastric carcinoma in 1894. She had always felt well until February, 1899, when she had double lobar pneumonia and was in bed eight weeks. During this time, a firm swelling about the size of a man's fist was for the first time noticed in the right hypochondriac region. It was but slightly tender to pressure. There was neither jaundice, colic, nor any special symptoms indicating disease of a particular organ. She never fully recuperated after this illness, and about the first of August she had severe pain in the lumbar region, radiating down both thighs. At the same time, she began to experience difficulty in stooping and walking, severe pain in the region of tho swelling when coughing, and there was progressive emaciation. Diagnosis of chronic, progressive swelling within the abdomen was made by Drs. F. W. Bromley and L. H. Prince, of Palmyra, Wis., and operation advised.

He did not see the patient until the day of the operation, Sept. 16, 1899. She was much emaciated and cachectic, but not jaundiced, the swelling, which seemed as large as a medium-sized cocoanut, produced an elevation of the abdominal wall over it of perhaps 5 cm. above the level of the surrounding surface. The swelling was situated above the colon, was almost unyielding to pressure, and moved very little during respiration, but appeared to be connected with the liver. He thought that the gall-bladder formed a portion of the mass, that it was probably a carcinoma, but might possibly be a case of cholelithiasis. The operation was performed in the Palmyra Springs Sanitarium, under chloroform anesthesia. Exploratory incision was made over the swelling, parallel with the costal margin. On opening the peritoneum, it was found that almost the entire greater omentum was gathered into a mass over the fundus of the gall-bladder, and was firmly adherent to the anterior border and upper surface of the right lobe of the liver and to the parietal peritoneum, so that it was impossible to palpate the gall-bladder. The thick mass of tissue over the gall-bladder was supposed to be carcinomatous. The omentum was tied off in very small sections—a better method than ligation in large masses—as it permits palpation of the lower surfaces of the gall-bladder and the ducts, revealing the presence of large calculi. There were no adhesions on this surface of the gall-bladder below the fundus. The liver was then incised at a safe distance from the swelling—using gauze compresses to control hemorrhage—and the separation completed with the fingers. One of the calculi was wedged into the cystic duct as far as its junction with the common duct. After walling off the peritoneal cavity with gauze, a transverse incision was made over this calculus, which was removed, and the incision across the dilated duct completed. The duct was closed with two rows of Lembert sutures, strips of gauze being passed down to the stump, and packed against the cut surface of the liver, and the abdominal wound closed in separate layers. There was a slight discharge of bile through the drain for a few days, presumably from the cut surface of the liver. Pus formed in the track of the drain; and on the third day, a tubular was substituted for the gauze drain. In a week, the tube was removed and the abdominal wound closed rapidly. For three days the patient hovered between life and death, with adynamic obstruction, although calomel had been given on the first day and no opiate whatever. The temperature and pulse remained near normal; there was no marked tenderness, and the facial expression was not bad. He was convinced that there was no serious infection, though the tympanites increased sufficiently to seriously impede respiration. On the second day she began vomiting; her stomach was washed out, and very small nutrient enemata were administered. Strychnia was given in 1/40 to 1/30 gr. doses every three hours. Large saline and glycerin enemas were given, then enemas of soap and water, turpentin, and, finally, asafetida and olive-oil. The asafetida enemas alone seemd to do any good. The abdomen was firmly compressed with bandages during the whole time as it was markedly tympanitic. Since convalescing from the operation, the patient has been well and able to perform her usual work.

The mass removed was about 10 cm. long, and 5 cm. wide; its long diameter being in the transverse axis of the body, antero-posteriorly. It consisted of the gall-bladder, containing seven calculi and a large mass resembling inflammatory tissue, which included the remains of the omentum. In the mucous membrane of the gall-bladder several irregular ulcers with well-defined, non-indurated margins were found, two or three of which had penetrated nearly to the peritoneal covering of the viscus. A microscopic section made through one of these ulcers at a right angle to its surface, showed round-celled inflammatory infiltration, and, in the deep layers, nests of cells surrounded by a connective-tissue stroma, as in carcinoma. The largest of the stones was conical, wedged into the cystic duct, and weighed 6.5 grams; the smallest stone weighed 2.7 gm., and the seven together weighed 27.2 gm. The fact that this patient's husband had had gastric carcinoma might give rise to the suspicion of a common cause in the two cases, although the irritation produced by the calculi, during the many years they must have been in the gall-bladder, might easily lead to malignancy.

Statistics give an average mortality in cholecystectomy of 16 to 18 per cent., due to the operation. This high rate may be attributed largely to the postponement of operations until all become practically emergency operations, as there is no reason why the procedure in itself should be especially dangerous.

When considering cholecystectomy the question arises: Of what use is the gall-bladder to the human economy? There are several theories regarding its function, but no one knows what that is. He is disposed to agree with those who believe that its chief function is to serve the operative surgeon, as it is certainly of so little importance that the economy does not suffer perceptibly when it has been extirpated; consequently it should be removed, if feasible, when in cholelithiasis it is certain that there are no stones in the common duct, and in other conditions of disease confined to the gall-bladder itself, in which there is a strong tendency to chronicity or to cholelithiasis.

There is much variance of opinion regarding the amount of bile secreted in twenty-four hours. Murchison was able to collect but 480 c.c. Some physiologists claim that the daily amount of bile secreted is from one to two times the weight of the liver. The adult liver weighs from 1850 to 2000 grams; the capacity of the normal gall-bladder does not exceed 31 c.c., therefore the function claimed for it, that it is a receptacle for bile between the periods of active digestion, is untenable. Moreover, the gall-bladder is so inelastic that it can not discharge more than 2 to 4 c.c. at a time. The normal gall-bladder is never found empty, and the specific gravity of its contents is always higher than that of the bile in the ducts. Another noteworthy fact is that the gall-bladder secretes in twenty-four hours from 15 to 20 c.c. of fluid of acid reaction, containing no bile salts. The theory that the gall-bladder acts as a controller or governor of the bile circulation in the same manner that the air-chamber acts in a fire-engine to produce a steady, instead of a pulsating, flow, is not supported by any positive evidence. The theory that it is a rudimentary organ, like the vermiform appendix, is not supported by analogy, since the gall-bladder is not relatively much larger in any of the lower animals than in man, and some of them—the elephant, and mouse, for example—have none.

The second case was cholecystostomy in a single female, aged about 45 years, who suffered from menopause neurosis and symptoms of gall-stones, who was referred to me by Dr. Prince. She had had her first attack of colic fifteen or sixteen years before, and for the next ten years had an attack every ten or twelve months. The attacks gradually increased in severity and lasted from twelve to twenty-four hours. About 1894, they became more frequent, occurring every few weeks; and in 1895, she had an attack lasting eighteen hours or more, accompanied by repeated chills and frequent, very watery, black bowel movements, "full of small, black, seed-like particles." From 1896 till 1898, the intervals between attacks became shorter, until the pain returned almost daily, but lasted only six to eight hours. From October, 1898, till March, 1899, She was nearly free from colic, but from that time on the paroxysms occurred every few hours and the pain became steadily worse. During the attacks, there was always some tympanites; and since 1897, tympanites and tenderness were relatively constant features of the attacks. Latterly there was considerable local hyperesthesia, probably due in part to her functional neurosis. As a rule, the bowels were constipated during, and normal between, attacks. The pain was paroxysmal, and up till 1898 it began in the epigastrium, radiating downward and to the right. After this the pain began in the same place, but radiated toward the left shoulder. Jaundice did not occur. For some time before the operation she was in the Palmyra Springs Sanitarium, and fruitless search was made for stones. On May 15, the following operation was performed:

Under chloroform anesthesia an incision was made parallel with the costal margin, the peritoneal cavity packed off with gauze and the gall-bladder opened. It contained bile-stained mucus, but no calculi could be found either in the bladder or the ducts. The mucous membrane of the gall-bladder was very red. The viscus was sutured to the parietal peritoneum and a gauze drain inserted. At the first dressing, tubular drainage was substituted, and for a few days, thick bile-stained mucus was discharged. After this, there was very little discharge, and, in a month, the fistula was allowed to close. No calculi were discharged, either through the fistula or the bowel. The patient had two or three slight attacks afterward, simulating renal colic, but has had none for more than nine months. At the time of operating, the gall-bladder was dilated and the uterus curetted for anteflexion and hyperplastic metritis.

These two cases illustrate that often when we expect to find gall-stones none can be found; and that, on the other hand, we often find them where there have been no special symptoms indicating their presence. Many cases of chronic gastric or gastrointestinal disturbance, without definite symptoms pointing to the liver or gall-bladder, are undoubtedly due to the presence of large calculi in the gall-bladder or cystic duct.

Dr. A. J. Ochsner said that in regard to the second case reported, he had, on several occasions, found it difficult to make a definite differential diagnosis between gall-stone colic and appendicular colic, and had consequently made the incision through the edge of the rectus muscle, about one inch lower than he would in a gall-stone operation. In that way he had been able to palpate the gall-bladder and determine the presence or absence of gall-stones. Through the same opening he had also been able to bring up the appendix for inspection; and had in several of these cases found a fecal concretion in it. This incision had been of service when it was impossible to make a definite differential diagnosis, where the stomach symptoms and the colic were not definite enough to positively indicate the presence of one or the other affection. In palpating the gall-bladder one can not always depend on the sense of touch, because in a certain number of cases there is a variety of sand composed of very sharp particles, resembling uric acid crystals, except that they are black. These particles give rise to just such colics as Dr. Mellish has described. Removing them and draining the gall-bladder for a sufficient length of time to dispose of the inflammation of the lining mucosa, will eventually dispose of the attacks of colic.

MULTIPLE OSTEOMYELITIS AND MULTIPLE PANARTHRITIS.

DR. EDWARD H. OCHSNER reported the case of a boy, 9 years of age, who was referred to him on Nov. 22, 1899, by Dr. Enfield, of Jefferson, Iowa, who had been called in consultation a few days previously.

The family history was negative, with the exception of some indefinite convulsions four years ago, lasting only a few minutes. He had always been well until four weeks before admission, when one morning while at school, he began to feel feverish and had some pain on the inner surface of the right thigh, which seemed to be swollen. He was unable to stand or walk except with considerable pain, and got home with difficulty. On the following day, the temperature rose to 104 F., and he became delirious. The high temperature persisted for two weeks. Three weeks before admission the right elbow became swollen, and one week later the family physician made a small incision into the fluctuating swelling of the thigh and elbow, evacuating considerable seropurulent fluid.

When admitted he was seven pounds under weight; very pale and anemic. The tongue was clean; the bowels were constipated; the temperature was 99.4, the pulse 115, weak and thready; and the heart and lungs were negative. At the left sternocostal junction was a walnut-sized, softish swelling, and in the left axilla another the size of a filbert. The right elbow was markedly swollen and held passively at an angle of 135 degrees; active motion was absent; and the passive, possible about five degrees each way, but beyond this very painful; while rotatory motion was markedly impaired.

The greatest elbow circumference was 26 cm., the middle arm measured 13 cm., and the middle forearm, 11 cm., with points of fluctuation on all sides of the elbow-joint. On the anterior external surface was a pinhead-sized red area where incision was made.

The right leg was held at an angle of 100 degrees; while passively it could be flexed to an angle of 45, and extended to about 135 degrees, and was actively about the same. The thigh was somewhat swollen, and the femur at its middle was markedly thickened. The circumference of the right thigh at the middle was 34 cm., and the left 37 cm.

A probe was introduced into the sinus of the left thigh and passed down to the eroded femur. The incision was made through the skin, then the vastas internus was separated from the rectus by blunt dissection. The lower surface of the femur was found roughened and a portion of the bone slightly eroded. About four ounces of pus was evacuated. The abscess cavity was carefully sponged out and filled with a strong tincture of iodin, which was allowed to remain in about two minutes, then the cavity was packed with iodoform gauze. The secondary sutures were applied and the wound dressed dry.

An incision was made over the olecranon; the triceps, tendon and muscle were separated with blunt dissection from the tendons on the outer surface of the arm. The capsule was then incised and a great quantity of pus evacuated. The ulna was found to be dislocated; and the whole joint cavity was bathed in pus, while the epiphyseal head of the radius was loose in the pus cavity. The joint was carefully sponged dry, treated with strong tincture of iodin and packed with iodin gauze, after the dislocation had been carefully reduced. Secondary stitches were taken, and dry dressings used.

The arm was put in an external plaster-of-Paris splint, and placed at a little less than a right angle. A few days later the packing was removed, the secondary stitches tied, and the arm again put in plaster-of-Paris splint. This wound stopped secreting immediately and healed kindly; and the integrity of the joint has been almost completely retained. He has motion in every direction, the flexion is perfect, and the extension nearly so. Internal rotation is perfect, and external quite good, certainly, a much better result than was hoped for at the time of the operation. After a time, the swellings over the sternoclavicular junction, in the left axilla, and of the left knee, subsided under copious wet dressings. The swelling in the left axilla disappeared entirely in the course of a few weeks. After a short, time, however, the abscess in the sternoclavicular junction again increased in size, and on January 15 this had to be opened, when the whole joint was found bathed in pus. It was packed in iodin gauze, and healed kindly. The swelling which previously had been in the synovial sac of the left knee subsided, but on the inner surface of the knee an abscess developed which had to be incised and drained on February 7. Now, all of the wounds have healed except the one over the lower end of the right fmur, where a small sinus remains, leading down to a sequestrum. Except for this, the boy is perfectly well.

The case was presented for the purpose of demonstrating the importance of making an accurate diagnosis. When he was examined a diagnosis was made of pure staphylococcus infection, which was later verified by a bacteriologic examination, and because of this, the elbow was treated just as carefully as if operating on a clean joint. He became convinced long ago that a tubercular joint, or a joint infected with a pure staphylococcus infection, can often be made to heal by primary union if it is not allowed to become infected with other pus micro-organisms or saprophytes.

In tuberculosis, this has long been adopted by most surgeons, at least by those who are successful in treating tubercular joints, and this case helps to prove the contention that if the same care is observed in preventing secondary infection while operating on a panarthritis due to a pure staphylococcus infection, the same ideal results may often be expected.

DR. D. A. K. STEELE said that he had been very much interested in the examination of the elbow of this boy, because of the almost ideal result following the operation for it illustrated so well what can be accomplished by early surgical treatment of these cases. There are few surgeons to-day who believe that when a joint is full of pus it means a loss of that joint. By drainage and proper after-treatment a fairly good result can be obtained. He had known one or two similar elbows that had given equally good results.

DR. A. J. OCHSNER said that he wished to emphasize what had been said regarding the importance of not mixing the microbes, for this holds good no matter whether dealing with staphylococci, tubercle bacilli, or pneumococci. The same is true also of abscesses in bones, due to the presence of typhoid bacilli, a condition which he has been able to demonstrate. He believes that it is important, even if there be a severe infection with one microbe, to keep out all the others.

DR. DANIEL N. EISENDRATH said that he had an experience with mixed or secondary infection that might be of interest. He had been injecting a joint with iodoform glycerin emulsion, and accidentally introduced the bacillus pyocyaneus. He used the Phelps' method of washing out the joint with carbolic acid followed by alcohol and succeeded in completely checking the mixed infection.

DR. JAMES E. MOORE, of Minneapolis, being invited to speak, said that this was one of a class of cases of especial interest and one he liked to have discussed in a surgical society, and also in a medical society, because unfortunately, the average medical man overlooks these cases and usually calls them rheumatism. When a case like this can be operated on and saved, it can readily be understood that the diagnoses should be made at the beginning of the case. Much can be done in the joint of a child, and the younger the child, the better the prognosis. The results may be very good, even after the joint seems to be totally disorganized. When the disease begins outside of the joint, as it often does, it should be prevented from extending into the joint. The question of mixing the germs he regarded as a vital one, bacteriology being indispensable to surgery.

The occurrence of pneumococci in empyema is of considerable importance, as operations for empyema following pneumonia can be performed with the greatest assurance, as recovery will be almost certain. When we have the diplococcus to contend with, the prognosis is invariably good, but when, on the other hand, there is a streptococcus or even the tubercle bacillus to deal with, the prognosis is not so good. It always makes a difference what kind of germs there is for no matter how badly infected the wound may be in the start no more germs shall be allowed to be introduced.

SUTURE OF THE MUSCULO-SPIRAL NERVE.

Dr. D. A. K. Steele presented the case of a young man, who, some years ago, while riding his bicycle, collided with the point of a buggy shaft, which struck him on the left arm over the musculospiral nerve, causing a slight laceration of the skin. He went to work the next day, as usual, but found that the arm was helpless. His employer sent him to a physician who, recognizing an injury of the nerve, suggested nerve suture. Another doctor used electricity for about a month with little benefit. Then the young man went back to the first doctor for a while and then suspended treatment for a month or six weeks, finally coming to him. At this time there was a wrist-drop and absolute loss of function of the parts supplied by the musculospiral nerve. On careful examination, he concluded that there had been a lesion of the nerve at the point where the buggy shaft struck the arm. There was absolutely no response to electrical tests. He advised an operation, and performed it three months after the injury. An incision was made directly over the nerve and he found that the ends were separated about three-quarters of an inch, and the space was filled in with connective tissue. An ordinary resection was made, cutting off about one-half inch and securing an end-to-end approximation. The nerve was united with fine interrupted silk sutures, passing through from side to side and from above, downward. The wound was closed up and the arm put in a cast. Primary union followed within a very few days; but there was no restoration of function, the wrist-drop continued, and at the end of two months the operation seemed to have done no good.

At the time of section, a little difference in the color and appearance of the nerve was noticed, but it did not seeem wise to remove any more than one-half inch because of the difficulty of approximating the nerve ends. At the close of two months, a small exceedingly sensitive tumor appeared at the point of operation. A second operation was advised and what proved to be a fibroneuroma, involving the entire thickness of the nerve at the point of the suture was found, the suture being in this mass. The tumor was dissected out and carefully removed, taking also three-quarters of an inch of the continuity of the nerve. Instead of making a square section, a step or stair section above and below was made. By drawing the nerve well up and the upper portion down these mortised parts were laid together and sutures of fine silk were again used. This second operation was followed by prompt union and very slow improvement, but at the end of two months, nothing seemed to have been gained, and at the end of three months, there was but little more improvement. The literature of nerve suture showed that the restoration of function was very slow, so the young man was advised to be patient as nothing could be gained by further operation. He used massage and encouraged the use of his hand, and at the end of four or five months noticed that the drop-wrist was not so bad. The numbness then disappeared somewhat and at the end of six months there was a decided improvement. At the end of eight months, the condition was practically normal, though there was a slight hyperesthesia over the field of operation, and at the point of union, an exceedingly sensitive place, pressure upon which made him wince.

The case was presented because good results following crushing injury of the musculospiral nerve are not very common, and because the first operation was followed by a fibroneuroma, and the restoration of function did not take place until seven months after the second operation, showing that time is an important element in the restoration of function in divided nerves which have been sutured.

Dr. Daniel N. Eisendrath, who was consulted first by this patient, said that he wished to state some interesting clinical points about this case. When first brought to him, twenty-four hours after the injury, the young man simply had an abrasion, without any laceration of the skin, and a wrist-drop. He was examined carefully for areas of anesthesia corresponding to the distribution of the radial nerve, but none were found. He then referred him to a neurologist, who believed that the nerve was contused but not divided. The areas of anesthesia gradually developed, and a diagnosis of actual severance of the nerve was made two months after the injury. Shortly after the first operation, a tumor appeared at the site of the suture which, removed at second operation, proved to be a fibroneuroma with about equal preponderance of nerve and connective-tissue elements. Whether this was in part due to the irritation of the silk was a question, although it seemed to be. The interesting point about this tumor and the lack of success in the first operation was that the nerve was contused above and below the point of resection. This is a frequent reason for lack of success in such operations. Macroscopically, the nerve seemed to be perfect, but microscopically there was seen to be considerable degeneration above and below the injury. The main point in the successful outcome seems to be to distinguish between the amount of superficial and deep injury.

Dr. L. L. McArthur said that at the last meeting he had the pleasure of presenting to the Society a case of suture of the median nerve in which union had occurred and sensibility had been restored within two weeks. He has now planned an operation for resuture of the same nerve in another patient, who, eighteen months ago, received an incised wound of the middle portion of the forearm. He was taken to the County Hospital and the nerve sutured. Sensation returned within three months. It is now eighteen months since the injury, and a little over a year since the suture was made; the man has been unable to follow his trade, that of a tailor, not because of a total loss of sensibility in the fingers, but because of a sense of pain, numbness and tingling. He desires further relief. On examination a very pronounced neurofibroma at the seat of injury was found and he now proposes the removal of that neuroma, and the resuturing of the nerve, though it is possible that no better result may be attained. He asked whether any present had had any experience in the removal of tumors developed in the course of a sutured nerve, or a tumor enucleated without severing the entire nerve, and if such an operation would be feasible and possible. He mentioned a case of double wrist-drop which occurred in one of the tally-ho horn blowers during the World's Fair. While crossing the car-tracks, he was thrown out of his rumble seat, and fell on the back of his head, with his arms thrown backward. A double wrist-drop immediately developed. There seemed to be no injury of the arms, but it was found that he had sustained a traumatism at the level of the fourth and fifth cervical vertebræ. There was tenderness, but no deformity and it seemed that the roots of the fifth cervical nerve had been injured on both sides, causing the double wrist-drop.

Dr. E. J. Mellish said that the question in his mind was whether the tenderness at the point of suture might not be due to the fact that silk was used instead of some absorbent suture material.

Dr. James E. Moore said that in reference to the question asked by Dr. McArthur, he had an interesting case in point. A man of splendid physique had been complaining for a long time of excruciating pains in the region of the perineal nerve. He had been operated on, but without relief, and when he saw him some six months afterward he could distinctly feel a tumor as big as the index finger. He took the precaution to mark the exact location before making the operation, so that he would have no difficulty in locating it. He found he could save a few fibers of the nerve on the inner side, the outer three-fourths being completely destroyed. The man made a complete recovery, and there was not even a temporary loss of motion or function. He had also a case of rupture of the median nerve. The patient came under his care last winter, with a compound dislocation forward of the lower end of the humerus, and a simple fracture of the radius and a multiple compound comminuted fracture of the humerus. After getting the patient under the anesthetic, he concluded to make an effort to save the arm, as the circulation was intact. He could not tell anything about the nerve, but subsequent events showed that it was ruptured. He has now a movable joint, and can pronate and supinate, but has lost the median nerve, which he proposes attempting to restore. The biceps was torn in shreds, making it difficult to restore the function of the nerve on account of the cicatricial tissue around it.

Dr. John E. Owens spoke of being associated with Dr. Gunn in a case of painful tumor of a nerve of the arm, he thought of the musculospiral. Dr. Gunn exposed the nerve at the point of the tumor, separated the nerve fibers and peeled out the mass just as he would an ordinary fatty tumor. The patient recovered perfectly.

Dr. Steele, in closing the discussion, said that the question asked by Dr. McArthur had already been answered. In reference to some of the questions of Dr. Bevan, he fully agreed with him that where there is only a contusion of the nerve the patient should have a chance for several months, as he would probably recover without any operation. In a case of this kind, however, where the patient was given a chance and no improvement resulted, it seemed that sufficient time had elapsed for surgery to step in, and the condition found at the time of the operation proved that an operation was indicated. There was not a contusion, but a complete severing of the nerve. The upper end was bulbous and the lower end was small and separated for about one-half inch. Very little evidence was given externally of the severity of the injury, as there was only an abrasion. With reference to the cases of paralysis following fractures with injury of the musculospiral nerve, he said that many of them are due to the pinching of the nerve by the formation of callus, and the embedding of the nerve in the mass. As this contracts or ossifies it gives rise to severe pain, which must be relieved. These cases will probably improve, as the callus is absorbed, but if not, or if the pain is extremely severe, the callus must be chiseled away. The tenderness or hyperesthesia now present may be due to the fine silk suture used, and it is quite possible that it was responsible for the first neuroma, but we must remember that in suturing a nerve or tendon, a material with considerable tensile strength must be used.

Proceedings Wisconsin State Medical Society.

Fifty-Fourth Annual Meeting, Milwaukee, June 20-22, 1900.

UNUSUAL MANIFESTATIONS OF MALIGNANT DISEASE.

Dr. C. W. Oviat read a paper having this title. It was discussed by Dr. G. A. Kletzsch and Dr. A. J. Burgess, of Milwaukee. The latter deprecated the importance given to age as a factor in diagnosis. It usually ought to be excluded, not only in the diagnosis of the disease in question, but generally, as it is misleading and a stumbling-block.

CANCER OF THE UTERUS.

Dr. G. A. Kletzsch read a paper on this subject. Dr. Herman Reineking, of Sheboygan, in discussing the pathologic side of the question, stated that in his opinion the similarity of the proliferation of cancer to that of syphilis and tuberculosis indicated a bacterial origin of the disease.

Dr. A. J. Puls, of Milwaukee, discussed the subject of surgical treatment of cancer of the uterus. The failure of a vast majority of operations for cancer of the uterus to effect a cure, he said, was due to the fact that the cancerous infiltration extended much more deeply than was commonly believed, and was really found in what is supposed to be healthy tissue. He recommended the new operation of Dr. Kelly, described in the issue of the Journal of May 19, 1900.

Dr. J. W. Coon, of the health department of Milwaukee, gave figures showing that cancer in general, including cancer of the uterus, is increasing in the United States with alarming rapidity.

Dr. Emil Ries,of Chicago, by invitation, closed the discussion. He opposed the Kelly operation described by Dr. Puls, for the reason that it would result in the infection of healthy tissue during and by the operation, and recommended the operation which he had himself first suggested, but which was first performed by Dr. Clark, and which is known in the United States as the Clark operation, and in Europe as the Clark or Ries operation, this operation having for its object the removal of all structures that could possibly be affected, and being therefore much more successful than other operations. Dr. Ries claimed that the cancerous tissue is much more extensive in its infiltrations than is generally thought. The reason for the general belief is that frequent examinations with the microscope do not show the cancerous structure; but if hundreds and hundreds of sections are made and examined, the cancerous structure may be found, and if one of these sections indicates the presence of the disease, that, of course, determines that the disease has extended as far as the tissue in question.

A PLEA FOR THE UNBORN.

Dr. Edward Evans, of LaCrosse, in his paper on this subject, attacked abortionists and deplored the prevalence of the crime. He stated that our birth-rate is only 2 per cent. higher than that of France.

Mr. John T. Kelley, of Milwaukee, discussed the question from a legal standpoint. In most of the states the degree of the crime does not depend on the time of performing the abortion.

Dr. G. J. Kaumheimer, of Milwaukee, scored the daily press, which, almost without exception, shamelessly flaunts the advertisements of professional abortionists in the face of the community. The consensus of opinion was that the remedy for the evil lay in the direction of moral education rather than to obtain nearly impossible convictions under the law.

SUPPURATIVE OTITIS MEDIA.

Dr. H. V. Würdemann, of Milwaukee, read a paper on suppurative otitis media in children. He protested against the culpable ignorance of people in general in not recognizing the serious importance to life of prompt treatment of cases of inflammation within the ear. The diagnosis of otitis media is so easy, and the treatment is so simple, that every physician should be as expert in its diagnosis and treatment as the specialist. Paracentesis is usually advisable.

INFANT FEEDING.

Dr. L. Boorse, Milwaukee, read a paper on the present status of substitute infant feeding, with special reference to the percentage method, and home modification of cow's milk. Pasteurized milk, when fresh and properly protected from contamination, remains practically sterile for a sufficient length of time to render it safe for infant feeding. The advantages of the percentage method over former methods now in general use are generally recognized and earnestly recommended. The best results in substitute feeding are obtained in asepsis and adaptation to the digestive powers of the individual.

Dr. J. Noer, of Stoughton, read a paper on substitute infant feeding in general practice. He said that the problem was simple until 1890. Proprietary infant foods are to be condemned as absolutely unreliable and inadequate in their constituents. They should not be used except as a last resort or a temporary expedient when good dairy milk can not be obtained or tolerated. This, however, does not apply to some of the latest German products. Clinically tested these milks have all failed. It is difficult to explain why scientific laboratory milk mixtures are unsatisfactory substitutes, leading to malnutrition, etc. Laboratory milk in the hands of experts is a success in 5 per cent., a partial success in 9 per cent., and a total failure in 65 per cent. of all cases. It does not solve the problem of substitute infant feeding. The filth brought in milk into our homes is terrible to contemplate. It is estimated that 300 pounds of cows' excrement are furnished to New Yorkers each morning. An examination of ordinary, uninspected milk as sold, shows the presence of bacteria varying in numbers from 100,000 to 30,000,000 per cubic centimeter, as compared with an average of 1,000,000 bacteria per cubic centimenter found in the average specimen of sewage. It is to be considered that many of the bacteria found in milk are non-pathogenic. The problem is to obtain pure, uncontaminated dairy milk for infant feeding. This problem seems to be solved by the Copenhagen plan of supervision and inspection.

Dr. H. B. Sears, of Beaver Dam, in discussing the subject, called attention to the fact that the bacteria present are almost entirely in the cream, and therefore that cream should never be used without sterilization. Sterilization, however, does not materially improve the toxins and filth. Some authorities hold that if the milk be deprived of its animal heat immediately and reduced to a temperature of about 40 degrees, it will be comparatively germ-free.

SCARLET FEVER.

Dr. F. D. Miller, of Milwaukee, read a paper on the subject of scarlet fever. He gave a complete history of the disease. Atypical cases occur which are sometimes difficult of diagnosis.

Dr. J. J. McGovern, of Milwaukee, said that the disease he thought was not transmitted by air nor by the scale of desquamation. Certain cities and localities are apparently immune. The disease seldom occurs in the South. It rarely occurs in Paris, but is quite common in Berlin.

Dr. F. A. Kleinhans, of Milwaukee, said that it was certain that scarlet fever could recur in the same patient; also that the cause of the disease was unknown.

Dr. H. B. Sears, of Beaver Dam, advised the use of the bath to reduce temperature.

Dr. Kaumheimer advised that the urine be examined frequently for a period of at least six weeks after the patient is apparently well, in order to guard against an attack of nephritis. He said that he knew of recurrent cases where the diagnosis was undoubted.

Dr. Juergens, of Fredonia, advised the use of the pack where a bath-tub was not available.

CHLORETONE.

Dr. W. B. Hill, of Milwaukee, read a paper on chloretone, a new hypnotic. He said that it was the ideal local anesthetic, being germicidal and antiseptic and having no after effects. It can be used with perfect safety even in very large doses and is never contraindicated.

The paper was freely discussed and the weight of opinion was most favorable to the use of the drug both as a general and as a local anesthetic; and especial reference was made to its use in cases of nervous insomnia.

ANNUAL ADDRESS; CARDIAC AND CIRCULATORY DISEASES.

The annual address in medicine was delivered by Prof. Alfred Stengel, of Philadelphia. The speaker paid especial attention to cardiac and circulatory diseases and laid stress on the importance of close attention to the symptoms of these disorders. This class of diseases is increasing, but the increase is probably due to the increased length of life lately obtaining. Cases of myocardiac disease were described, and the necessity of careful study of that condition emphasized. Any case of heart irregularity in a man past 40 should not be regarded as functional unless it is clearly shown to be such, but myocarditis should be suspected.

RHEUMATOID ARTHRITIS.

Dr. W. H. Neilson, in his paper on rheumatoid arthritis, said that the origin of the disease is probably infectious, and that it must be carefully differentiated from rheumatism. The prognosis is not good for cure, but is good for amelioration.

Dr. W. H. Washburn, of Milwaukee, in discussing the paper, showed that the origin of the disease was bacterial and not nervous. The damage that the disease has done can not be repaired, but the disease can be checked.

Dr. W. G. Kemper, Manitowoc, said that the disease was obstinate to treatment, but described proper course of treatment viz,, change of climate if necessary, hygienic surroundings, use of eliminatives and drugs. Treatment must be long continued. The fact that patients suffering from this disease are not subject to tuberculosis would suggest serum treatment.

SURGICAL TREATMENT OF EMPYEMA.

Dr. W. A. Batchelor, Milwaukee, presented a paper on the surgical treatment of empyema and purulent pericarditis. He said that incision and drainage are the proper means of treatment. He described Hippocrates' treatment, and showed its remarkable similarity to the modern method. He advised rib resection, but discouraged irrigation.

Dr. F. Shimonek, Milwaukee, held that early resection even in children is almost always advisable, and stated that secondary resection is a very difficult operation.

Dr. Herman Reineking, Sheboygan, spoke in favor of irrigation. There was quite a difference of opinion regarding the advisability of universal early resection.

RADICAL CURE OF HERNIA.

Dr. H. A. Sifton, Milwaukee, read a paper on the subject of the radical cure of hernia. He said that catgut and kangaroo tendon sutures, although not ideal, are better than non-absorbable sutures. The operation is one of the most frequent of major operations and the results are most gratifying.

ANNUAL ADDRESS ON SURGERY.

Prof. Maurice R. Richardson, Boston, then read the annual address in surgery, on the subject of conservatism in surgery. In regard to appendicitis he said that the first pain experienced was frequently caused by rupture. In the treatment of acute appendicitis radicalism shold be employed at the earliest possible period. The appendix should be removed because it is a useless organ, and there is everything to gain and nothing to lose by its removal. Gall-stones and tumors should also be attacked at the earliest possible moment. Early recognition and early operation should be our watchword. In all these diseases the fatality is due to the condition and not to the operation. Surgery of the ovary is, however, pre-eminently a field for conservatism unless malignancy is present.

Dr. F. Shimonek, Milwaukee, then read a paper on primary branchiogenic carcinoma.

Dr C. G. Wilson, Milwaukee, read a paper on Addison's disease.

Dr. W. G. Kemper, Manitowoc, read a paper on the essentials of life and longevity. He said: Many of the theories of medicine to-day are preposterous. In rummaging for panaceas we overlook the real root of our complications. The simpler and more primitive the civilization or condition of life, the healthier the people. Inherited morbid proclivities may be overcome by long-continued observations of hygienic principles. Every person should drink at least four pints of water daily. "Live on a shilling a day and earn it." Following these rules disease will ultimately be eliminated and men will sink into their final slumber in old age painlessly.

Dr. Byron Robinson, Chicago, spoke regarding 250 vaginal hysterectomies done either by himself or under his supervision. He considers the vaginal route preferable in all cases to the abdominal route. Hernia does not follow the vaginal operation; the death-rate is only 4 per cent., and this will be decreased.

Dr. F. H. Edsall, Madison, read a paper on the subject of the relationship between ocular affections and systemic diseases.

Dr. C. Zimmermann, Milwaukee, read a paper on cholesteatoma of the middle ear, and its radical treatment. He said that the disease might continue for many years without disturbing the general health of the patient. He described operation, but claimed that this is only the commencement of the treatment, and that the disease has a great tendency to relapse.

THE COUNTY ASYLUMS OF WISCONSIN.

Dr. Richard Dewey, Wauwatosa, read a paper on the county asylums of Wisconsin from a medical standpoint. Dr. Dewey criticized the county system, while admitting that its modification as found in Wisconsin was the best example of that method of caring for the insane. The county asylums are as a rule run too cheaply. Proper medical attention is not given to patients in all cases, for the reason that most of the superintendents of county asylums are not physicians.

Dr. W. A. Gordon, Winnebago, said that it was not quite correct to say that Wisconsin had the pure county asylum plan in operation, for the reason that all such asylums are under state control. One great advantage of county asylums over state asylums is derived from their publicity. Friends can much more readily, frequently and at less expense visit the patients than in the case of state institutions.

Dr. A. J. Burgess, Milwaukee, condemned the county system on the ground that the patients did not receive proper medical treatment, proper care or sufficient food.

Dr. G. A. Kletzsch, Milwaukee, called attention to the excellence of the Milwaukee County asylums.

THE USE AND ABUSE OF THE GALVANOCAUTERY.

Dr. C. D. Conkey, Superior, read a paper on "The Use and Abuse of the Galvanocautery in Nasal Surgery." The speaker said that the objections raised against the cautery are founded upon its improper use. As a matter of routine practice it should not be used behind the roof of the nose, the middle turbinated, the vault of the pharynx, the soft palate and the uvula, and upon the septum, only when much hypertrophied or deeply congested, and then the burn should be neither deep nor extensive. Upon the lower turbinated it may be used to great advantage, confining the applications as much as possible to thrusts, and avoiding large electrodes. In the throat it may be used to the greatest advantage, upon the tonsils, pharyngeal hypertrophies and follicles, and at the base of the tongue to destroy dilated blood-vessels and hypertrophied glandular tissue, but using it so as to avoid contact with the epiglottis.

PRESIDENT'S ANNUAL ADDRESS.

DR. W. T. SARLES, Sparta, delivered the president's annual address. He dwelt upon the fact that this is the day of the specialist. He thought the society should be divided into sections; that there should be two grand divisions, one of surgery and one of medicine, which would listen to papers by great specialists. He was convinced that the physician should exercise his duties of citizenship more extensively than he does. Not until we have more of these men in the halls of Congress will we obtain a national health commission and corresponding laws. The chief aim of the medical practitioner is to do good.

The following resolution was adopted:

The president shall annually nominate a committee of one on national legislation, who shall act with the permanent committee on legislation of the AMERICAN MEDICAL ASSOCIATION and who shall meet with said committee of the ASSOCIATION once each year in Washington, D. C.

Two hundred dollars was appropriated for the use of the legislative committee.

A committee of five is to be appointed to work out the problem of having a pathologic exhibit which can be used for the AMERICAN MEDICAL ASSOCIATION meeting.

The following resolution was adopted unanimously:

That the constitution be amended to read that the annual meeting shall be in May or June, subject to the call of the president, secretary and executive board.

Dr. J. F. Pritchard, Manitowoc, was elected president; Dr. H. V. Würdemann, Milwaukee, first vice-president; Dr. Edward Evans, La Crosse, second vice-president, and Dr. George M. Steele, censor.

Waukesha was chosen as the place of meeting for the next convention.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, June 21.

1 Realism in Medicine. (Concluded.) A. T. Cabot.
2 *Closing Statement for Remonstrants to the Massachusetts House Bill No. 917, entitled "An Act for the Future Prevention of Cruelty to Animals." Before Joint Committee on Probate and Insolvency. (Concluded.) Harold C. Ernst.
3 *Law of Dying Declarations. M. J. Sughrue.
4 Case of Extra-uterine Pregnancy. Frank Holyoke.
5 *Marks Produced by Pistol Shots. G. De N. Hough.

New York Medical Journal, June 23.

6 *Inflammation of Meckel's Diverticulum with Resulting Gangrene of Intestine Simulating Appendicitis. W. P. Nicolson.
7 Clinical and Pathologic Observations on Some Early Forms of Epithelioma of the Skin. (Concluded.) J. A. Fordyce.
8 Rampancy, the Fervor of the Forehead. Wallace Wood.
9 *Perimetric Diagnosis. (Concluded.) J. W. Sherer.
10 *Advantages of Pneumatic Cabinet or Differentiator in Treatment of Phthisis Pulmonalis. J. Carlisle De Vries.
11 *Value of Tuberculin Test in Diagnosis of Pulmonary Tuberculosis. J. M. Anders.
12 Iodin-Bearing Drugs in Treatment of Chronic Purulent Otorrhea. Carle Lee Felt.

Medical News (N. Y.), June 23.

13 *Protest Against Some of the Evils in the Profession of Medicine. J. A. Witherspoon.
14 *Some Points in Management of Obstetric Cases in Private Practice. Joseph B. Cooke.

Philadelphia Medical Journal, June 23.

15 Angina Pectoris. (Continued.) Clifford Allbutt.
16 *Scarlatina: Some Further Experiments. Willim J. Class.
17 *Contribution to Study of Exophthalmic Goiter. (Concluded.) Alfred Gordon.

Cincinnati Lancet-Clinic, June 23.

18 *Remarks on Some Unusual Types of Gastrointestinal Disorders. Henry W. Bettman.
19 Ophthalmic Memoranda. David DeBeck.

Medical Record (N. Y.), June 23.

20 Memorial Address upon Dr. Fessenden Nott Otis. T. Gaillard Thomas.
21 *New Plan for Washing the Bladder, with Description of Apparatus. Wm. F. Fluhrer.
22 *Ceruminous and Epithelial Impactions in External Auditory Canal. Samuel Kohn.
23 *Dampness of Soil as Factor in Production of Human Tuberculosis. Richard Cole Newton.

Medical Review (St. Louis, Mo.), June 16-23.

24 *Gastric Hemorrhage. Wm. L. Rodman.
25 Remarks upon Dr. J. W. Smith's Case of Hodgkin's Disease. J. K. Bauduy.
26 Treatment of Pneumonias of Infancy and Childhood. Isaac A. Abt.
27 *Protest Against Some of the Evils in the Profession of Medicine. J. A. Witherspoon.

American Practitioner and News (Louisville, Ky.), June 1.

28 Epoch-Making Discoveries in Medicine. H. A. Cottell.
29 Acute Articular Rheumatism in Children. Frank C. Simpson.

Virginia Medical Semi-Monthly (Richmond), May 25, June 8.

30 *Colonial Treatment of Epilepsy. Daniel R. Brower.
31 *A Single Impression Made upon the Mind of a Non-Pregnant Woman. P. B. McCutchon.
32 Age and Sex as Factors in Intestinal Obstruction. C. N. Brown.
33 *If Cause is Removed, the Cure Will Follow. Treatment of Tuberculosis of the Lungs. W. J. Chenoweth.
34 Cerebral Gout. A. G. Brown, Jr.
35 *Local Paralysis Due to Overdose of Camphor. T. B. Greenley.
36 Nephritis Conventionally Considered. U. V. Williams.
37* Physician the Nation's Guardian. J. Cheaton King.
38 Some Mooted Questions in Proctology. A. B. Cooke.
39 Mucous Disease. P. F. Barbour.
40 Importance of Eye Symptoms in Diagnosis of General Diseases. A. D. McConachie.
41 Prolapsed Umbilical Cord. J. M. Pasaig.
42 Evolution of the Saw Palmetto. J. C. Le Hardy.
43 Treatment of Ulcers of Legs. S. S. Halderman.
44 Treatment of Syphilis. H. Plummer.
45 Preventive Medicine and Higher Medical Education. E. B. Montgomery.
46 Should Physicians Supply the Medicines They Prescribe? D. S. Morrill.

Medical Times and Register (Philadelphia), June.

47 Treatment of Hernia by Buried, Continuous Silver Wire Suturing. Albert H. Tuttle.
48 Review of Potence and Imoptence. Physiology, Pathology and Other Embarrassments of Procreative Powers. Review of Aphrodisiacs of Past and Present. Sexual Hygiene in Married and Single Life, etc. "Fecondite" (Zola) and "Kreutzer Sonata (Tolstoi). (Continued.) John J. Caldwell.

The Post-Graduate (N. Y.), June.

49 Early Treatment of Acute Aural Disease. D. B. St. J. Roosa.
50 Acute Otitis Media Supervening on Otitis Media Purulenta Chronica. William O. Moore.
51 Atrophic Rhinitis. H. Beaman Douglass.
52 Management of Acute Suppurative Otitis Media. Wendell C. Phillips.
53 Notes from Clinics. Drs. Roosa and Moore.
54 Inflammatory Conditions in Middle Turbinated Region. Clarence C. Rice.
55 Two Interesting Cases of Laryngeal Growth. Clarence C. Rice.
56 An Extreme Case of Lateral Pharyngitis. Clarence C. Rice.
57 A Few of the Laryngeal Lesions Which Are Only Seen in Singers, Actors, and Public Speakers. Clarence C. Rice.
58 Additional Laryngeal Disturbances Which Are Only Seen in Singers and Public Speakers. Clarence C. Rice.
59 Large Fibroma Attached to Vault of Pharynx, Contracted by Galvano-Cautery Puncture and Removed by Cautery Loop. Clarence C. Rice.
60 Two Interesting Nasal Conditions Causing Nose Bleed. Clarence C. Rice.
61 Rare Condition of Congenital Closure of Anterior Nares. Clarence C. Rice.
62 Surgical Treatment of Both Enlarged and Diseased Tonsils in Children and in Adults. Clarence C. Rice.
63 Use of Tonsil Knife. Beaman Douglass.
64 Unusual and Distressing Symptom of Antrum Disease with Reports of Three Cases. Thomas J. Harris.
65 Perichrondritis of Arytenoids in Its Acute Form. Frank C. Combes.

American Journal of Obstetrics (N.Y.), June.

66 *Comments on Toxemia of Pregnancy and on Operative Treatment of Uterine Displacements. Egbert H. Grandin.
67 *Carcinoma of Recto-Vaginal Septum. W. R. Pryor.
68 *Treatment of Full-Term Ectopic Gestation. Edwin B. Cragin.
69 Combined Nephrectomy and Ureterectomy. E. E. Montgomery.
70 Diphtheria Deaths and Antitoxin Statistics. Adolph Rupp.
71 *Observations on Pryor's Method of Removing Fibroid Uterus: With Report of Ten Successful Cases. A. Lapthorn Smith.
72 *Frequency and Significance of Infarcts of Placenta, Based upon Microscopic Examination of Five Hundred Consecutive Placentæ. J. W. Williams.
73 Review of Five Years' Experience with Pelvic Diseases at Vanderbilt Clinic. William S. Stone.
74 Improved Vesical Speculum. Howard A. Kelly.
75 *Treatment of Persistent Fecal Fistulæ. I. S. Stone.

Peoria Medical Journal, June.

76 Differential Diagnosis of Acute Miliary Tuberculosis and Typhoid Fever in Children. J. S. Miller.

Southern California Practitioner, May.

77 Some Physiologic Aspects of Practice of Modern Surgery. Norman Bridge.
78 Needed Reforms in Kindergarten Work. H. Bert Ellis.
79 Appropriate Cases for Vasectomy. W. W. Hitchcock.
80 Intestinal Antisepsis by Means of Chlorin Water in Typhoid Fever. O. D. Fitzgerald.
81 Case of Colocynth Poisoning. J. Lee Hagadorn.

Buffalo Medical Journal, June.

82 *Treatment of Epilepsy in Its Incipiency. Wm. P. Spratling.
83 Establishment of First Free Municipal Bath-House at Buffalo, N. Y. Ernest Wende.
84 Erysipelas. A. A. Young.
85 Curettage of Male Bladder for Chronic Cystitis. Nathan W. Soble.
86 Personal Experience with Fracture of Hip. George W. Greene.
87 Some Manifestations of Lithemia in Young. Maud J. Frye.

Woman's Medical Journal (Toledo, Ohio), June.

88 Uterus: Some Comments on Its Anatomy and Physiologic Reflexes. Corinne B. Eckley.
89 Puerperal Insanity. Fannie C. Hutchins.
90 Sydenham's Chorea. Emma C. Hackett.

Journal of Nervous and Mental Disease (N. Y.), June.

91 *Contribution to Study of Plantar Reflex, Based upon Seven Hundred Examinations Made with Special Reference to the Babinski Phenomenon. G. L. Walton and W. E. Paul.
92 *Two Cases of Primary Neurotic Atrophy Bearing a Resemblance to Multiple Neuritis. F. X. Dercum.
93 Digest of Recent Work on Epilepsy. (To Be Continued.) L. Pierce Clark.

American Medical Compend (Toledo, Ohio), June.

94 Address to Graduating Class of Toledo Medical College. W. A. Dickey.
95 Microscope in Medicine. D. E. Haag.
96 Abscess of Lung. J. Fred Clark.

Archives of Pediatrics (N. Y.), June.

97 Gastric Ulcer. E. J. Greenfield.
98 *Clinical Observations upon Operative Treatment of Tuberculous Peritonitis. Augustus Chaillé.
99 Pancreatic Digestion of Casein. B. K. Rachford.
100 Case of Child Cretin Where the Effects of Thyroid Treatment upon Bodily and Mental Condition Were Remarkably Rapid and Complete. H. Oliphant Nicholson.
101 Acute Glandular Fever. W. F. Boggess.
102 Remarks upon Treatment of Whooping-cough. Francis Huber.

Interstate Medical Journal (St. Louis, Mo.), June.

103 *A Single Impression Made upon the Mind of a Non-Pregnant Woman Causes Defects in Her Eight Subsequent (not successive) Pregnancies, Extending Over a Period of Fifteen Years—Eight Albinos, Four Well Developed, Four Anencephalous, Four Breech Presentations. P. B. McCutcheon.
104 Facts of Inheritance. (Continued.) J. Arthur Thompson.
105 Smallpox: Its Prevention and Treatment. R. S. Kelso.
106 Analytic Diagnosis of Abdominal Tumors. (Continued.) Byron Robinson.
107 Compound Adjustable Support Versus Plaster Jacket. E. P. Banning.
108 Treatment of Lithemia. Frank M. Floyd.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), June.

109 *The Gonococcus: Report of Successful Cultivations from Cases of Arthritis, Subcutaneous Abscess, Acute and Chronic Cystitis, Pyonephroses, and Peritonitis. Hugh H. Young.
110 *Report of Two Cases of Persistent Exfoliation of Lips. Henry W. Stelwagon.

Dominion Medical Monthly (Toronto), May.

111 Report of Case of Addison's Disease. R. J. Dwyer.
112 Something of Advantage to Physician from Business Standpoint. Dr. Graham.
113 How to Secure Pure Drugs at Less Cost. J. W. Shaw.
114 *Appreciation of Kelly's Method of Removing Fibroid Uterus by Abdomen. A. Lapthorn Smith.

Obstetrica (N.Y.), June.

115 *Anatomy of Reflexa in Tubal Pregnancy. Alexander Couvelaire.
116 *Causes and Treatment of Displacements of the Uterus. Louis Frank.

Colorado Medical Journal, May.

117 Southern Colorado: Its Climate. Therapeutic Value in Diseases Other Than Phthisis Pulmonalis. H. Foster Hazlett.
118 Infant Feeding. H. B. Whitney.
119 Injuries of Eye from Accidents in Mine. (To Be Continued.) Melville Black.
120 Address to Graduating Classes of Medical and Dental Departments of University of Denver. H. G. Wetherill.

Iowa Medical Journal, May.

121 Address Before Iowa State Med. Society. C. S. James.
122 Address Before Iowa State Med. Society. R. E. Coniff.
123 Tuberculosis Question Financially Considered. J. W. Kime.
124 "Prophylaxis." A. Crawford.

Medical Review of Reviews (N. Y.). May 25.

125 Superheated Dry Air in Treatment of Rheumatic and Allied Affections. Thomas E. Satterthwaite.

St. Paul Medical Journal, June

126 *Treatment of Inoperable Cancer. William B. Coley.
127 Mirror-writing. Inverted Vision and Allied Ocular Defects. Arthur Sweeney.
128 Some Phases of Syphilis. R. Graham.
129 Rupture of Male Urethra. C. P. Thomas.
130 Injury to Cervical Spine. C. F. Culver and Haldor Sneve.

The Sanitarian (Brooklyn, N. Y.), June.

131 Suppression of Epidemics. Walter Wyman.
132 Review of Modern Treatment of Pulmonary Tuberculosis. M. J. Brooks.
133 Stamina: With Reference to Consumption of Fat Food for Its Maintenance and as a Preventive of Tuberculosis. A. N. Bell.

Journal of the Boston Society of Medical Sciences, May.

134 *Studies in Mechanism of Agglutination. Harold C. Ernst and W. H. Robey, Jr.
135 *Pathology of Azoturia. W. R. Brinckerhoff.
136 *A Possible Cause of Azoturia. A. W. Balch.
137 *Physiologic Effects and Nature of Extracts of Sympathetic Ganglia. Allen Cleghorn.
138 Movements of Normal Spine in Their Relation to Scoliosis. R. W. Lovett.
139 Actinomycosis of Udder of Cow. Harold C. Ernst.
140 Plastic Restoration of Orb nit diLads1 Fn..PiGQgPJ taota

Ophthalmic Record (Chicago), June.

140 Plastic Restoration of Orbit and Lids for Prothesis—Extensive Traumatic Ectropion and Cicatricial Contraction of Orbital Tisues Cured by Wolff and Thiersch Grafts from Skin of Arm and Mucous Membrane of Lip. H. V. Wurdemann.
141 Case of Microphakia. H. O. Reik.
142 *Cystoid Cicatrization Following Cataract Extraction, with Periodical Escape of Aqueous; Report of Case. Albert E. Bulson, Jr.
143 *Combination Sponge-Graft and Artificial Globe Implantation After Enucleation of Eyeball. George F. Suker.
144 Case of Foreign Body Passing Directly Through Eye and Lodging in Fatty Tissue in Posterior Portion of Orbit—Dislocation of Lens—Recovery. Frank Allport.
145 Report of Cases. 1. Interstitial Keratitis in Acquired Syphilis. 2. Lead Deposits in Cornea, with Verification of Micro-Chemical Tests. 3. Cilia in Puncta Lachrymalia. E. C. Ellett.
146 Clinical and Histologic Study of Case of Melanotic Sarcoma of Choroid, Presenting Symptoms of Secondary Glaucoma. Charles A. Oliver.
147 Case of Foreign Body in Lens—Cataract—Iridectomy—Removal of Steel with Magnet—Removal of Lens—Intraocular Hemorrhages—Evacuation of Hemorrhages—Good Result. Frank Allport.
148 *Diagnostic Point in Third Nerve Paralysis. Charles A. Wishart.
149 Upon Relationship of Certain Catarrhal and Purulent Inflammations of Conjunctiva to Urethritis and Arthritis. H. McI. Morton.
150 Treatment of Diarrhea. John V. Shoemaker.

Medical Bulletin (Philadelphia), June.

151 A Most Valuable Preparation of Mercury. Charles M. Hickey.
152 So-Called Pyorrhea Alveolaris—Dentifrices—Experiments with Hydrogen Dioxid. Ephraim Cutter.

Hot Springs Medical Journal, May.

153 Vesico-Rectal Anastomosis. Jacob Frank.

Canada Lancet (Toronto), June.

154 General Cystic Degeneration of Kidney. H. C. Parsons.
155 Case of Concealed Hydrocephalus. Theo. Coleman.
156 Cerebellar Tumor with Double Optic Neuritis. J. T. Duncan.

Seaboard Medical and Surgical Journal (Norfolk, Va.), May.

157 Pseudo-Leukemia: A Report of Two Cases. A. H. Omann-Dumesnil.
158 Diabetes Mellitus of Apparent Bacterial Origin, and Its Successful Treatment. J. P. Sheridan.

AMERICAN.

2. **Antivivisection.**—Ernst's paper shows the fallacies and misstatements of the antivivisectionists.

3. **The Law of Dying Declarations.**—Sughrue gives the Massachusetts law of dying declarations, which make an exception to the rule that the defendant has the right to be present and cross-examine the witness. The reason for this is the presumed solemnity of the occasion and thus it is essential that they should be made while the patient is *in extremis* and thoroughly conscious of his condition. The statements must be relative to a crime, and descriptive of the crime itself, and of the person committing it. The form is indifferent; it may be oral or written. The cases in which they are admissible are regulated by the Massachusetts statute, and include those of homicide and abortion. They are only admissible when the death of the declarant is the subject of the inquiry. The jury have the right to consider all the circumstances under which the declaration was made and the state of mind, as shown by the testimony.

5. **Marks Produced by Pistol Shots.**—Hough gives the results of experiments made by him to show the marks produced by pistol shots at various distances. He used white blotting-paper, which he considered took about the same amount of powder mark as the human skin. He found that it is not possible to determine with absolute accuracy, from the mark alone what is the caliber of the weapon used or the distance from which it is fired. If the mark is a smut without tattoo the shot was fired at a distance not over 6 inches; if the mark consists of a tattoo with distinct smut at the center, then the distance was not over 2 feet; if the mark consists of a bullet-hole alone, the range was not less than 4 to 6 feet, if a 22-caliber was used; 7 to 9 if a 32, and 9 to 12 if a 38 or 41.

6.—See abstract in The Journal, xxxiii, 1615.

9. **Perimetric Diagnosis.**—Sherer's article gives a résumé of the facts as regards pathologic restrictions of the visual field and their conditions and lesions underlying them.

10. **Pneumatic Cabinet in Phthisis.**—De Vries describes a pneumatic cabinet devised by Dr. Williams, of Brooklyn, N. Y., which had the approval of the late Prof. A. L. Loomis as a valuable aid for the control of phthisis. He describes the apparatus and claims that it produces a much greater inflation of the lungs than is possible by the ordinary full inspiration, and thus increases pulmonary circulation and lymphatic absorption. When the patient is seated in the cabinet, while gradual rarefaction is made, the entire cutaneous and pulmonary pressure is diminished, the respiration is easier, and the vessels are dilated all over the body, though chiefly in the lungs, thus slowing the circulation at all points, and causing pulmonary congestion, which is developed in precisely the same way as in high altitudes, but differing from that following inhalation of rarefied air, in being modified by the dilatation of the cutaneous vessels. In placing the tube in his mouth, an action of the lungs is produced which removes the debris. He has found it exceedingly advantageous in hemorrhagic cases and in advanced stages of the disease. In the early stages, it is capable of doing much good, often arresting the morbid process. He considers it valuable in strengthening and developing weak and imperfectly developed lungs; and in the latter stages where cure is impossible, it prolongs life with comparative comfort. He suggests the tracheal injection in addition to the cabinet treatment, and thinks that it has been a valuable, though neglected, therapeutic agent.

11. **Tuberculin Test in Diagnosis.**—Anders favors the use of the tuberculin test for the early recognition of pulmonary tuberculosis, and claims that when properly used it is absolutely free from danger. He thinks that if its diagnostic value could be separated in men's minds from its therapeutic use many objections would be removed. It should not be employed in doses of more than .5 milligram at the beginning; after the lapse of a few days the injection may be repeated in larger dose.

13.—See The Journal of June 23, p. 1589.

14. **Obstetrics in Private Practice.**—Cooke thinks it necessary that a careful history should be kept of every case from the time it is first seen till the end of the puerperium. He uses cards, which are filled out, one for pregnancy, one for the labor, and one for the after-treatment; on these cards every detail is recorded and they are then filed for future reference. For examination of the urine, he has adopted the following plan: A number of wide-mouthed, glass-stoppered bottles are provided with labels having these details—take specimen from mixed evening and morning urine and deliver before noon on specified date; amount for twenty-four hours; name, address, and date. In this way, he has all his urine examinations come in at one time. He has also provided himself with a number of wooden boxes containing bottles of distilled water and boric-acid solution, which he sends out to patients three weeks before labor is expected, so that it may be on hand for the needs of the case. Boiled water can always be had, but is not always available as promptly as required. He has given up the idea of having a sterilized obstetric bag and prefers to have his materials so that they can be sterilized on the spot if necessary; when needed they can be cooled with the distilled water which is at hand. In this way, he is independent of his outfit, and is prepared to go from one case to another without any lengthy sterilizing between.

16. **Scarlatina.**—Class reports experiments with cultures of the diplococci described by him as connected with scarlatina, and tests with serum obtained from inoculated animals. His results are not, as he admits, conclusive as regards the future of serumtherapy of this disease, but he maintains his belief as to the specific nature of the organism.

17. **Exophthalmic Goiter.**—The general conclusion reached by Gordon in this article is that exophthalmic goiter is a disease of the nervous system associated with a pathologic condition of the sympathetic nerves. He tabulates a number of cases of medical and surgical treatment of the thyroid and operations on the cervical portion of the sympathetic nerve as favoring his views. He lays down the therapeutic indications as follows: 1. If the syndrome of the disease is the result of a mechanical pressure on the sympathetic nerve—tumor or thyroid gland, etc.—remove the pressure, and if the symptoms persist, operate on the sympathetic. 2. If the syndrome of the disease is the result of reflex influence on the medulla and through the last on the sympathetic nerve from some remote affection, as fibroid uterine tumors, nasal polyps, etc., remove the last, and if the symptoms persist, operate on the sympathetic nerve. 3. If the syndrome of the disease occurs during the course of any spinal or other organic nervous disease, abstain from operation. 4. If there is no apparent cause, operate on the sympathetic nerve. At any rate, never operate on the hypertrophied thyroid gland. Medical treatment can be used, if the patient refuses an operation, but never expect any permanent cure or entire removal of the symptoms.

18. **Gastro-Intestinal Disorders.**—Bettman reports cases of chronic diarrhea associated with impaction of long standing, or scybala in the colon simulating gastric ulcer; and obstinate constipation with pain relieved by laxatives; also rectal trouble; internal hemorrhoids; and gastric catarrh simulating other conditions. He thinks that gall-stones may also start various forms of gastric disturbances, their diagnosis sometimes being decidedly obscure.

21. **Washing the Bladder.**—Fluhrer's apparatus, which is described in full, is designed to meet the indications for thoroughly washing out the bladder. Two conditions must be realized: the bladder must be in a state of comparative rest in any given capacity of contents during the procedure, and while thus at rest the contents must be more or less agitated. It is important to have an antiseptic impression as thorough as possible without causing irritation, and this apparatus is intended to give complete control over the irrigation.

22. **Impactions in External Auditory Canal.**—About 10 to 12 per cent. of all cases in ear clinics, according to Roosa and Burkner, are those of impacted plugs in the external ear. Four kinds are described. The first and most frequent form is inspissated secretion of the ceruminous and sebaceous glands, lining the canal. These may be of long standing and of considerable hardness. The second form is composed principally of epithelial scales due to chronic desquamative dermatitis of the external auditory canal. This is of a grayish or pearlish hue, usually not so smooth as the ceruminous plug, and is removed with considerable difficulty. The third variety is cholesteatoma, showing through the speculum as a pearly-gray mass. It originates usually in the mastoid cells and works its way toward the meatus, or originates in the canal and erodes toward the mastoid. It may complicate the epithelial plug and vice versa. Absorption of the bone may proceed to such an extent as to enlarge the canal so that the finger can be pushed down to the drum. The drum membrane is rarely injured, but the bone readily yields and the growth finds its way into the mastoid; and, unless completely removed, the case may end fatally, through mastoid involvement and its consequences. The fourth variety is associated with chronic suppuration and perforation, and consists of a hard, grayish, ill-odorous plug of dried pus, wax, epithelial cells, etc. It may lead to serious trouble. The simple ceruminous plugs are usually harmless though they may cause chronic dry otitis. The symptoms are sudden deafness, dizziness, pharyngitis, and in rare cases, paralysis, melancholia, reflex cough and bronchitis. Sometimes the hearing may even be improved for a time, while in some instances the brain symptoms have led to serious errors in diagnosis, a case of convulsions and coma being recorded as due to this cause. The objective symptoms are the described mass in the meatus as seen through the speculum; the ceruminous plug being a black or brownish-yellow mass. The tuning-fork applied to the forehead or teeth is heard with exaggerated loudness in the ear containing the impaction. The patient may complain of deafness coming on suddenly, a fulness of the ear or dizziness, and the tuning-fork symptom mentioned may be present. In these cases, restoration of hear-

ing is only complete in from 30 to 40 per cent. The treatment recommended is mild syringing with warm water; the curette, as recommended by Buck, not being safe except in the hands of the skilled specialist. Extreme gentleness of manipulation and absolute antisepsis are essential; and after the removal of the occlusion syringing should be done with great caution. In some cases, it is necessary to soften the plug by a saturated solution of bicarbonate of sodium, a 2 per cent. solution of carbonate of potassium in equal parts of glycerin and water, dropped into the ear, warm, 5 to 10 drops, three to four times a day. This will soften the plug in a couple of days so that it can easily be removed. The use of olive-oil in the ear should be absolutely discountenanced as it favors the growth of the aspergillus. The tendency to recurrence is a characteristic of ceruminous accumulations, and is due to a hyperactivity of the secretory glands. It is therefore advisable to instruct the patient to wash the ear thoroughly, once a week, with a mild alkaline solution—1 dram of aqua ammonia to a quart of warm water—and castile soap. He insists on the importance of some knowledge of otology by the general practitioner.

23. **Soil Dampness and Tuberculosis.**—Newton discusses the subject of soil as related to tuberculosis and insists that this factor is of greater importance than milk and other matters that have been so much discussed of late. He thinks that it would be better to turn attention to the altering of the surroundings of patients and curing them of their vicious methods of life, instead of trying to annihilate the tubercle bacillus.

24.—See The Journal, of June 16, p. 1509.

27.—See The Journal of June 23, p. 1589.

30. **Colonial Treatment of Epilepsy.**—Brower's paper is largely historical, reviewing what has been done in the colonial treatment of epileptics in this country and abroad. He suggests the need of such an institution for Illinois and the plan on which it should be established.

31. **Maternal Impressions.**—The common belief in maternal impressions is noticed by McCutchon, who reports a case which seems to him unique. A newly-married woman, brunette, with her husband, who is also dark, saw an albino in a museum, who interested her very much. Nine months later she was delivered of a normal child, still-born; and again in eleven months, of a well-developed boy, who was a perfect albino. The third child was a boy with black hair, but with blue eyes like the first. The fourth was a perfect albino, the fifth and sixth were anencephalous albinos, the seventh was normal, the eighth, ninth, tenth and eleventh were albinos. There seemed to have been a tendency to abnormal births in a collateral branch of the family; and the patient's eldest sister was born deformed. The author quotes Dabney's conclusions in regard to maternal impressions, as published in Keating's "Cyclopedia on Diseases of Children." See also title 103.

33.—See abstract in The Journal of June 9, p. 1491.

35.—See abstract in The Journal of June 9, p. 1486.

37.—See title 117 in The Journal of June 23, p. 1649.

66. **Toxemia of Pregnancy.**—Grandin discusses this condition and points out that it is a grave error to test the urine of a pregnant woman for albuminuria alone. Toxemia may exist with very slight albuminuria or a larger amount of albuminuria may be significant of no serious condition. If there is a tendency to nephritis, the pregnant woman should be watched with great care, and where, notwithstanding regulated diet, etc., the urea and amount of urine diminishes, the question of arrested gestation should be seriously considered. When the eclampsia is imminent or present the sheet-anchor of treatment should be rapid evacuation of the uterus and, as a rule, venesection, and protracted irrigation of the colon with hot saline solution. Morphin is contraindicated, as is also ether. The effect of chloroform is temporary. Several cases are reported illustrating these views. He thinks the only justifiable treatment of toxemia is the surgical, before active manifestations appear. The latter part of his paper is given to the discussion of the operative treatment of uterine displacement. He thinks that uterine suspension meets his ideal more nearly than any other. He describes his method of operating, which he has employed in fifty or sixty cases.

67.—See abstract in The Journal of May 26, p. 1337.

68. **Ectopic Gestation.**—The treatment of full-term ectopic gestation is discussed by Cragin with reference to the endeavor to save the living child. He reports cases illustrating his views, and concludes from study and experiments that: The viable ectopic fetus is worth saving; that attempts to save the child do not seriously increase the mortality or morbidity of the mother; and that in the treatment of full-term ectopic gestation the child should receive more consideration than it does at present.

71.—See abstract in The Journal of May 26, p. 1338.

72. **Infarcts of the Placenta.**—This paper by Williams is accompanied by a very full bibliography. He says that infarcts measuring at least 1 cm. in diameter were observed in 63 per cent., while smaller ones were noticed in a great majority of cases, and microscopic examinations revealed early stages of their formation in every full-term placenta. The primary cause of these formations in a great majority of cases is found in the endarteritis of the vessels of the chorionic villi, the primary result of which is coagulation necrosis with a subsequent formation of canalized fibrin. The part played by the decidua in the production of infarcts has been greatly overestimated. It is more than probable, in a number of cases at least, that the tissue called decidual is really fetal ectoderm. Moderate degrees of infarction have no pathologic significance and are to be regarded simply as signs of the senility of the placenta, analogous to changes in the villi. When marked infarct formation occurs, however, it often results in death or imperfect development of the child It is usually associated with albuminuria on the part of the mother, though the relation existing between these conditions is not clear. They are not particularly observed in acute eclampsia unless they are preceded by decidedly albuminuric symptoms. There is no evidence of their bacterial origin.

75.—See abstract in The Journal of May 26, p. 1337.

82. **Treatment of Epilepsy.**—The general broad principles laid down by Spratling are summarized by him as follows: 1. Make an early differentiation of the type of epilepsy from which the patient is suffering. 2. If it is reflex epilepsy, or if the child is suffering from epileptic phenomena, the chances of cure are much greater than if the case is one of genuine epilepsy. 3. If genuine epilepsy is present, a much more accurate prognosis as to the ultimate outcome may be given and better principles applied in the treatment of the case. 4. Remove, as far as possible, parental sympathy from the treatment of the child for if allowed to assert its way this usually does more harm than good. 5. Endeavor to keep from the young epileptic the many patent nostrums that, when taken, only aggravate the disease by first masking the true symptoms, then destroying or impairing the functions of the gastrointestinal tract. 6. If the seizures are localized and a certain part of the body is chiefly involved at the time of convulsive phenomena, and exhaustion or partial paralysis is the result, apply physical means for its correction as soon as possible, for it is only by these means that such a difficulty can be overcome. 7. Learn to place great value on little things in studying the etiology and treatment of this obstinate malady. In illustration of the last point he told of a visit in January of the present year, to the Pathological Museum, in Berlin, under direction of Dr. Rudolph Virchow, where he saw six cases in which the hemorrhage had occurred in a capillary form in the brain. Dr. Virchow, without the use of any magnifying power, had no difficulty in locating the seats of these minute hemorrhages. He found that these with their results had caused death.

91. **Plantar Reflex.**—Walton and Paul have investigated the plantar reflex in a large number of cases, including 200 hemiplegics and diplegics, old and new; 30 cases of spinal

pyramidal disease; 70 infants, and 400 cases in which no recognized lesion of the pyramidal tract existed; and 100 cases taken at random from hospital patients outside the neurologic department. Their investigations confirm the importance attributed to the symptom by Babinski. They find that in health it may produce either flexion of all the toes or some of them, generally the outer; flexion of all the toes on one side, and of some, generally the outer, on the other; entire absence of movement on both sides in about 10 per cent.; flexion of all or some of the toes on one side with absence of movement on the other in at least 10 per cent., also, occasionally, in sensitive individuals, quick irregular movements, sometimes of flexion and sometimes of extension. In early infancy, no constant or characteristic movements of the toes appear, though extension is rather more frequent. The Babinski reflex occurs in about 70 per cent. of hemiplegics and diplegics, and in approximately the same percentage of cases of pyramidal tract disease of the spinal cord. The Babinski symptom—deliberate and constant extension of the great toe, with or without extension of the others—is never present in health; and other observations make its existence doubtful in either functional or organic nervous diseases not implicating the pyramidal tract. It is often the earliest to appear in pyramidal-tract disease, before the exaggerated knee-jerk and ankle-clonus and it may persist after other reflexes are absent. It is therefore a most important practical diagnostic point. This reflex very exceptionally appears in cases not conforming to recognized types of pyramidal disease—meningitis, hydrocephalus, poisoning, as by alcohol or uremia. Such instances are too few to materially impair the diagnostic value of the phenomenon. It should suggest pyramidal involvement possibly by edema or indirect pressure.

92.—See abstract in THE JOURNAL of February 27, p. 430.

98. **Tuberculous Peritonitis.**—Caille reports a number of cases of tuberculous peritonitis in which the first diagnosis was based on the abdominal symptoms, such as distension, pain, bowel disturbances, presence of fluid, and loss of weight; and was made by exclusion, excepting in those cases where the tubercle bacilli were found. In all a febrile rise in the temperature of the irregular type was met. The tuberculin test was employed in two cases, one with positive and the other with negative results; but he is unwilling to make a routine test with tuberculin in the present unsatisfactory state of our knowledge. He adds a fourth variety of tuberculous peritonitis to the three other classes, i e., tuberculous peritoneal tumors, two cases of which have been seen by him. The cases reported show the futility of medicinal treatment, and where such seems to succeed it should not be forgotten that spontaneous cures of this condition have been observed. The indication in all cases is early operation but that it will produce a complete cure is somewhat doubtful; and if there is also lung implication, the ultimate results are unsatisfactory.

103.—See also ¶ 31.

109. **Gonococcus.**—Young reports successful cultivation of gonococcus in chronic cystitis, pyonephrosis and peritonitis, thus adding three conditions to those already known to be due to the gonococcus. He discusses these cases and claims that they are more conclusive than those already published.

110. **Exfoliation of the Lips.**—Stelwagon reports two cases of persistent chronic exfoliation of the lips, both essentially the same disease, though one was more pronounced than the other. He considers the condition as allied to eczema seborrheicum, and is strongly impressed with its parasitic character. Bacteriologic examination of the second case was made at the laboratory of the Jefferson Medical College and several organisms were found, cocci and bacilli, and one indistinguishable from saccharomyces albicans. The treatment was not especially successful in one case, but in the second it seemed to hold the disease somewhat in abeyance. The method consisted in painting with salicylated tincture of benzoin and myrrh and silver nitrate solution, tincture of iodin, and ichthyol. Finally, lactic acid was employed, and, while the reaction was severe, the results were apparently rather favorable.

114.—See abstract in THE JOURNAL of May 26, p. 1338.

115. **Anatomy of Reflexa in Ectopic Pregnancy.**—This condition is described by Couvelaire from a study of specimens, and he sums up his results with the statement that there exists in the gravid tube during the first months a membrane, which limits the free pole of the ovum and acts as a reflexa. At the level of this reflexa, chorial villosities and intervillous space are as much developed sixty-six days after the last menses as at the level of the parietal insertion of the ovum. A little later—about 2½ months—there is atrophy of this reflexa by means of thrombosis of the umbilical vessels, and atrophic degeneration of the villosities throughout nearly its entire extent. The membrane which divides the intervillous space of the tubal cavity of the free pole of the ovum is made up of two distinct layers; the first, an internal continuous layer, the compact cellular layer of the reflexa, which is formed by large living cells grouped in a solid mass, lodged in alveoli of an amorphous intercellular stroma, analogous to the fibrin streak of the uterine ovum. These are in continuous relation with the epithelial process and a certain part of them are undergoing degeneration which begins in the more excentric layers. This accompanies the atrophy of the reflected placenta. The second layer is an internal non-continuous fibrous layer, strewn with degenerated cellular elements and infiltrated with round cells. At the source of the reflection the internal layer of the cell is continued in its entirety unmodified in the zone of parietal fixation of the ovum, to form a complete capsule for the latter. The fibrinous layer has ceased, and the cuboidal epithelium which covers the sector of the free tube opposite the reflexa is arrested at the summit of the angle of reflexion or is reflected for a very short extent—1½ mm.—of the cellular layer of the reflexa. There is found at a distance from the sinus of reflexion some tracts which cover the external surface of the internal layer of the reflexa, where the fibrinous layer is non-adherent. Sixty-six days after the last menses, the reflexa presents neither vessels nor gasal buttress of vessels, and the living decidual cells become continuous with a parietal decidual layer, as in the uterus. The decidual action in the gravid tube during the first month is far from being as intense, as general, as it is in the gravid uterus at the same period.

116. **Uterine Displacements.**—While many uterine displacements cause no symptoms, they are, as a class, responsible for much suffering, and Frank discusses the subject in detail. The uterus is maintained at its proper level purely by its specific gravity and this implies an intact perineum. It lies in the position of anteversion and is movable within certain limits; its axis, with the bladder partially filled, is on a parallel with that of the inlet of the pelvis. The cervix is set in the vagina almost at a right angle. It is erroneous to suppose that the ligaments maintain the position of the uterus. They simply serve to prevent exaggerated mobility. They act just as guy ropes do upon a derrick, permitting it to swing backward and forward but always bringing it back to its proper place again. The causation of displacements is not a difficult thing to understand. They may be due to increase in weight or relaxation of the pelvic floor. Anterior displacements are rarely pathologic, when they are they do not offer a fruitful field for treatment. Medicinal treatment is of no value, except for relieving pain. Retrodisplacements are the ones which have been most treated, and Frank considers that there is no one method which applies to all. The mode of supporting treatment by pessaries has been used in maintaining the uterus in position until such a time as it could be restored to its normal size. No case can be cured by a pessary if there exists impairment of the pelvic floor or perineal laceration. It is contraindicated in inflammatory diseases of the appendages or tissues around the uterus. As to the operative treatment adopted for relieving the condition, he mentions those which are carried out most frequently, i. e., ventrofixation, ventrosuspension and the Alexander operation. As regards the first, it should not be attempted unless other means have been first faithfully tried. If the organ is fixed by the adhesion and it is necessary to open the abdomen to relieve these condi-

tions, then it may be considered. The operation of ventrosuspension, as advocated by Kelly, is somewhat better, but as its originator says, "It should be used only in cases of persistent retroflexion which refuses to yield to simpler plans of treatment through the vagina, and then only when it interferes seriously with the health." This last applies to all operative procedures. The other operative measure is the Alexander operation, and while it is condemned by many, it yields excellent results to some and is especially recommended by Kellogg. In every case attention should be given to the condition of the perineum, and this is especially true in those cases where prolapsus is the predominant symptom. Emmet claims that all cases of prolapse may be cured by plastic procedures by the way of the vagina. They certainly should be carried out in all cases where there is the least indication for them, otherwise neither ventrofixation, ventrosuspension nor pessaries of any sort will afford relief.

126. **Treatment of Inoperable Cancer.**—Coley's method of treatment with mixed toxins of erysipelas and bacillus prodigiosus is reported with additional cases. He has not changed his opinion as to the benefits of this method, but he finds the round-celled sarcoma much less susceptible than the spindle-celled, and the melanotic still less susceptible. The dose given depends largely on the vascularity of the tumor and the condition of the patient. The initial dose should seldom be more than one-half a minim diluted with boiled water, which should be gradually increased until reaction temperature reaches 102 or 103 F. After the dose has been increased to 1 minim, dilution is unnecessary, and if it is not injected directly into the tumor, much larger doses can be borne. He thinks the best preparation is mixed unfiltered toxins of erysipelas, but in weak individuals and children the filtered toxins are safer. He dwells on the importance of aseptic precautions and claims that the risk from the treatment, when properly given, is comparatively insignificant. If 10 per cent. instead of 1 per cent. of these otherwise hopeless patients can be cured, the outlook for this method is encouraging.

134. **Mechanism of Agglutination.**—The importance of the Widal reaction in clinical medicine has led Ernst and Robey to investigate its mechanism so far as it can be done. They review the various theories and observations on the subject by Gruber, Bordet, Pfaundler, Gengou, Rodet, Malvoz and others and give the results of their own tests. In conclusion they say that these studies do little more than furnish limited control of the work of others; but from these and other observations, it seems: 1, that the agglutinating property does not lie in, and is in no way connected with, the flagella of the bacteria concerned; 2, that agglutination is not to be accepted as a specific property connected with a condition of immunity, although this is a difficult idea to discard; 3, the homologous nature of agglutination can not be considered a positive characteristic, for how then could the clumping of typhoid bacilli by diphtheria antitoxin be explained; 4, finally, that no universally applicable explanation of agglutination has yet been offered. The most rational theory yet suggested seems to be that of Bordet, that an agglutinating agent—"agglutinine"—acts on an agglutinable substance—"substance agglutinée"—the nature of which is not yet determined—and that this reaction occurs not only with bacteria, but with many other elements—globules, casein, and precipitates of various kinds.

135. **Azoturia.**—The pathologic results of eleven cases of undoubted azoturia are described by Brinckerhoff. He concludes: 1. The acute degeneration of the liver and kidney, the proliferation of epithelioid cells in the lymph follicles of the spleen, and the focal necroses in the liver are similar to lesions found in man during various of the acute infectious diseases. In the human being such changes are generally regarded as manifestations of a toxemia. 2. The pigmentation of the spleen indicates nothing more than a destruction of blood-corpuscles, and is common to a number of diseases in both man and animals. 3. The degeneration of the psoas muscle is quite analogous to the Zenker's degeneration seen in typhoid fever. 4. The chronic interstitial nephritis indicates either that some toxic substance has acted for a considerable time, or that there have been previous acute attacks. We have, then, the picture of a pathologic process combining chronic and acute factors. This condition seems more reasonably explained by postulating the presence in the organism of a toxic substance, preferably one capable of causing both acute and chronic changes. In this study of the lesions found in azoturia, pathologic changes have been found which merit further study. Experiments on animals have been commenced, but the material at hand from that source is not sufficient to be reported at present, and is reserved for later publication.

136. **A Possible Cause of Azoturia.**—Balch, led by the similarity between certain of the symptoms in azoturia and those found in lead poisoning, has made examinations of urine in cases of azoturia, and found lead present in a large proportion of the cases, both of normal horses and those with azoturia. The results are suggestive, if not positive proof of this cause of the disorder.

137. **Sympathetic Ganglion Extract.**—Cleghorn's experiments point to the fact that the active depressor substance in sympathetic ganglion extract is not choline, but may be of similar nature to the substances described by Osborne and Vincent as present in extracts made from brain tissue. He makes no claims that the sympathetic ganglia possess an internal secretion.

142.—See abstract in The Journal of April 28, p. 1067.

143. **Improved Artificial Globe Implantation.**—The method devised by Suker consists in inserting, after enucleation of the eye, an artificial globe surrounded by an antiseptic surgeon's sponge, tied or sewed with catgut, which is inserted into the capsule cavity and sutured with chromicized catgut. The recti muscles are brought together in pairs and the whole fixed by an annular ligature. The black silk sutures are now removed from the recti muscles, and then the conjunctiva is brought over the muscles and sutured with silk or catgut. It is best to employ two sets of sutures for the conjunctiva; a so-called edge suture and an anchor suture alternating. This anchor or retention suture is placed as far back as possible from the cut edge of the conjunctiva in order to relieve any strain on the continuous or interrupted edge suture. It is best to apply four or five of these retention sutures, as this obviates any chance for gaping of the conjunctiva or tearing out of the edge sutures. They should be left in for two or three days after the removal of the edge sutures. The eye is now dressed with a dry-dressing gauze pad immersed in one part boric acid and four parts amyloform. Above all things, the use of pressure bandages should be avoided. It is advisable to employ an ice-bag for the first twenty-four to thirty-six hours; and great caution should be used to have everything thoroughly aseptic. An artificial shell—the ordinary or Snellen's—may be inserted at the expiration of a month or six weeks. If thought best, the nasal or temporal end of the conjunctiva may be left open and a fine gauze drainage inserted after operation, but ordinarily, this is not required. The advantages claimed for this operation are enumerated as follows: 1, less liability of extrusion of the globe; 2, almost absolute immobility of the inserted globe; 3, the range of movement of the stump thus obtained is just as great, if not greater, than by any other method; the inserted globe is more thoroughly protected from pressure of the shell than by the other operation on account of this so-called cushion; 5, the amount of shrinkage in consequence of the granulation tissue necessary to absorb the sponge is very trifling; 6, it takes but a trifle longer than a simple enucleation, due to the absorption process of the sponge; 7, no more reaction follows than after an ordinary enucleation.

148. **A Diagnostic Point in Third Nerve Paralysis.**—The point made by Wishart is that if the lesion is basal and unilateral there will be found paralysis of all the muscles supplied by the third nerve on the same side as the lesion, but if the lesion is nuclear and unilateral there will be a similar paralysis of all the muscles, except the inferior oblique, together with paralysis of the inferior oblique in the opposite eye. In the first instance, there is complete monocular third nerve paralysis, and in the second, complete unilateral nuclear

third-nerve paralysis. He discusses the anatomy of the conditions according to the best authorities in support of his view. The only case of the second variety of which he has any knowledge was one reported by him in 1897.

FOREIGN.

British Medical Journal, June 16.

Mauser Bullet Wounds and Amputation. WILLIAM STOKES.—As the war advances, Stokes believes that we will have to modify the already conceived notions to some extent and consider bullet wounds as more formidable. From his experiences at Maritzburg Hospital and the general hospital, Mooi River, he finds them increasing in gravity in themselves and also more difficult to keep aseptic. The first is partly due to the Boer practice of splitting the ends of their bullets and making them expanding ones, and also to the closer range fighting of late. The difficulty of asepsis is probably due, not only to the thus increased severity of the wounds, but also to the greater hardships and their depressing effects, toward the close of the campaign. The cases he reports indicate, he thinks, that the Mauser bullet is not always so "harmless," "humane" or "merciful" a projectile as is supposed.

Recent Observation on Filaria Nocturna in Culex: Probable Mode of Infection in Man. GEORGE C. LOW.—The author concludes from his observations and examinations, that the transmission of the filaria from mosquitoes to man is probably directly through its bite. He found that in filariated mosquitoes, the parasite takes up a position in the proboscis, the head invariably in advance and generally two of them together tête-a-tête.

The Lancet, June 9 and 16.

Massage in Recent Fractures and Other Common Injuries. WILLIAM H. BENNETT.—In this second lecture, the writer treats of the uses of massage in fractures of the patella and the olecranon. The two principal points dwelt on are: 1. The avoidance under all circumstances of any change of the upper part of the fractured patella or olecranon becoming adherent to the subjacent bone, and this can be insured by massage and lateral manipulation combined with gentle flexion and extension, during which the detached fragment is made to move as much as possible with the distal portion of the limb, the lateral movement being most easily managed and least disturbing. 2. All manipulations and passive movements must be preceded by smooth rubbing of the muscles. In this way the best results are obtained in these fractures, though this does not preclude the usual necessary operative treatment. Following this, he speaks of the effects of immediate massage and manipulation in dislocations. Here the chief difficulty is not the ruptured tendon but the muscular contraction. The capsule will heal equally well whether the joint is done up in splints or is manipulated. The torn capsule may be ignored and work against muscle waste by massage commenced immediately after reduction, using smooth rubbing for the first two days, after which passive motion should follow the massage. This passive movement should be free in all directions, save the direction of the muscles which tend to waste. Thus, in case of the shoulder, abduction of the arm from the trunk should not be practiced for a week or ten days after the injury, as the action of the adductors unopposed for the time by the weakened deltoid, tends to displace the head of the humerus inward. The cardinal point is to rectify muscular atrophy by massage and methodical exercises, with or without electricity and not to shorten the lax capsule. The treatment of sprains, wrenches, etc., is similarly taken up and practical points suggested. The effusion can be reduced by massage, and later, passive movements may be employed. The first of these should be of the simplest kind, and the last movement to be practiced should be that which was concerned in the production of the injury.

Contribution to Knowledge of Uric Acid Salts. F. W. TUNNICLIFFE AND OTTO ROSENHEIM.—From their experimental studies the authors conclude: 1. There is no evidence of the existence of a third order of uric acid salts, i. e., quadriurates, either in the artificial or the natural amorphous urinary deposits or in the fluids of the body. Under these circumstances it is regarded as advisable to discontinue the use of the term "quadriurate." 2. The substances obtained artificially under the conditions supposed to produce quadriurates consist of mixtures of uric acid and biurates pure or in varying proportions. 3. Natural amorphous urinary deposits consist of a mixture of uric acid with urates of sodium, ammonium, potassium, calcium, and magnesium—containing in most cases in addition phosphoric acid. 4. The property of some natural and artificial amorphous urates of showing the formation of uric-acid crystals under the influence of water is due to the dissolving out of the more soluble biurate moiety and a change in physical state of the remaining uric acid. 5. Any theory concerning the pathology or treatment of gout or the uric-acid diathesis built on the assumption of the existence of quadriurates requires reconsideration. 6. The existence of two forms—the tautomeric lactam and the lactim—may explain the variation in the physical and physiologic behavior of this acid and its salts.

Management of Anesthetic Where Respiratory Impediment Exists. DUDLEY W. BUXTON.—The author reports three cases from which he lays down the following propositions as showing the need of caution in anesthesia and suggesting the remedies: 1. The individual patient possesses a certain respiratory power. Individuals differ greatly in this respect, and it is the business of the anesthetist to make himself acquainted with what may perhaps be termed the "personal respiratory equation of the patient." 2. This individual power of respiration is interfered with by every form of anesthetic, more by some than by others, but under any, the power of inspiration and expiration is lessened and in some cases to a very marked degree. 3. This lessened respiratory power may be of little or no consequence under normal conditions, but it becomes a factor of grave danger should any intercurrent cause of respiratory obstruction occur. For example, a delicate child breathing with difficulty through a blocked nasopharynx is placed under chloroform. The mouth is opened and the jaw is depressed while the tongue is forced back. The respiratory power would under these circumstances be wholly inadequate to overcome the increased difficulties of respiration. The child would die, and the death would be attributed to heart failure. The same occurs in cases of goiter, of malposition of the patient's body, of thoracic operation, etc. Thus it appears that all the cases cited fall into line and reveal to us not only the evident, but also the insidious, dangers associated with them.

Bulletin de l'Academie de Medecine (Paris), May 29

Human Hematolysin. METCHNIKOFF.—The research reported in this communication has been already cabled to the daily press as the discovery of a cure for leprosy. The subjects of the tests were lepers, as Carrasquilla in his serotherapy of leprosy inaugurated unwittingly these hemolytic experiments on man, and Metchnikoff utilized the results of this work as the first steps in the study of human hematolysis. His aim was to discover if it is possible to increase the resisting powers of the organism by stimulating blood-production. He had established that this could be accomplished in animals by minute, progressively increasing doses of a serum which in large doses destroyed the red corpuscles. Cautiously tested on four lepers, he found that hematopoiesis was increased as anticipated, without inconveniences or after-effects of any kind. Two other lepers were then treated, one with .5 c.c. of an extremely powerful hemolytic serum from a goat prepared with human blood, and the other with 5 c.c. of the same serum. After a brief preliminary period, in which the proportion of hemoglobin and red corpuscles fell below normal, they both increased to a marked extent in leper "A" for a few days and in leper "B" for three weeks, when a second injection was made without waiting for the subsidence of the effects of the first. Leper "A" was injected again in fifteen days with 3 c.c. of the same serum and leper "B" with 8 c.c. the second time. The effects were the same as at first: marked increase in hematopoiesis after a brief interval of decrease. The hemoglobin in leper "A" attained 120 to 125 per cent. The stimulating action of cellular toxins on the corresponding elements can thus be accepted as a general law. It establishes the possibility of augmenting the resistance of the tissues in case of need, but it by no means "cured the leprosy," and such an announcement is farthest from Metchnikoff's intentions.

Prophylaxis of Paludism.—The committee appointed for the study of malaria has drawn up a brief code of instructions for persons living or traveling in malarial countries. It states that a mixture of tar and petroleum is more satisfactory and durable than the latter alone, to pour on the surface of stagnant water to destroy the larvæ of the mosquito. The depth of the water need not be taken into account; 10 c.c. to the square meter is sufficient, applied early in the spring and renewed every fortnight. The larvæ are suffocated by obstruction of the air-passages with droplets of oil. Cisterns should be covered, or ordinary oil can be poured on the surface. Patients with malarial fever should be guarded with netting to prevent infection of mosquitoes.

Laparotomy for Retroversion of Gravid Uterus. Pinard.—In one case, the advanced pregnancy and in another an ovarian cyst rendered reduction impossible. The uterus was firmly lodged in retroversion. The laparotomy, performed by Mouchet, was successful in each case and pregnancy continued normally to term. The bladder and rectum should first be evacuated in such a case and every effort made to induce spontaneous reduction. If this fails, manual reduction through the vagina, with or without anesthesia, should be tried. A bulb inserted and inflated in the rectum is the only instrumental intervention permissible, unless laparotomy is indicated as a last resort.

Congenital Luxation of Hip-joint. Ducrocquet.—The Paci-Lorenz method of bloodless reduction of congenital luxation of the hip-joint includes early use of the limb by the patient, but radiography has shown that although the functional results may be satisfactory, the anatomic conditions are sometimes far from normal. Docrocquet considers this a technical blunder and has treated eight patients by applying the principle of immobilization in an over-corrected position for a few months afterward, with the result that not only the functional but also the normal anatomic conditions are restored, as far as can be determined by radiography.

Bulletin de la Soc. Med. des Hop. de Paris, May 31 and June 6.

To Determine Size of Heart by Radiography. M. A. Béclère.—There is one point in the radiograph or on the fluoroscope on which the rays fall perpendicularly. It is easy to determine this point and Béclère adjusts the tube until the perpendicular rays coincide with one edge of the heart. The tube is then moved in a parallel plane until perpendicular to the other edge; the distance between these two points, marked on the fluoroscope, is the exact diameter of the organ. He recommends placing the tube under the cot on which the subject reclines, or if he is seated, keeping the tube immovable and moving the patient and screen.

The Doubtful Ward at the Hopital des Enfants-Malades. Moizard.—More than 5000 children have passed through this ward in the last 4½ years, and only seven cases of contagion have been observed, six of measles, and one of diphtheria during the first month. The ward is divided by glass partitions and doors into twenty cells, each of which has a large window. The glass partitions do not quite reach the floor and are only 7½ ft. high, while the ceiling is more than twice this height. Each person entering the cell puts on one of several blouses kept constantly there and when he leaves dips his hands in a jar of a 1/1000 solution of mercury oxycyanid and, without wiping them, removes the blouse. The air circulates freely above and below, and yet aerial contagion has never occurred. Children with whooping-cough, with varicella and sometimes with other infectious diseases, are kept until recovery, as there is no place elsewhere for them in the hospital or on account of uncertain diagnoses. The glass walls of the cell prevent the children from feeling lonely in their isolation.

Echo Medical (Lille), June 3 and 10.

Conjugal Tabes. Ingelrans.—Babinski states that he has observed fifteen cases of conjugal tabes, and that there are thirteen on record in the literature. These experiences establish the existence of a special syphilis affecting predominantly the nervous system, irrespective of the soil. There must be, therefore, a variety of syphilis with a peculiar predilection for the nervous system, and persons deriving syphilis from this source are liable to have the nervous system affected. In the cases of "conjugal syphilis," in which both husband and wife may be assumed to have been infected from an identical source, if the syphilitic infection is of this essentially nerve-attacking variety, the manifestations will occur in the nervous system, but chance alone will determine whether they will appear as tabes, general paralysis or cerebral lesions.

Thermic Hyperesthesia in Neurasthenia. Ingelrans.—It has been established that hysteria may induce fever, and some writers claim that neurasthenia may produce the same phenomenon. Parisot and Ingelrans have been studying this "fever of neurasthenia" independently and have come to the same conclusion, proving that the rectal temperature remains normal or varies but a small fraction of a degree although the patients experience and appear to have fever. This phenomenon is due to a cutaneous vasodilatation which induces heat and is subjectively interpreted as fever by the abnormally acute perception of peripheral warmth peculiar to neurasthenic conditions.

"Head-stone" Extractors. H. Gaudier.—The expression "he has a stone in his head" has been applied for centuries to mentally unbalanced persons. The charlatans of Europe used to profit by the opportunity the term afforded them, and claimed to be able to cure insanity, epilepsy, etc., by removing the stone which was causing the trouble by pressure on the brain. They incised the scalp and by a sleight-of-hand maneuver produced a blood-stained pebble which they exhibited to the by-standers and pocketed their fee of the grateful relatives. An interesting old picture has recently been found in an obscure corner of the museum at Saint-Omer, attributed to a Dutch painter who died in 1569. It portrays such a scene with several charlatans at work and additional patients being brought in.

Journal de Medecine de Paris, June 3 and 10.

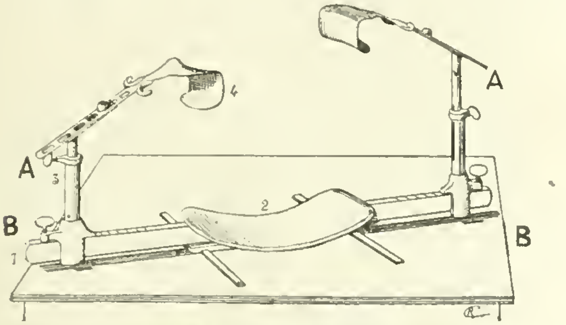
Iodin in Treatment of Tuberculosis. L. Jolly.—"The increasing predisposition to infectious diseases in general and to tuberculosis in particular, is due to the insufficient phosphatic mineralization of our food on one hand, and on the other, to the alteration of the intercellular nutritional functions, from some toxic cause, which hinders cellular reconstitution and leads to the fabrication of additional toxic substances." Jolly asserts that the therapeutics of tuberculosis, as generally practiced, does not meet these conditions, which he accomplishes with large doses of metalloid iodin in an unstable organic combination associated with the physiologic phosphates, i. e., of potassium, sodium and iron. He has treated a hundred patients by this method, with the most gratifying results, and has kept all under observation for seven to nine years. He commences with 5 cg. of iodin a day and increases the amount by 5 cg. each week until a maximum of 40 cg. a day is reached. This treatment is continued for six months and then at half the dose for more than a year. No inconveniences have been experienced and all his patients in the second stage of the disease have been cured and kept in good health for eight years, and have no detectable signs of their former affection. He resumes the treatment at the slightest suspicion of relapse, and always during a "cold." He advises commencing treatment at the first indication of a progressive tendency to tuberculosis, which is usually a rebellious false anemia. It differs from true anemia in its appearance at any age; the number of the blood-corpuscles is not altered, but they become deformed, and the hemoglobin a reddish-yellow. The complexion is a yellowish-white, instead of the milky-white of true anemia. There is also more or less pronounced emaciation with loss of strength and appetite.

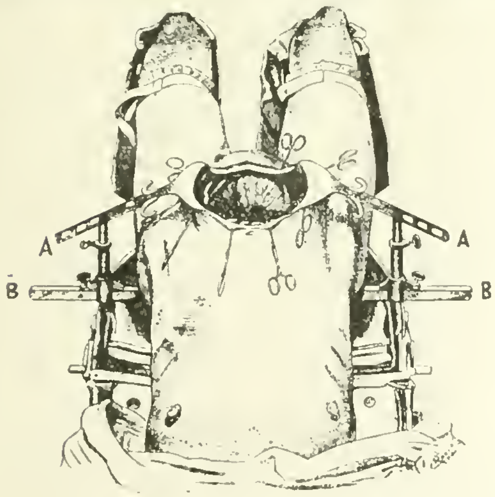
Medical Cure of Pulmonary Gangrene. Diamantberger.—The symptoms of pulmonary gangrene in a girl of 14 indicated an advanced stage of the lesion when first seen. An injection of 10 cg. of guaiacol in almond oil was made in the gluteal region every day, and a small rectal injection of twenty drops of the same solution was retained. The thorax over the cavity was painted with guaiacol and the rest of the body rubbed with camphorated alcohol. The symptoms rapidly improved to complete recovery. Ozenne has also reported a case of circumscribed pulmonary gangrene in a woman of 30, in which the patient recovered, with no special treatment except injections of artificial serum.

Presse Medicale (Paris), May 30, June 2 and 6.

Pneumococcemia Resembling Plague. E. Tretrop.—A dock hand at Antwerp had his finger crushed, and from this portal of entry the pneumococcus invaded his system, inducing a typical bubo in the axilla and symptoms of general sepsis which suggested the plague. He was, therefore, inoculated with 40 c.c. of antiplague serum from Paris, but no cultures could be derived except of a virulent pneumococcus. The inoculation of serum, however, produced an unmistakably beneficial effect and convalescence commenced in two or three days afterward. There were no respiratory symptoms at any time.

Automatic Abdominal Retractor. T. Jonnesco.—Forceps with five long teeth on one blade and four on the other—nine-toothed forceps—are applied, three on each side of the abdominal incision, holding the edges of the peritoneum, subcutaneous tissue and skin, drawing the peritoneum far over, to prevent oozing of fluids into the wound. The two retractors, "A," "A," are broad and mounted on standards set in a cross-piece, "B," on which the patient lies, holding the entire apparatus firm although it is not fastened to the table in any way. When the forceps are in place, the retractors are hooked over the edges of the wound, which they enlarge and hold without the aid of an assistant, opening the field wide to the light. As the apparatus is fastened only to the patient himself, it yields and moves with him, and he can completely alter his position without affecting the grasp of the retractors. At the same time, there is not the slightest injurious compression, as the pressure comes solely on the dorso-lumbar-sacral region behind, and on the lips of the wound in front. Jonnesco has found this simple apparatus extremely useful and recommends it for all abdominal operations.





Lesions of the Cortical Nerve-Cells. G. Marinesco.—The lesions studied in Marinesco's latest research are what he calls "achromatosis," and a coagulating necrosis with disintegration of the coagulated portions or "corpuscular formation." He considers the latter a manifestation of serious disorders in nutrition owing to disturbances in the circulation. He observed it constantly in encephalitis, in experimental myelitis, in hyperthermia and occasionally after ligature of the abdominal aorta. Another lesion which resembles this is partial coagulation of the cytoplasm, without disintegration: a dark band extends from the wall of the nucleus into the principal prolongation. In certain affections he noted atrophy of the nerve-cell, which had shrunk to a fraction of its former width. In achromatosis of the giant cells of the pyramids, the protoplasm does not stain, but resembles ground-glass in its appearance; the nucleus is atrophied and homogeneous. He explains this by the abrupt dissolving of the chromatophile elements, loss of the affinities between the elementary granulations and their gradual disappearance by absorption or elimination. In normal conditions there is probably a dual current between the fluids in the nucleus and in the cytoplasm. When the normal balance between them is disturbed from any cause, if the fluid inside the nucleus is drawn out, the pressure from within is removed and the membrane of the nucleus retracts, leading to atrophy and "homogeneization" of the nucleus, and even of the nucleole. Any cause that tends to disturb the balance between the fluids in the cell is liable to induce this lesion, and it was found constantly, as anticipated, in acute and chronic inflammations of the brain and spinal cord, in slow obliterations of cerebral arterioles, etc. Another interesting fact noted by Marinesco was the phagocytic behavior of the cells of the neuroglia in most of these lesions of the nerve-cells, especially when the achromatic substance or the nucleus was affected. He believes that the nutritional balance between the different elements of the nervous system is maintained by the secretion of certain toxic substances produced by the nerve-cell, substances which prevent the excessive development of the neuroglia-cells and regulate the nutrition of the tissues. When the nerve-cell degenerates, these substances are no longer produced and consequently, the regulating function—which controlled the nutrition of the tissues—ceases to act. He maintains his former classification of primary and secondary lesions of the nerve-cells. Those described above are what he calls primary; the secondary lesions are due mostly to chromatolysis.

Significance of Persistent Chubbiness. L. Azoulay.—When a child or youth retains his chubbiness, especially of the face, at an age when other children or youths have lost theirs, it is an indication that the organism is correspondingly backward in its development, and should arouse apprehension in respect to the development of the sexual organs and the psychic faculties. Such young persons should not be forced in school or work, but should be kept in the country and every means taken to favor their physical development.

Early Diagnosis of Deafness with Paracoustic Test. P. Bonnier.—A person with normal hearing does not hear a tuning fork distinctly when it is placed on a remote part of the body, but a deaf person perceives the sound more distinctly than when the fork is vibrating on a level with his ear. It has been Bonnier's experience that a positive result with this paracoustic test invariably indicated an aural lesion entailing the prognosis of progressive deafness, sure to appear sooner or later, unless the lesion were cured without delay.

Semaine Medicale (Paris), May 30 and June 6.

Acid Intoxication in Diabetes. A. Jaquet.—We must not wait for onset of coma before we commence to neutralize the excess of acid in the blood in diabetes. Whenever the general appearance of the patient, or examination of the urine, indicates that coma is imminent, sodium bicarbonate should be administered in sufficient quantities—30 to 40 gm. a day. The proportion of ammonia in the urine affords a certain test by which to relax or accentuate the treatment. This alkaline treatment does not cure the disease, but it prolongs life and prevents accidents. Thirty-six observations are on record.

In 8 the alkaline was administered entirely or partially in the form of artificial serum—8½ liters in one case—with two successes. In the 28 other cases, the treatment was successful in 7; there was transient improvement in 7, and failure in 14. In a number of these cases the treatment was notoriously insufficient—what are a few grams of bicarbonate in comparison to the quantities of oxybutyric acid which Magnus-Levy has established? In others the alkaline was suspended after the subsidence of the most alarming symptoms, and resumed too late. The effect was most beneficial when administered at the commencement of the coma.

Centralbatt f. Chirurgie (Leipsic), June 9 and 16.

Chirol. New Method of Sterilizing Hands. R. Kossmann.—A Berlin firm has finally succeeded in producing a material composed of certain resins, oils, ether and alcohol, which when applied to the hands, dries in two or three minutes and forms a thin, strong, impermeable covering not interfering in the least with the sense of touch or the movements of the fingers. The entire field of operation can be easily sterilized in this way, also the hands of assistants and attendants. The varnish is not affected by water, solutions of sublimate or chinosol, nor even by 5 per cent. formalin, but washes off readily in alcohol. Kossmann mentions that after dipping three fingers in chirol he played a game of ten-pins and the coating showed no signs of wear until after he had rolled his twentieth heavy ball. It protects the operator against receiving as well as imparting infection, and "if midwives were compelled to use this inexpensive substance, a great boon would be conferred upon humanity."

Stereoscopic Views. H. Hildebrand.—The difficulty of taking stereoscopic radiographs has prevented the general use of this method, which is exceptionally valuable for the investigation of congenital luxations of the hip-joint. To facilitate its application Hildebrand has contrived a plate-holder to take two radiographs without disturbing the subject. The top is made of stout cardboard, but only the middle third is exposed; the rest is covered at each end with a sheet of zinc. cardboard. This part is then pushed along under the zinc, exposing the other half. The tube is also moved 7 cm. in a parallel plane. The two negatives thus obtained are photographed side by side at the proper distance—7 cm.—to adapt them to the size of an ordinary stereoscope. The views are amazingly accurate and life-like, enabling the conditions in the hip-joint to be determined with almost mathematical exactness.

Deutsche Medicinische Wochenschrift, May 31, June 6 and 13.

Permanent Canula for Carcinoma of Esophagus. C. A. Ewald.—The points of special interest in this case-report are the benefits of fastening the permanent sound by drawing the strings through the nostrils and tying them across the septum of the nose, instead of to the ears. Another point is the possibility that the stenosis may become impermeable for a sound, owing to the winding course of the passage, long before the ability to swallow fluids is lost.

Hysteric Deafness. E. Barth.—Notwithstanding absolute bilateral deafness, unconscious musical tone-perception may be retained, as in the following observation: The child always followed the key set by the piano and also the tempo, if gradually changed, but was unable to consciously hear a sound. Her deafness was the result of a fright, and disappeared suddenly during the night after a few weeks. Barth concludes that there must be an acoustic center, "below the threshold of the consciousness."

Loss of Brain Substance Without Functional Disturbances. A. Gutmann.—A lad of 12 was caught between two ox-carts and his right temporal region crushed with the loss of three fragments of brain matter the size of a lentil seed and another the size of a walnut. He recovered without a trace of functional disturbance.

Relapses. Lippmann.—After recovery from an infectious disease some of the germs may still linger in the organism, encapsulated in an inflammatory reactive process, where they may remain harmlessly imprisoned for years or become liberated by a trauma affecting the region, by some violent emotion or exposure to cold. In the latter cases the blood, driven inward from the periphery by the emotion or cold, would scarcely have power to break the wall of the capsule, but when the reaction follows and the blood surges back to the periphery, it leaves a vacuum in which the wall of the encapsulated focus may succumb to the negative pressure. He describes some typical instances of relapses after infectious diseases, in which this mechanism was clearly evident, among them a case of erysipelas recurring after every fit of anger, and another of scarlet fever in which a ganglionary enlargement in the neck persisted for several weeks after recovery. It was then treated with hot cataplasms, resulting in its complete subsidence in twenty-four hours, with the simultaneous return of the scarlet fever, eruption and temperature. In another instance an abscess developed from a latent focus of osteomyelitis after trauma, although thirty years had elapsed since the last perceptible manifestation of the morbid process.

Benefits of Hot Baths in Climacteric Disturbances. Gottschalk.—Sweats and "hot flashes" consecutive to removal of the uterus and adnexæ, were uninfluenced by organotherapy in the two observations described but they promptly subsided after a few hot baths of twenty minutes each, with 5 pounds "Stassfurt salts" dissolved in the water, taken just before retiring. In a number of cases in the writer's experience a month of these baths completely cured all the climacteric disturbances. He ascribes the benefit to the dilatation of the peripheral vessels which they induce. This relieves the arterial pressure, probably excessive on account of the absence of the menstrual flux.

Dangers of Lumbar Puncture. F. Gumprecht.—Fiften instances have been reported in which death followed lumbar puncture, and although it was a mere coincidence in a few cases, yet in large proportion, an evident connection between the intervention and the fatal termination could not be excluded Gumprecht adds two new observations to the list, and on reviewing these and the rest on record, he finds that the fatal cases were almost invariably persons with tumors of the brain, and especially in the posterior fossa. Even before the puncture the patient showed symptoms of cerebral pressure, and the pain in the head increased to such an unbearable degree that the attempt was abandoned in several instances. The pressure of the cerebrospinal fluid was not always excessive: occasionally it fell to zero after 5 c.c. had been withdrawn but usually about 50 c.c. escaped under high pressure. In most of the fatal cases death followed the puncture within a few minutes; when delayed, the headache continued, with loss of consciousness and sopor for several hours, then abrupt cyanosis and cessation of respiration, although the heart continued to beat for nearly an hour with artificial respiration. Certain experiences seem to indicate the possibility that trephining and puncture of the ventricle might supplement artificial respiration and save the patient. The primary paralysis of respiration may be due to disturbance of the hydrostatic balance with consequent injury of the respiration center or its conducting fibers. The heart action subsides very gradually. In the cadaver, the cavities of the central nervous system toward the brain from the tumor were found enlarged, while toward the spinal cord they were smaller than usual. The point of obstruction between the cerebral and spinal lymph was either at the aqueduct—due to the direct pressure of the tumor—or at the foramen of Majendie, from a plug of cerebellum having been forced into the opening.

Muenchener Medicinische Wochenschrift, June 5 and 12.

Changes in Urine After Palpation of Kidney. C. Menge.—In fourteen out of twenty-one cases of nephroptosis, investigation with palpation of the kidney caused the appearance of slight, transient albuminuria and hematuria, leading to erroneous deductions in respect to the prognosis until it was noticed that the urine had returned to normal when examined the next day and afterward. In Menge's experience nephroptosis and chronic anemia are frequently associated in young girls and mutiparæ. This suggests a connection between the anemia and the slight albuminuria and hematuria, which is possibly induced by the pressure of tight clothing on an abnormally exposed kidney, the same as by palpation. Cyclic and intermittent albuminuria are most frequent at the age of rapid growth, especially in poorly nourished individuals. The albuminuria usually appears on rising after prolonged rest in bed, i. e., when the kidney descends and the pressure of the clothing is again experienced. All these morbid conditions are best influenced by protecting the kidneys against pressure from without. Massage of the kidneys and trusses with kidney pads should be avoided in nephroptosis.

Hemoglobinuria in Splenomegalic Icterus. BETTMANN.—The symptoms in the observation reported corresponded to Hayem's "chronic, infectious splenomegalic icterus," but there was also occasional, intermittent hematuria. The affection had commenced in childhood: the icterus was pronounced and chronic, the liver apparently normal on auscultation and palpation, but the spleen measured 16 by 27 cm. The exacerbations of the icterus were always consecutive to excesses in eating or drinking, emotions, physical exertion, such as marching or dancing, or to cold. This sequence suggested paroxysmal hemoglobinuria and hemoglobinemia as important factors in the etiology of the affetion. The primary cause is possibly a congenital idiosyncrasy of the blood, allowing the more or less continuous passage of small amounts of hemoglobin into the serum. They are disposed of in the organism and do not pass into the urine except under certain rare circumstances. This hypothesis explains the exacerbations of the icterus and the hypertrophy of the spleen, which is evidently enlargement from deposits of the waste of the red corpuscles. No bile pigment was detected in the urine during the entire year of observation and the patient was subjectively well except during exacerbations, which were usually inaugurated with a chill and pains in the trunk and extremities. [Gilbert and Fournier have recently described a somewhat similar case of what they call hypersplenomegalic biliary cirrhosis, characterized by chronic icterus, enormously hypertrophied spleen and comparatively slight enlargement of the liver. They attribute the etiology to an ascending, infectious angiocholitis, primarily a biliary affection due to invasion of the intrahepatic passages by intestinal micro-organisms. The spleen may increase to a length of 30 cm. Hepatic colic was the first manifestation. See THE JOURNAL, xxxiv, 1675.—ED.]

Calcium Carbid in Carcinoma of Uterus. W. GRUSDEW.—Scarcely a day passes that a patient with inoperable carcinoma of the uterus is not brought to Grusdew's clinic. The more extensive his experience, the higher is his appreciation of calcium carbid as a palliative measure in these cases. He places one or two pieces of the carbid, the size of a hazel-nut, on the neoplasm and packs the vagina with gauze tampons over a cotton wad, protecting the vaginal walls from the chemical action, which consists in the generation of acetylene, etc. The vagina is not packed so tightly as to interfere with micturition or escape of the gas. The patient is then dismissed. In one to three days the vagina is rinsed out, and the application is renewed, whenever hemorrhage or fetid discharges render it necessary. One application transforms the surface of the neoplasm into a clean wound which bleeds very little if at all. The secretion is diminished and rendered odorless and there is no danger connected with the treatment if ordinary precautions are observed. Grusdew recommends it as a preliminary measure to cleanse the surface of the carcinoma before cauterizing, and he has found it extremely beneficial in curing erosions and benign ulcerations of the vaginal portion of the uterus. In the latter case it is applied in the form of powder.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., June 7 to 21, 1900, inclusive:

William Alden, acting asst.-surgeon, from Lynn, Mass., to duty in the Department of California.

Bailey K. Ashford, lieutenant and asst.-surgeon, U. S. Army, from Washington Barracks, D. C., to duty at Fort Slocum, N. Y.

Lewis Balch, major and surgeon, Vols., honorably discharged from the service, to take effect July 15, 1900.

Edmund Barry, acting asst.-surgeon, from Fort Wadsworth to Fort Slocum, N. Y., to accompany recruits to San Francisco, Cal., and return to his proper station.

Robert M. Blanchard, acting asst.-surgeon, from Batavia, Ohio, to duty in the Department of California.

Madison H. Bowman, acting asst.-surgeon, from Toledo, Ohio, to duty in the Department of California.

Louis Brechemin, major and surgeon, U. S. A., sick-leave extended.

Charles E. Bruuhl, acting asst.-surgeon, from Waco, Texas, to Tampa, Fla., and thence to Havana, Cuba, for assignment.

Edward C. Carter, major and surgeon, U. S. A., member of an examining board at Washington, D. C.

Robert P. Cooke, acting asst.-surgeon, from Boyce, Va., to Tampa, Fla., and thence to Havana, Cuba, for assignment.

Orlando Ducker, major and surgeon, Vols., leave of absence granted; relieved from further duty in the Division of Cuba, and on expiration of his leave of absence to report at San Francisco, for duty in the department of California.

Arthur M. Fraser, acting asst.-surgeon, from Washington, D. C., to New York City, to join the transport *Crook*

Leigh A. Fuller, lieutenant and asst.-surgeon, U. S. A., from Fort Monroe, Va., to report to the commanding general, Deparment of California, for further orders.

Edward F. Gettings, acting asst.-surgeon, from duty at Fort Hood, N. Y., to proceed by the first available transport to Santiago, Cuba.

Frederick F. Jenkins, acting asst.-surgeon, from Carbondale, Pa., to duty in the Department of California.

Frank R. Keefer, major and surgeon, Vols., having tendered his resignation, is honorably discharged from the volunteer service, to take effect June 15, 1900. As captain and asst.-surgeon, U. S. A., leave of absence is granted, on the expiration of which he is required to report for duty at Fort Monroe, Va.

James C. Merrill, major and surgeon, U. S. A., member of an examining board at Washington, D. C.

Albert Moser, acting asst.-surgeon, from Lima, Ohio, to the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of an examining board at Washington, D. C.

Eduardo C. Poey, acting asst.-surgeon, from temporary duty at Fort Riley, Kans., to accompany a detachment of the 6th U. S. Cavalry to Manila, P. I., and on arrival to report for duty in the Division of the Philippines.

William W. Quinton, captain and asst.-surgeon, U. S. A., from New York City, to duty at Fort Ethan Allen, Vt.

Charles J. Rowan, acting asst.-surgeon, from Chicago, Ill., to the Department of California.

Louis S. Tesson, major and surgeon, U. S. A., from Fort Ethan Allen, Vt., to duty at Vancouver Barracks, Wash.

Harry H. Van Kirk, acting asst.-surgeon, from Sunbury, Ohio, to the Department of California.

Samuel M. Waterhouse, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending June 23, 1900.

P. A. Surgeon A. R. Alfred, detached from the *Texas* and ordered to the Asiatic Station, via the *Nippon Maru* sailing from San Francisco, Cal., July 10.

P. A. Surgeon G. A. Lung, order of May 25, modified; ordered to the Cavite naval station.

The following are commissioned assistant-surgeons, to take rank from June 7, 1900, in the order named: J. J. Snyder, H. A. Dunn, A. Stuart, E. M. Blackwell, W. H. Ulsh, M. V. Stone, C. R. Burr, G. F. Freeman, R. O. Marcour, J. K. Payne, Jr., J. Stepp, C. H. DeLancy, F. M. Bogan, R. K. McClanahan, W. E. G. High.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending June 21, 1900.

Surgeon H. R. Carter, detailed as chief quarantine officer of the Island of Cuba.

Surgeon A. H. Glennan, relieved from duty at New Orleans, La., and directed to proceed to Havana, Cuba, via Washington, D. C., and New York City, and report to Surgeon H. R. Carter for duty.

Surgeon Eugene Wasdin, granted leave of absence for 10 days from June 21.

Surgeon G. M. Magruder, upon being relieved from duty at London, England, to proceed to Memphis, Tenn., and assume command of the service.

P. A. Surgeon A. C. Smith, relieved from duty at Hamburg, Germany, and directed to proceed to New York City, and report by wire for orders.

P. A. Surgeon Rupert Blue, relieved from duty at Genoa, Italy, and directed to proceed to New York City, and report by wire for orders.

P. A. Surgeon J. H. Oakley, relieved from duty at Queenstown (Cork), Ireland, and directed to proceed to Evansville, Ind., and assume command of the service.

P. A. Surgeon E. K. Sprague, relieved from duty at Antwerp, Belgium, and directed to proceed to Detroit, Mich., and report to medical officer in command for duty and assignment to quarters.

P. A. Surgeon A. R. Thomas, relieved from duty at Rotterdam, Netherlands, and directed to proceed to London, England, and detailed for duty in the office of the U. S. Consul-General at that place.

P. A. Surgeon H. W. Vickes, relieved from duty at Glasgow, Scotland, and directed to proceed to Cincinnati, Ohio, and assume command of the service.

P. A. Surgeon J. B. Greene, relieved from duty at Bremen, Germany, and detailed for duty in the office of the U. S. Consul-General at Berlin, Germany.

Asst.-Surgeon H. S. Grubbs, relieved from duty at Havre, France, and detailed for duty in the office of the U. S. Consul-General at Paris, France.

Asst.-Surgeon H. B. Parker, upon being relieved from duty at Santiago, Cuba, to proceed to New Orleans, La., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon R. H. Von Ezdorf, relieved from duty at Savannah, Ga., and detailed as quarantine officer at the port of Santiago, Cuba, proceeding to station via Washington, D. C. and New York City.

Asst.-Surgeon J. F. Anderson, relieved from duty at Marseilles, France, and detailed for duty in the office of the U. S. Consul-General at Vienna, Austria.

Asst.-Surgeon W. C. Hobdy, relieved from duty at Southampton, England, and directed to proceed to New York City, and report by wire for orders.

Asst.-Surgeon J. W. Schereschewsky, directed to assume temporary command of the service at New Orleans, La.

Acting Asst.-Surgeon W. H. Marsh, granted leave of absence for 18 days from June 5.

Acting Asst.-Surgeon W. C. Mason, granted leave of absence for 5 days from June 24.

Hospital Steward W. F. Schlaar, relieved f rom duty at the port of Washington, D. C., and directed to report to Surgeon L. L. Williams, Immigration Depot, New York City for duty.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Marine-Hospital Service, during the week ended June 23, 1900:

SMALLPOX—UNITED STATES

District of Columbia: Washington, June 9-16, 8 cases.

Illinois: Cairo, June 2-9, 1 case.

Indiana: Evansville, June 8-16, 2 cases.

Iowa: Ottumwa, April 28 to May 5. 1 case.

Kentucky: Covington, June 8-16, 9 cases.

Louisiana: New Orleans, June 8-16, 35 cases, 6 deaths; Shreveport, June 2-9, 5 cases.

Massachusetts: Fall River, June 8-16, 3 cases; Lowell, June 8-16, 3 cases.

Michigan: Grand Rapids, June 8-16, 2 cases.

Minnesota: Minneapolis, May 26 to June 9, 26 cases, 1 death.

New Hampshire: Manchester, June 8-16, 9 cases.

Ohio: Cleveland, June 8-16, 28 cases, 2 deaths; Youngstown, June 8-16, 1 case.

Pennsylvania: Pittsburg, June 8-16, 2 cases.

Porto Rico: Ponce, May 27 to June 4, 1 case.

South Carolina: Greenville, June 8-16, 2 cases.

Utah: Ogden, May 1-31, 3 cases; Salt Lake City, June 8-16, 5 cases.

Washington: Spokane, June 8-16, 1 case.

West Virginia: Charlestown, June12, 10 cases.

SMALLPOX—FOREIGN.

Austria: Prague, May 28 to June 2. 11 cases.

Belgium: Antwerp, May 19-26, 1 case, 3 deaths.

Brazil: Rio de Janeiro, April 13 to May 11, 18 deaths.

Canada: Montreal, June 4, 30 cases.

England: Liverpool, May 26 to June 2, 2 cases; London, May 26 to June 2, 7 cases.

France: Nice, May 26 to June 6, 3 cases; Paris, May 26 to June 2, 1 death.

Germany: Stettin, May 19-26,1 case.

Gibraltar: May 20-29. 4 cases.

Greece: Athens, May 19-26, 4 cases, 2 deaths.

India: Bombay, May 8-13, 24 deaths; Kurrachee, May 6-13, 11 cases, 9 deaths; Madras, May 5-11, 1 death.

Mexico: Chihuahua, June 2-9, 2 deaths; Vera Cruz, June 2-9, 2 deaths.

Philippines: Manila, April 28 to May 5, 2 cases.

Russia: Moscow, May 19-26, 9 cases, 4 deaths; Odessa, May 26 to June 2, 11 cases, 1 death; St. Petersburg, May 19-26, 33 cases, 12 deaths; Warsaw, May 12-19, 2 deaths.

Spain: Corunna, May 26 to June 2, 1 death; Madrid, May 5-19, 21 deaths.

Straits Settlements: Singapore, April 26 to May 5, 5 deaths.

Uruguay: Montivideo, April 21 to May 5. 2 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 13 to May 11, 46 deaths.

Colombia: Barranquilla, May 26 to June 2, 5 cases, 3 deaths.

Cuba: Havana, June 2-9, 2 deaths.

Mexico: Laguna, 16, present; Vera Cruz, June 2-9, 17 cases, 10 deaths.

CHOLERA.

India: Bombay, May 8-15, 15 deaths; Kurrachee, May 6-13; 2 cases; Madras, May 5-11, 1 death.

PLAGUE.

India: Bombay, May 8-15, 304 deaths; Kurrachee, May 6-13, 178 cases, 134 deaths.

Japan: Osaka, May 13-25, 6 cases; Shidzuoka, May 14-17, 3 cases.

Philippines: Manila, April 28 to May 5, 9 cases, 7 deaths.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada, Mexico, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive the Journal free. Subscribers to the Journal may become members of the Association without expense if they are members of medical societies recognized by the Association, and those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to the Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal, unless a definite understanding be had to the contrary.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but, as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by the Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new address be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, JULY 14, 1900 No. 2

Original Articles.

THE RELATION OF ETHYL ALCOHOL TO THE NUTRITION OF THE ANIMAL BODY.*

WINFIELD S. HALL, Ph.D., M.D.
Professor of Physiology, Northwestern University Medical School.
CHICAGO.

Within the past year much has been said and written about alcohol. The daily press, the school periodicals and the medical journals have abounded in articles treating of various phases of the alcohol question. Professor Atwater's calorimeter experiments and his arraignment of the school text-books, together with the controversy regarding the army canteen, have reopened afresh questions which were supposed to be practically settled.

Most extended and trustworthy experiments have been performed in respiration-calorimeters by numerous investigators in Europe, and several European governments have made exhaustive experiments with alcohol in their armies; but a scientific question is never settled as long as new evidence is forthcoming, and all fair-minded people are open to conviction on all controversial questions.

The writer brings report of no new experiments; but attempts simply to discuss work done by others and to determine from these almost innumerable experiments and observations the relation of ethyl alcohol to the nutrition of the animal body.

So much work has been done in the last few years upon the subject of nutrition that it seems wise to give a brief résumé of the theory of nutrition as now understood by physiologists.

THE NATURE OF THE NUTRITIVE PROCESSES.

No adequate or acceptable theory of nutrition can leave out of account the work of Hertwig and the still more recent work of Verworn and Wilson on the cell. Physiologists now universally believe that the cell is the scene of all vital processes. The essential processes of nutrition are the metabolic changes which take place within the cells of the body, all other steps of nutrition are either antecedent or succeedant accessories. The antecedent accessories of nutrition are the preparation of food, its mastication, its deglutition, its digestion, its absorption, its distribution by the circulatory system, and its selection by the individual cells from the capillaries direct, or from the tissue plasma.

The cytologists tell us that cell-protoplasm is not a homogeneous substance, but that it has a complex structure, and a chemistry as complex as its structure. The cell-plasm or cytoplasm is that portion of the protoplasm outside of the nucleus, whose substance is called nucleoplasm. The cytoplasm is composed of a reticulum (spongioplasm) whose meshes are filled with a liquid (cytolymph). Inclosed within the meshes of the reticulum are innumerable trophoplasts or plastids.

The part which the complex nucleus plays in nutrition is so little understood that a discussion of probabilities may be omitted from this brief paper.

All motor activity as well as all chemical activity seems to be the attribute of the spongioplasm and its associated microsomes and plastids. The function of the plastids is to build up starch, chlorrophyll, pigments, and probably many other substances from simpler compounds. In other words, it is known that plastids function in the building-up chemical process of anabolism. It is just as certain that the microsomes are also active in anabolism, because all secreting glands and all nerve-cells become more granular during rest, i. e., the granules are replenished by anabolic processes. When motion has been observed it is the spongioplasmic threads and fibers that are manifestly the active agents, while the cytolymph, which fills the meshes of the spongioplasm, is perfectly passive.

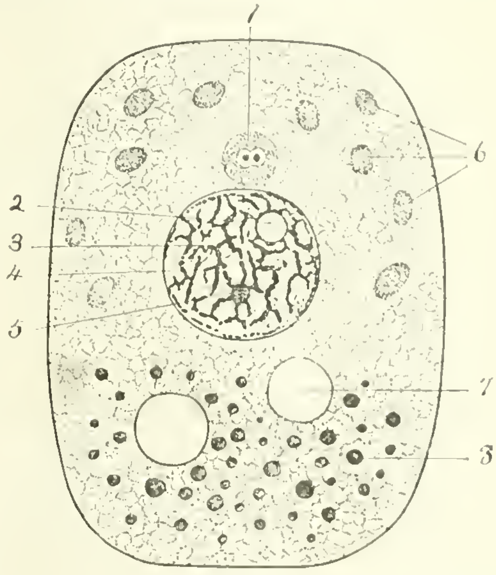


Diagram of a cell. (After Wilson.) The protoplasm of the cell may be divided into cytoplasm (cell-plasm) and nucleoplasm. Note that the cytoplasm is composed of a network (spongioplasm) in the meshes of which there is the clear cytolymph. The supposed relation between spongioplasm and cytolymph is discussed in the text.

1. Attraction Sphere inclosing the Centrosomes.

2. Plasmosome or true nucleolus; 3, Chromatin-network, 4, Linin-network; 5, Karyosome or net-knot.—Nucleus.

6. Plastids lying in the cytoplasm.

7. Vacuole.

8. Lifeless bodies (metaplasm) suspended in the cytoplasmic reticulum.

The observed facts indicate: That the spongioplasm is active and the cytolymph passive; that the spongioplasm and its associated microsomes and plastids are built up from the cytolymph, which is simply the cell-sap or cell-food; that the spongioplasm is a practically homogeneous living substance, while the cytolymph, representing the absorbed food-supply, is naturally a simple mixture of proteids, carbohydrates, fats and various salts, the whole made fluid by a large percentage of water.

---

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

All foods are selected by the cells from the surrounding medium and made a part of the cytolymph at first. Later they may or they may not be built up into spongioplasm. But in any case all foods are cell-builders, and if cell-builders, therefore, tissue-builders incident to their assimilation by the cell.

Physiologists and biologists[1] believe that all foods are built up into protoplasm; that is, they are selected and made a part of the living cell. That all of the dextrose and fats are actually built up into spongioplasm may or may not be true. If the dextrose is not anabolized into spongioplasm before it is oxidized, then the spongioplasm has the power of taking up the dextrose molecules and causing their oxidation, thus deriving heat energy; or, in the case of muscle-tissue, heat energy and motor energy.

There are strong reasons for believing that most of the dextrose is oxidized without being first built up into spongioplasm. If such is the case, then the relation of the living spongioplasm to the non-living cytolymph is that of an organized ferment to its medium. The spongioplasm may, therefore, be itself catabolized or it may act as a ferment and cause the catabolism of the foods of the cytolymph.

Now some of the cells of the body have to do work outside of their cell-body. The glandular cells of the alimentary tract secrete enzymes (unorganized ferments) which are poured out into the alimentary canal, where they induce hydrolytic cleavages of the ingested food-stuffs, thus preparing them for absorption and assimilation. A hydrolytic cleavage is a catabolic change. No anabolic changes may take place outside of living cells through the agency of secreted enzymes.

Among the catabolic changes which take place through secreted enzymes are oxidations. Under certain unusual circumstances sugar is oxidized in the blood by an enzyme called by Green[2] "oxidase." The body is constantly subject to the invasion of certain toxic substances like ptomains and various plant alkaloids. It has the power, within certain limits, of making these bodies harmless by oxidizing them. This is one of the protective agencies which the organism possesses. The system possesses two means of defence against harmful invasion: 1, the leucocytes defend it against bacterial invasion; 2, "oxidases," and, perhaps, other enzymes, in the blood defend it against ptomains, toxins, and allied deleterious substances. These defences are of inestimable importance to the organism, but their action is limited.

All intracellular catabolism is under the control of the organism because the action of each cell is controlled by the nervous system. All extracellular catabolism is independent of the nervous system and is, therefore, only indirectly under control. Once an enzyme is secreted it will continue to induce certain chemical changes as long as the physical conditions are favorable, wholly independent of the nervous system.

Having thus briefly reviewed some of the fundamental principles of nutrition, it is necessary that we next outline some of the conditions which a true food must fulfill.

WHAT IS A FOOD?

It is probable that in no other concept which man may wish to define does he get so much assistance from Nature as in the case of the term "food." In fact, Nature gives a very clear-cut and unambiguous definition of a food. Fortunately, she repeats this definition for every different branch of the plant and animal kingdom, so that there shall be no misunderstanding.

Nature says that the food for young mammals shall be milk. What is milk and what office does it serve in the body of young mammals? Milk consists of two kinds of protein, of fat, milk-sugar, inorganic living cells of the young growing body, and built up by them into living cell-protoplasm. Incident to the vital processes of the young mammal, portions of the cell substance are constantly being catabolized, or decomposed into simple substances. Oxygen plays an important rôle in this catabolism, and energy is liberated in the form of heat, or mechanical motion, or nervous energy, or secretory energy. Under the influence of this food the young mammal increases in size and strength.

Nature says that the food for young birds, reptiles, frogs, and fishes shall be eggs. Eggs consist of protein, of fats, of inorganic salts and water. Egg material is able to furnish all that the young bird, reptile, frog or fish needs for the early stages of his growth and development. The protein furnishes the nitrogenous compounds necessary for building up the active portion (spongioplasm) of every living cell, while the fat furnishes a non-nitrogenous portion of food, also taken within the cells of the growing animal and used there, by the active protoplasm of the cells. Eventually it is oxidized and yields its energy to the body as active heat or motor energy.

Nature's food for the young corn-plants is the matter stored away in the corn-grain by the mother-plant. This food consists of protein, carbohydrates, fats, inorganic salts and water.

For each of the different organisms mentioned above Nature supplies only one source of food. The young mammal has no alternative. It must take milk or starve. The young bird or reptile must take egg or nothing. When we subject the animal body to chemical analysis we find that it is composed of water and solids; we find that the solids are in turn composed of organic and inorganic compounds; the former comprising proteins, carbohydrates, fats, with various extractives representing products of tissue decomposition not yet excreted from the system when the animal met death. The inorganic salts represent the mineral matter of the bones, the salts of the blood and lymph, as well as tho of the tissues in general. If we make analyses of various animal organisms we shall find the tabulated results strikingly similar for all classes of animals. If we make analyses of various foods which Nature provides for the young of these various animals we shall find, 1, that there is a striking qualitative similarity in the analyses; and 2, that the food analyses are strikingly similar to the analyses of the animals which they are to nourish—whole tissues they are to build up or to repair.

These coincidences are not the result of chance. Nature follows laws graven in the very foundation of living matter. Protoplasm can use as food only substance which it can bring within its cell-walls as a constituent of cell-sap (cytolymph). Though the food-stuff forms a portion of the cytolymph of the cell, it must still undergo anabolic or assimilative changes before it becomes a part of the living, moving, active, spongioplasm of the cell.

Are we now in a position to define a food in harmony with Nature's definition? Let us not attempt a brief word formula, but simply state a few of the conditions which a food must satisfy.

1. A food must be digestible and absorbable by the organism which it is to nourish.

2. A food must be assimilable by the living cells of the organism which it is to nourish. By these cells it is first made a constituent of the cytolymph, where it is held in temporary reserve for use by the acting, moving, spongioplasm, or, perhaps, by the nucleus of the cell. Incident to the assimilation of a food it will build up new tissue. It is customary for physiologists to differentiate between the building-up of new tissue and the repair of old tissue. This distinction is wholly gratuitous and unnecessary. New protoplasm is being built from the foods of each meal, old protoplasm is being catabolized or decomposed constantly. If the new protoplasm formed balances the old protoplasm decomposed, it is said that "the repair balances the waste." If the accretion exceeds the excretion, it is said that "the wastes are repaired and there is a balance for growth."

3. All assimilated foods, i. e., all living tissues, undergo catabolic changes accompanied by oxidation. This is nearly the equivalent of saying all assimilated foods are oxidized within the body; yet there is an important technical difference which makes the first statement more acceptable to the physiologist.

4. All of the energy which the animal organism can advantageously use is liberated incident to the catabolism of assimilated foods.

5. The energy which a food supplies must be liberated at such a time and place as to be beneficial and advantageous to the organism.

6. No substance can be recognized as a food which is not properly absorbable and assimilable, and whose catabolism or oxidation is not so controlled in time and place —i. e., co-ordinated—as to be advantageous to the system.

Let me quote the great physiological chemist, Bunge, on this point[3]: "It is not enough to prove that potential chemical energy is changed into kinetic energy. The oxidation must take place at the right place, i. e., at exactly the right stage in the activity of particular tissue-elements. It must be demonstrated that the kinetic energy liberated can be utilized in the performance of a normal function, otherwise the substance oxidized is not a food."

WHAT IS ALCOHOL?

It is unnecessary to discuss the chemistry of alcohol before this audience. It is universally recognized that its chemical formula and its various chemical relations are sufficiently different from those of any of the recognized foods that it must be put into a class by itself if it is admitted into the select company of the foods.

It is the essential nature of alcohol that I wish especially to discuss here. Alcohol is formed from sugar by the yeast plant. The yeast plant is a fungus. No fungus is able to build up organic substances from inorganic ones; that function is performed by green plants alone. Fungi (and bacteria) live upon the same substances as those that form the food of animals. Their metabolic processes are similar to those of animals. The yeast plant eats sugar and assimilates it into its cell protoplasm. It catabolizes this differently under different circumstances. If there is an abundance of oxygen the yeast plant will grow and multiply rapidly and will give off much more carbon dioxid than alcohol proportionately, showing that the sugar is in part used in building up new cell-substance and in part is completely oxidized to carbon dioxid and water. There is always some alcohol produced and the amount increases very much when the oxygen is shut away from the yeast—as is the case in the large beer and wine vats.

Dumas, the French chemist, writing in 1843, said: "Fermentations are always phenomena of the same order as those which characterize the regular accomplishment of the act of animal life. They take possession of complex organic substances and unmake them at once or by degrees." Trouessart[4] said, in 1886, that this statement of Dumas' had been "confirmed and no one now doubts it."

Dr. Josef Bersch[5] makes these statements: "Alcoholic fermentations can take place only in those fluids which are able to furnish for the yeast all of those substances which are necessary for its nourishment. The nourishing fluid passes into the body of the yeast-cell and the nutriment which is contained in the liquid is assimilated by the cell-protoplasm. Every yeast-cell gives up substances to the surrounding medium, which substances can only consist of such compounds as are of no further use to the organism, i. e., they are the *excreta*. . . . The yeast-cell excretes alcohol, carbon dioxid and other substances."

In his "Studies on Fermentation" Pasteur coincides with the above theory except that he believes that the yeast takes up the sugar in order to appropriate its oxygen. He did not, however, make it evident from a chemical staindpoint that this would be possible. We readily see that the decomposition of the sugar into the two simple products, alcohol and carbon dioxid yields a certain amount of energy. It is the energy that the yeast is after and not the oxygen. Pasteur admits this as alternative to his original hypothesis.

Pasteur[6] reports a most significant observation upon fruit kept in an atmosphere of carbon dioxid for eight days. The sugar of the fruit had been largely decomposed into alcohol and carbon dioxid and the 24 plums yielded 6.5 gm. of alcohol on distillation.

Lechartier and Bellamy[7] repeat Pasteur's experiments with fruit in an atmosphere of carbon dioxid, confirm his results and consider "that the formation of alcohol in fruits in an atmosphere of carbon dioxid may be attributed to the fact that the processes of life in the cells of fruit continue under new conditions similar to those of the cells of a ferment. If the fruit be crushed, before immersion in carbon dioxid, the production of alcohol and carbon dioxid will not occur, because the life of the cells has been destroyed."

Sims Woodhead, the Director of the Laboratories of the Royal College of Physicians, London, in his work on "Bacteria and their Products," recognized the analogy between alcohol and the ptomains. Aitken, writing on "Animal Alkaloids," brought out the fact that the bacterial decomposition of albuminous matter in absence of oxygen produces toxic leucomains. Let us not forget in this connection that the decomposition or catabolism of sugar by yeast, in absence of oxygen, produces alcohol.

Vaughan[8] says: "When ptomains are formed in the presence of a little oxygen they are poisonous: when formed in the presence of a free supply of oxygen they are invariably non-poisonous." "They—the cells of the body as well as bacteria—are injured when the products of their own activity accumulate about them." Also, "It is true without exception as far as we know that the excretions of all living things, plants and animals, contain substances which are poisonous to the organisms which excrete them. These poisons originate in the metabolic changes by which the complex organic molecule is split up into simple compounds."

Verworn[9], in discussing fermentation, gives the following equation as representing the decomposition of dextrose in alcoholic fermentation:

$$C_6H_{12}O_6=2C_2H_5.OH+2CO_2.$$

Now the carbon dioxid rapidly escapes from a fermenting liquid, but the alcohol accumulates, poisons the yeast plants and stops their activity.

It has been found that over 5 per cent. of the sugar consumed does not appear as alcohol and carbon dioxid and further that the quantitative equivalent of about 4 per cent. appears as glycerin and succinic acid, while 1 per cent. is unaccounted for.[10] Succinic acid is a poisonous ptomain (leucomain) belonging to the oxalic acid series.

Not only will the excretion of any living organism poison the organism which produces it but it will poison any organism of higher rank and some organisms of lower rank. Thus the excretion of a mammal might serve as food for some of the lower invertebrates and certainly for fungi and bacteria, while the excreta of the yeast fungus serves as pabulum for the bacterium of acetic acid. The excretion of the bacteria—ptomains—and of the yeast plant—alcohol—are poisonous to all higher organisms, in the very nature of the case.

We have found that higher animal organisms possess a means of defense against ptomains, alcohol and similar toxic substances: they oxidize them in the blood through the agency of a circulating enzyme, oxidase; this means has, however, its limitations.

THE RELATION OF ALCOHOL TO NUTRITION. IS ALCOHOL A FOOD?

W. O. Atwater, Professor of Chemistry at Wesleyan University, Middletown, Conn., and head of the work being done in the Government Experiment Stations on the Chemistry of Foods, has arraigned the school textbooks of physiology before the American people on the charge of falsehood, because these books teach the boys of America that alcohol is a poison and not a food, while his experiments with men shut up in a calorimeter demonstrate to his satisfaction that "alcohol is a food" and " not a poison, in moderate quantities." Professor Atwater's definition of food is, "That which taken into the body builds tissues or yields energy." Note especially the alternative betwen tissue-building and energy-yielding. According to this experimenter, any substance is a food if it is oxidized "in the body" anywhere between the mouth and the excretory surface. Not since the days of Liebig, a half-century ago, have the bars that set a boundary to foods been so ruthlessly torn down. Even iron filings and phosphorus satisfy the terms of this definition; and a long list of ptomains, leucomains, and toxins come clearly within the definition. Here is a list of a few of the substances which satisfy Atwater's definition of a food: Succinic acid $(COOH)_2.(CH_2)_2$ oxidized to CO_2 and H_2O; asparagine $(CONH_2.C_2H_3.NH_2.COOH)$ and glutaminic acid $(COOH)_2—(CH_2)_2—CHNH_2)$ both oxidized to urea, water and carbon dioxid. Chinolin (C_9H_7N) is oxidized similarly. Tyrosin[11] $(C_6 H_4.OH—C_2H_3NH_2—COOH)$ is oxized to phenol, H_2O, CO_2 and NH_3.

Blyth, in his admirable new work on poisons, gives the following toxins as frequent causes of death: Muscarin, $(CH_2OH—CHOH—N—(CH_3)_3.OH$, also neurin $(CH_2—CH—N—(CH_3)_3.OH.)$ Both of these are intensely poisonous and both are oxidized in the system.[12]

Meta-phenylene-diamin $(C_6H_4—(NH_2)_2$ and also para-phenylene-diamin are both poisonous and are both oxidized in the animal body. Morphin is also oxidized in the body.

It is unnecessary to carry the list further; these substances, though more complex than ethyl alcohol, are closely related to it physiologically.

Liebig classified foods as "plastic" and respiratory," i. e., as tissue-builders and energy-producers. No authoritative modern work on physiology recognizes any distinction between these two functions of food. The teaching of modern physiology is: *All food is tissue-building in its assimilation; all food is energy-yielding in its catabolism.*

Atwater admits that the only points that alcohol possesses in common with the foods are: 1, it is oxidized within the body; 2, it decreases carbonaceous and perhaps also proteid catabolism. This is called the "sparing" action of alcohol and is alleged to entitle alcohol to a place among foods. In demonstrating these two points, Professor Atwater is simply confirming what has been known for at least twenty years, so that he has added no new facts to science in his calormeter experiments. He has simply accumulated evidence of facts that have long been generally recognized. Upon the basis of his experiments he has set up the old and oft-refuted claim that alcohol is a food.

To quote a recent editorial[13] of The Journal of the A. M. A.: "The fallacy of the reasoning which would place alcohol among the foods is very apparent when we put it in the form of syllogisms: All foods are oxidized in the body; alcohol is oxidized in the body; therefore, alcohol is food. As logically we might say: All birds are bilaterally symmetrical; the earthworm is bilaterally symmetrical; therefore, the earthworm is a bird. Oxidation within the body is simply one of several important properties of a food, as bilateral symmetry is one of several important characters of a bird."

If we admit alcohol to a position among the foods on the simple grounds of oxidation we must also admit numerous substances universally acknowledged to be toxic.

There are a number of medical writers who speak of alcohol as having "a limited food value" because of its oxidation in the body. It would be just as reasonable to contend that because an earthworm is bilaterally symmetrical it is, therefore, to a limited extent a bird!

There is a good deal of misinterpretation and misapprehension regarding the significance of certain of the effects of alcohol upon the vital activity of the cells. It has been determined, for example, that after the ingestion of alcohol the excretion of carbon dioxid is diminished. This is accompanied by an accumulation of the carbonaceous materials of the body, and the actual deposit of fat or a sparing of protein, one or the other of these latter effects being certain to follow any cause which will decrease the excretion of carbon dioxid. Many jump at once to the conclusion that any substance which can cause a sparing of protein or of fat or both must of necessity be a food. But that conclusion does not by any means follow. There is a very closely veiled fallacy in the course of reasoning which leads to such a conclusion, and many have passed it by without recognizing it. That is especially the case with those who take account of ingesta and egesta alone, without trying to follow the changes which take place within the cells.

Let us unveil the fallacy. Under conditions of normal activity a cell will catabolize—or, we may say, oxidize—a certain amount of matter drawn immediately either from the cell-sap or from the living cell-substance itself. This matter is in part nitrogenous and in part non-nitrogenous. All food is "tissue-building" in its assimilation, and all food is "energy-liberating" in its oxidation. To arbitrarily differentiate between tissue-building and energy-liberating is wholly unwarranted in the light of modern research in cell physiology. So the cell under normal conditions will oxidize a certain amount of its matter. This oxidation will yield the energy required for the vital processes, and will also yield certain products of decomposition. The non-nitrogenous molecules will, on oxidation, yield carbon dioxid and water; while the nitrogenous molecules will yield carbon dioxid, water and urea or allied nitrogenous excreta.

Let us suppose that the cell is in a condition of carbon and nitrogen equilibrium, i. e., that it gives out daily in its excreta an amount of carbon and nitrogen equal to that of the food which it assimilates. If under these conditions a little more food be absorbed by the cell, one or the other of two things will happen; either there will be a greater cell-activity—muscular, nervous or secretory—with a correspondingly greater output of carbon dioxid with some increase in the nitrogenous excreta; or there will be an accumulation of fat or protein within the cell. The cell-activity being governed by the central nervous system rather than by the simple presence of increased food, the second alternative will be the one most uniformly observed. That is, if we give more food, we will get an accumulation of the excess as a reserve. Now suppose that without any excess in the food-supply the central nervous system causes a decrease of cell-activity throughout all of the active tissues, there will be an accumulation of unused food materials within the active cells or within the storage tissues. This nervous influence upon the oxidation of food materials may be produced by morphin. After the administration of morphin there will be an accumulation or a "sparing" of both carbonaceous and protein food materials, or tissues, providing the ingested food is normal in amount. Boecker[14] found, by experiments upon dogs, that after the animals were brought into a condition of nitrogen equilibrium, the administration of morphin with the food in a quantity to produce its typical physiologic effect caused the proteid catabolism to be decreased 6 per cent., and the excretion of carbon dioxid was decreased 27 per cent.

If we were to take into account simply the balance of ingesta and egesta we might reason thus: The addition of food to an animal in carbon and nitrogen eqilibrium leads to an accumulation of carbon and nitrogen in reserve, all other things remaining the same. The addition of morphin to the food of an animal in carbon and nitrogen eqilibrium leads to an accumulation of carbon and nitrogen in reserve, all other things remaining the same. Therefore, morphin must be a food.

The fallacy of this reasoning is apparent only when we take into consideration the vital process of the cell. Morphin depresses the activity of the cell, oxidation is decreased, less cell-substance is decomposed, the amount of matter absorbed remaining the same, there must be an accumulation of carbon and nitrogen in the cell. Notice the difference between the two cases: With increased food, the activity remains the same or is increased and the result is an accumulation of carbon and nitrogen or greater activity with increased carbon dioxid and nitrogen excretion. With the influence of morphin, the activity is always decreased, and the excretion of carbon and nitrogen is always decreased. With both there is an accumulation of food materials or of cell-substance; thus the final chemical effect of morphin is similar to that of increased food ingestion. But the total effect upon the vital processes within the cells is as nearly opposite as it is well possible to be: Increased activity and increased excretion with increase of food; but decreased activity and decreased excretion with morphin.

Morphin is a narcotic. All narcotics depress vital activity. Brunton, Cushny, Blyth, and all the newer authorities on pharmacology and toxicology agree that alcohol is a narcotic in both small and large doses. All who have experimented with alcohol in its relation to the output of carbon dioxid agree that it is diminished. This result is in perfect harmony with the general narcotic effect, and simply means that cell-activity is diminished.

To demonstrate that alcohol "spares carbonaceous and protein foods and tissues" is simply to prove that it is narcotic in its effect upon cell-activity unless it can be demonstrated that the consumption of oxygen and the output of carbon dioxid are either normal or increased. But these gases are always decreased in their interchange, after ingestion of alcohol in even moderate quantities. Alcohol then can not be a food; it is a narcotic.

Listen to the testimony of Austin Flint[15] upon this question: "The immediate effects of the ingestion of a moderate quantity of alcohol, continued for a few days, are decided. It notably diminishes the exhalation of carbon dioxid and the discharge of other excreta, especially urea. Proper mental and physical exercise and all conditions which favor the vigorous nutrition and development of the organism physiologically increase rather than diminish the quantity of the excreta. They correspondingly increase the demand for food, and if continued are of permanent benefit. Alcohol, on the other hand, diminishes the activity of the nutrition."

Rolleston[16] says that "alcohol forms with the hemoglobin of the red blood-corpuscles a compound which takes up and parts with oxygen less readily than normal hemoglobin. This leads to a general diminution in the metabolism of the body and as a result the amount of fat in the body may become increased. . . Partly as a result of its action as a functional poison on the tissues of the body (especially the nerve cells, mentioned in an accompanying paragraph) and partly from its influence on hemoglobin, the metabolism of the tissues is diminished by alcohol."

It is thus demonstrated on indisputable grounds that the only two claims that the friends of alcohol have advanced for its recognition as food are based upon misinterpreted facts, and an archaic misconception of fundamental biologic and physiologic principles, and that the whole argument for alcohol is a superstructure of fallacies hardly less notable, when we consider the men who have lent their names and their reputations as scientists in a vain attempt to gain them credence, than the notorious "Moon Hoax" or the often advanced and as often refuted "Spontaneous Generation" fallacy.

HOW ALCOHOL INFLUENCES CERTAIN PHASES OF METABOLISM.

We may close the case against alcohol by making a very brief presentation of some of the effects of alcohol on some of the most important manifestations of life.

ALCOHOL AND BODY-TEMPERATURE.

Professor Atwater follows Liebig of a half-century past in placing alcohol among the heat-producing foods. We must all agree that alcohol is largely oxidized in the body to carbon dioxid and water. It yields just as much heat incident to its oxidation in the body as it would if oxidized outside of the body; so do morphin, the ptomains and the toxins. But the case is stronger against alcohol and morphin than against the ptomains and toxins because the narcotic action of alcohol on the cutaneous vasomotor system causes the temperature of the body to fall, notwithstanding the added heat from the oxidation of the alcohol. When given in doses that produce the flushing of the checks, very moderate doses by the way, there will always be a fall in body-temperature slight or marked, commensurate with the dose. This effect is produced through the combined action of alcohol upon the heat-generating factor as well as upon the heat-dissipating factor of body-temperature.

As above stated, alcohol lessens cell-activity and thus lessens the generation of heat by the active tissues. Von Bunge says:[17] "Even if alcohol does on the one hand increase the heat-formation through its own oxidation, it, on the other hand, increases the heat radiation. Through the paralyzing action which it exerts upon the vasomotor centers there occurs a dilatation of the vessels, especially those of the skin, and this leads to increased loss of heat. The total result is, in any case, a lowering of body-temperature which has been conclusively demonstrated."

Landois[18] mentions the danger of taking either alcohol or morphin when the body is to be subjected to extreme cold. All Northern explorers know that the use of alcohol endangers life through the cooling of the body. Brunton[19] tells a well-authenticated incident in this connection: "A party of engineers were surveying in the Sierra Nevadas. They camped at a great height above the sea level where the air was very cold and they were chilled and uncomfortable. Some of them drank a little whiskey and felt less uncomfortable; some of them drank a lot of whiskey and went to bed feeling very jolly and comfortable indeed. But in the morning the men who had not taken any whiskey got up in good condition; those who had taken a little whiskey got up feeling very miserable; the men who had taken a lot of whiskey did not get up at all; they were simply frozen to death. They had warmed the surface of their bodies at the expense of their internal organs.'

ALCOHOL AND MUSCULAR WORK.

It has been so frequently demonstrated that alcohol in even moderate doses impairs the muscular action both in power and agility that all athletes abstain totally from it during training as well as during the contests. Prize fighters, though plying their trade especially in the interests of the drinking and gambling element of society, are not allowed an ounce of whiskey or brandy for weeks before a contest.

Several European governments have made comparative tests of sugar and of alcoholic drinks for soldiers on forced marches. These tests have invariably resulted in alcoholic drinks being withheld during all strenuous work and sugar or sweet chocolate being given with the rations for such occasions.

Leitenstorfer's[20] extensive experiments on sugar and alcohol resulted in recommendation to the commissariat of the German Army—later adopted in the main—that sugar be used: 1, as a supplementary article to improve the daily rations of the soldier; 2, as a reserve supply in ships; and, 3, as a temporary ration to strengthen the soldiers and sustain their vigor while on the march.

The *Revue Scientifique,* in commenting upon the experiments of Leitenstorfer, says: "Sugar appears to be indicated to replace alcohol or wine under the various conditions when it is commonly considered desirable to include the latter in rations. Sugar affords stimulation, but without any danger. It has, moreover, the incontestable advantage of being a muscular aliment of the first rank, combating and at the same time preventing fatigue."

Bunge[21] says of these "army experiments:" "Better than through all the laboratory experiments and deductions is the demonstration of the complete uselessness, indeed harmfulness, of even the most moderate doses of alcohol, which demonstration has been made through the thousand-fold experiments by the commissariat of the army and which have already established conclusively that soldiers in times of peace and in times of war, in all climates, in heat, cold and rain, endure best all the fatiguing exertions of the most exhausting marches and maneuvers when they are absolutely deprived of all alcoholic drinks."

ALCOHOL AND THE WORK OF THE NERVOUS SYSTEM.

Even the most enthusiastic friends of alcohol admit that in more than moderate doses it is a narcotic poison to the nervous system. But the best and latest authorities all agree that its action upon the nervous system is always that of a narcotic, whether the doses be small or large. In this connection one needs only to cite such authorities as Brunton[22] of London, Edes[23] of Harvard, and Cushny[24] of Ann Arbor, all of whom state in unequivocal terms that alcohol is a narcotic in small, as well as in large, doses.

Brunton modified Francis Garton's instrument for measuring the speed of mental processes. As modified it measured: 1, the time required for simple reaction, i. e., the time to indicate the seeing, hearing, or feeling of a signal; (.18 sec.) 2, the time required for discrimination, e. g., to indicate whether one sees a red or a white object; (.24 sec.) 3, the time required for decision, i. e., whether to press one button or another in response to varying signals; (.36 sec.) Summing up the experimental work on this subject Brunton says: "Alcohol increases the reaction time, the time for discrimination and the time for decision. It makes all the nervous processes slower, but, at the same time, it has the curious effect of producing a kind of mental anesthesia so that all these processes seem to the person himself to be quicker than usual, instead of being as they really are much slower. Thus a man, while doing things much more slowly than before, is under the impression that he is doing things very much more quickly. What applies to these very simple processes applies also to the higher processes of the mind. A celebrated author once told me that if he wrote under the influence of a small quantity of alcohol, he seemed to himself to write very fluently and to write very well, but when he came to examine what he had written, the next day, after the effect of the alcohol had passed off, he found that it would not stand criticism."

ALCOHOL VS. FOOD IN NUTRITION.

In closing it will be interesting to set over against each other, in parallel columns, some of the demonstrated facts which we possess regarding alcohol and food in their relation to nutrition.

THE TRUTH ABOUT

ALCOHOL.	FOOD.
1. A certain quantity will produce a certain effect at first, but it requires more and more to produce the same effect when the drug is used habitually.	1. A certain quantity will produce a certain effect at first, and the same quantity will always produce the same effect in the healthy body.
2. When used habitually, it is likely to induce an uncontrollable desire for more, in ever increasing amounts.	2. The habitual use of food never induces an uncontrollable desire for it, in ever increasing amounts.
3. After its habitual use a suden total abstinence is likely to cause a serious derangement of the central nervous system.	3. After its habitual use a sudden total abstinence never causes any derangement of the central nervous system.
4. Alcohol is oxidized rapidly in the body.	4. All foods are oxidized slowly in the body.
5. Alcohol, not being useful, is not stored in the body.	5. All foods, being useful, are stored in the body.
6. Alcohol is a product of decomposition of food in the presence of a scarcity of oxygen.	6. All foods are the products of constructive activity of protoplasm in the presence of abundant oxygen.
7. Alcohol is an excretion and, in common with all excretions, is poisonous. It may be beneficial in certain phases of disease, but it is never beneficial to the healthy body.	7. All foods are formed by nature for nourishment and are by nature wholesome and always beneficial to the healthy body, though they may injure the body in certain phases of disease.
8. The use of alcohol, in common with narcotics in general, is followed by a reaction.	8. The use of foods is followed by no reaction.
9. The use of alcohol is followed by a decrease in the activity of the muscle-cells and the brain-cells.	9. The use of food is followed by an increased activity of the muscle-cells and brain-cells.
10. The use of alcohol is followed by a decrease in the secretion of CO_2.	10. The use of food is followed by an increase in the excretion of CO_2.
11. The use of alcohol is followed by an accumulation of fat through decreased activity.	11. The use of food may be followed by accumulation of fat, notwithstanding increased activity.
12. The use of alcohol is followed by a fall in body-temperature.	12. The use of food is followed by a rise in body-temperature.
13. The use of alcohol weakens and unsteadies the muscles.	13. The use of food strengthens and steadies the muscles.
14. The use of alcohol makes the brain less active and accurate.	14. The use of food makes the brain more active and accurate.

BIBLIOGRAPHY.

1. Stirling: Landois and Stirling's Physiology, p. 451, Sheridan Lee: Foster's Physiology, vol. v, p. 9; Halliburton's Physiological Chemistry, p. 569.
2. Green: The Soluble Ferments and Fermentation, 1899; quoting Abelous et Biarnes, Comp. Rend. de la Soc. Biol., 1894, p. 536.
3. Physiologische und Pathologische Chemie, 1894, p. 124.
4. Fermentation, p. 71.
5. Gahrungs-Chemie, vol. i, p. 134.
6. Studies on Fermentation, p. 268.
7. Comptes Rendus, lxxix, p. 994.
8. Ptomaines, Leucomaines, Toxins and Antitoxins, 1896, pp. 303, 549, 550.
9. Allgemeine Physiologie.
10. Sedgwick: Reference Handbook of Med. Sci.
11. Am. Text-Book of Physiology, p. 1000, et seq.
12. Blyth: Poisons, p. 500.
13. The Journal, March 31, 1900.
14. Beiträge zur Heilkunde, s. 181.
15. Text-Book of Physiology, 1893, p. 176.
16. H. D. Rolleston, M.D., F.R.C.P.: Allbutt's System of Med., vol iii, p. 859.
17. Physiologische Chemie, p. 125.
18. Landois and Stirling: Text-Book of Physiology, p. 427.
19. Lectures on the Action of Medicine, p. 128.
20. Reported in Médecine Moderne and quoted in Lyon Medical and Review Scientifique.
21. Citing Baer on Der Alkoholismus, Berlin, 1878, p. 103.
22. Lectures on Action of Medicine.
23. Text-Book of Therapeutics and Materia Medica, 1887, p. 365.
24. Materia Medica and Therapeutics, 1889.

SUBSTITUTE INFANT-FEEDING.

HENRY DWIGHT CHAPIN, M.D.

Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital.

NEW YORK CITY.

The question of the home preparation of an infant's food is one that occasions more or less difficulty to the average practitioner. Very little disturbance of digestion is caused by average breast milk but when it comes to bottle-feeding, trouble often appears, and here the physician has abundant opportunity to show his knowledge of dietetics. There is no end to the number of the so-called "perfect substitute for mother's milk" that are widely advertised, but the mainstay of successful bottle-feeding is good cow's milk. Anything else must be only a temporary substitute. The infants who can not take properly prepared cow's milk are very rare. The trouble often comes from the inability of the physician to properly modify the milk, so as to make it suitable for the case in hand. It is impossible to lay down fixed rules for infant-feeding, as each case must be treated by itself, but there are certain underlying principles involved which, if understood, will greatly simplify the problem.

The important things to know are, first, how to secure good cow's milk, and, second, how to change or modify it so that it shall be as near as possible an approach to mother's milk in composition and digestibility. The first problem before the physician is to secure a supply of good fresh milk. This can be had anywhere, by the exercise of a little care. Let the cows be cleaned as thoroughly as horses, and the udders and sides wiped off with a damp cloth just before milking. Let the milking be done with clean, dry hands, into a clean pail, held close to the udder. The first stream or two from each teat should be thrown away, and not allowed to get into the pail, for during intervals between milking, bacteria from the air get into the cow's teats, and grow with wonderful rapidity. By throwing away the first few streams, at the beginning of the milking, these are disposed of. If the sides of the cow are plastered with dirt and manure, as is often the case, a certain amount is sure to fall into the pail of milk. This is where the trouble really begins, for this dirt and manure abounds in bacteria. Over two hundred species of bacteria have been found in milk, about twenty of which produce lactic acid. Other species produce ropy, slimy, blue and red milk, also alkaline products. These bacteria themselves are practically harmless, but the products of their growth may seriously affect the healthfulness of milk. Pathogenic bacteria are occasionally found in milk, but they get there almost invariably through the water used in washing the milk cans or bottles, or from the skin of some infected attendant. Tubercle bacilli are found in milk from cows with tuberculous udders, but the danger of infecting human beings is thought to be greatly overrated. Tubercle bacilli do not grow in milk.

As soon as each cow is milked, the milk should be run through an aerator and cooler, in a room free from bad odor or tobacco smoke, and then kept as cool as possible until used. It is obvious that cows should be stabled in clean, well-ventilated barns. These conditions should be possible everywhere, and if the physician will insist upon their observance on the part of dairymen, the problem of a proper milk-supply will be largely solved.

The prompt and rapid aeration and the cooling of milk are matters of importance. The temperatures at which bacteria in milk grow most rapidly are those near body heat. There is practically no growth when the temperature is below 50 degrees F. It has been proved that bacteria which increased two hundred fold in four hours, at 93 degrees F., increased only eight fold at 55 degrees F., so the necessity of cooling the milk immediately after milking will be apparent.

Combined aerators, strainers and coolers, suitable for use with well-water or ice-water, can be had at any dairy-supply house, at a small cost. By using one of these, the cow odor, the animal heat, and most of the dirt can be removed from milk in a few minutes. The milk of a herd of cows can then be mixed and bottled, or canned and packed in ice, or, as is often done, lowered into a well or set in a cool spring. Such milk will keep well, while milk "warm from the cow" soon spoils.

Sometimes dairymen add preservatives to their milk, to keep it sweet. The articles most commonly used are boric acid, borax and formaldehyde. Formaldehyde is particularly objectionable, as it renders the curds exceedingly tough. It can be detected by adding to a small quantity of slightly diluted milk an equal quantity of commercial sulphuric acid. Pour the milk into a test-tube or flask, and then allow the acid to run in, so as not to mix with the milk. A violet color will appear at the junction of the two liquids, if formaldehyde is present, and the curd of the milk will dissolve slowly when the tube is shaken.

In selecting cow's milk for infant-feeding, that which is clean, aerated, cooled and bottled immediately after milking, and kept below 60 degrees F., until delivered, is the article to be chosen by the physician. The richness of milk and cream depends upon the breed of cattle supplying the milk. In most of the states that have dairy laws, the minimum amount of butter fat allowed in the milk is 3 per cent. In actual practice milk varying between 3 and 5 per cent. butter fat will be met.

In reference to the production of butter fat, cows may be roughly divided into three classes: 1. Fancy, full-blooded Guernseys and Jerseys, giving milk containing 5 per cent. and over; 2, ordinary Jerseys and Guernseys, known as "butter cows," giving milk containing 4 per cent. and over; 3, Ayrshires, Holsteins and common stock, known as "milk cows," giving milk containing 3 per cent. and a little over.

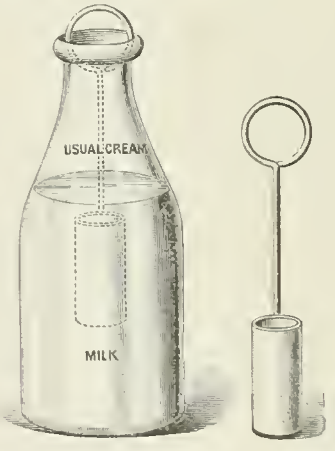
A physician in a given neighborhood should find out what breeds of cattle supply the milk to the vicinity, in order to know about the proportion of butter fat contained in the milk. The milk of one dairyman will run quite uniform from day to day, as the variations in the milk of individual cows will compensate each other.

In mother's milk the fat is usually between 3 and 5 per cent., or nearly three times the proteids, which vary from 1 to 2 per cent.: while the sugar is between 6 and 7 per cent. As noted above, cows' milk will contain from 3 to 5 per cent. butter fat, while the proteids average about 4 per cent., and the sugar from 4 to 5 per cent. It is pretty well settled that in mixed cows' milk, the proteids about equal the fat, when the fat does not exceed 4.5 per cent. When the fat in the whole milk is above 1.5 per cent. the proteids are a little less than the fat.

While in most cases, a medium grade of milk will be supplied, especially in towns and cities, still, we must be prepared to properly modify either very rich or poor milk. An easy way of calculating percentages, is to take advantage of the process known in the dairy industry as the "deep setting process of creaming." This consists in putting milk into tall, narrow vessels and cooling to about 40 degrees F. After twelve to twenty-four hours practically all the fat of the milk will be found in the creamy layer, the remaining milk often containing no more than .2 to .5 per cent. Milk that has been bottled and kept cool for twelve to twenty-four hours, is subjected to the conditions necessary for successful "deep setting" creaming, and usually contains a layer of cream in the neck of a quart bottle, between three and four inches deep, measuring from the top, or about six fluidounces. The line separating the cream from the remaining milk is distinct. Unless the creamy layer is distinct when the milk is delivered, it is probable that bottling has not been done at the dairy, but in the town or place of delivery. Not only is the proper creaming thus interfered with, but the chances of contamination are increased.

By taking all of the cream and part of the remaining milk from the quart bottle of milk and mixing in certain proportions, top milks, rich or poor in fat, can be had, that may be utilized in feeding the infant. Top milks can be prepared in which the fat is one and one-half to five times the proteids.

In the home modification of milk, by means of this bottled milk, the cream is readily and accurately separated from the remaining milk by means of a dipper measuring exactly one fluidounce. The first dipperful, or ounce, is taken off with a teaspoon, otherwise, the milk would spill over when the dipper is let down. The successive ounces of cream are then easily removed, by even an unskillful hand, without jarring, siphoning or other manipulation.



The following assays, made by the Babcock method, show the percentages of fat in different top milks, taken from quart milk bottles, and represent low, medium and high grade milk, which was bottled in the country:

Fat in whole milk	3.1	4.3	5
Fat in Top 9 ounces	9.2	12.4	14.6
Fat in Top 10 ounces	8.37	11.2	13.2
Fat in Top 11 ounces	7.7	10.4	12.1
Fat in Top 12 ounces	7.0	9.6	11.1
Fat in Top 13 ounces	6.6	9.0	10.4
Fat in Top 14 ounces	6.2	8.4	9.7
Fat in Top 15 ounces	5.8	7.9	9.0
Fat in Top 16 ounces	5.5	7.5	8.6

Proteids and sugar are assumed to be 4 per cent. each.

It will be noticed that the first nine ounces or dipperfuls contain about three times as much fat as the whole milk in all three grades. This rule held good in thirty quarts of bottled milk on which the cream had risen, obtained of different dealers.

For matter of easy calculation, it is assumed that the proteids and sugar are 4 per cent. each. In practice, all that is necessary is to dip off top milk of any desired richness, and dilute it, two, three, four, five, six or eight times. If about 3 per cent. of fat and 1 per cent. of proteids is desired, nine ounces will be dipped out of the bottle of milk on which the cream has risen. If it is poor, bluish-colored milk, it will be diluted three times, that is, one-third of the desired mixture will be top milk. If the milk is of a fair degree of richness, it will be diluted four times—one-quarter of the desired mixture will be top milk. If the milk is very rich, it will be diluted five times—one-fifth of the desired mixture will be top milk. By dividing the figures in the table by the dilution, average percentages will be obtained. This is as near to accuracy as percentage feeding can be brought at home, and is sufficient for the vast majority of cases. The proper percentages for each child are obtained by increasing or decreasing the richness and the dilution of the top milk. What is needed in a given case is a dilution of cow's milk that will agree with the baby we are trying to feed, rather than the procuring of figured percentages. By this method every physician can vary the strength of the milk in a sliding scale by directing the number of ounces to be dipped out of the bottle of milk, and thus tentatively reach the strength that is suitable for the infant's digestion.

For every twenty or twenty-five ounces of food, add one ounce of sugar, in order to bring this element up to the proper proportion. One part of sugar to 20 parts of food yields 5 per cent; to 25 parts, 4; to 33 parts, 3; to 50 parts, 2 per cent. An even tablespoonful of granulated sugar equals half an ounce approximately, and one scant teaspoonful equals a dram. Half again as much milk sugar equals the same weights.

The next important step is to get the cow's milk as nearly as possible in the same physical condition as mother's milk. The diluent I prefer to use is a wheat, barley or oatmeal gruel, the starch of which has been digested or dextrinized by the action of diastase. A heaping tablesponful of flour, made from a cereal, is boiled with about a pint and a half of water for fifteen minutes. It is then removed from the stove and set in cold water for about three minutes to cool it. When it is sufficiently cool to taste, a teaspoonful of a preparation of diastase is added, which renders the gruel thin and watery. This makes about a pint of gruel, containing the starches in soluble form, while the cellulose or skeleton of the cereal acts as a most effective attenuant of the curd. These digested gruels render the milk curds porous, and also provoke the secretion of the digestive juices. As diluents, they are a great improvement on water. Most of the thick malt extracts are sufficiently active in diastase to produce the desired effect. The writer, however, prefers the employment of diastase itself, without any of the other malt ingredients, as being both speedy and efficient. It can either be produced cheaply at home, or purchased at the nearest drug store. A simple decoction of diastaste may be made as follows: A tablespoonful of malted barley grains is put in a cup, and enough cold water added to cover it, usually two tablespoonfuls, as the malt quickly absorbs some of the water. This is prepared in the evening and placed in the refrigerator over night. In the morning the water, loking like thin tea, is removed by a spoon or strained off, and is ready for use. About a tablespoonful of this solution can be thus secured, and is very active in diastase. It is sufficient to dextrinize a pint of gruel in ten to fifteen minutes. Preparations of diastase are made by a number of chemists—Forbes, Parke Davis & Co., Horlick and others. There is now obtainable an active glycerite of diastase known as Cereo, which is specially made for the purpose of dextrinizing gruels.

Now the question of Pasteurization—heating to 167 degrees F.—or sterilization—heating to 212 degrees F.—arises. It should be remembered that the object of Pasteurizing and sterilizing milk is to kill the bacteria, and in that way make the milk suitable for infant-feeding. If the milk was originally clean, cooled immediately after being drawn, and kept cool, there would be no need of heating the milk to kill bacteria. In the summer time, where it is impossible to keep the milk below 60 degrees F., it is best to have it Pasteurized as soon as it is received.

It is often recommended that lime-water or bicarbonate of soda be added to milk, when it is slightly acid. The acidity of milk is caused by bacteria that produce lactic acid. If the acid is neutralized, the bacteria will produce more acid, unless the milk is either kept cool or heated to destroy the bacteria.

There are cases constantly arising where milk must be withheld for a time, or given only in small quantities. Here is where the judgment of the physician may be put to a severe test. The symptoms that call for a modification or a change of diet, are vomiting, colic, and unnatural stools. A brief glance at these conditions may be helpful to some in applying dietetic remedies.

Vomiting.—When vomiting occurs immediately after feeding, it is probably caused by a simple distension of the stomach, and less bulk of food is accordingly indicated. The vomiting that occurs some time after feeding is apt to be caused by undigested food, the rejections are frequently highly acid, and there may be curds and mucus present. Projectile vomiting, where food is rejected with force, is an indication of brain irritation.

Colic.—Colic may be caused by cold, but is more frequently induced by the fermentation of indigestible food.

Condition of the Stools.—Much may be learned by a careful inspection of the stools, with reference to increasing or diminishing the various kinds of food. The normal infant stool is smooth, yellow, homogeneous, and about the consistency of thin mush. The following may be considered abnormal types:

1. Green Stools.—Stools can only be considered green when that condition is evident immediately upon their passage. They are due to a fermentation, which is doubtless the result of bacterial action. All stools become green a certain time after passage, caused by oxidation of the air.

2. Curdy Stools.—Curdy lumps may be produced by undigested casein or fat. The former are hard and yellowish, while the latter are soft and smooth, like butter.

3. Slimy Stools.—These are the result of catarrhal inflammation. When the mucus is mixed with the fecal matter, the irritation is high up in the bowel, but when flakes or masses of mucus are passed, the trouble is near the outlet.

4. Yellow, Watery Stools.—These are seen in depressed nervous conditions, especially in the hot days of summer, when the bowel is relaxed, and the inhibitory fibers of the splanchnic nerve do not act to advantage.

5. Very Foul Stools.—These are caused by decomposition of the albuminoid principles of the food.

6. Profuse, colorless, watery stools, with little fecal matter, are doubtless caused by an infective germ, akin to that of Asiatic cholera. This is known as *cholera infantum*.

It is rare to see one of these types by itself. With the exception of the last, they may be seen in all combinations.

In slight forms of unnatural stools, increase the dilution of the top milk, and reduce the quantity of sugar slightly. If large lumps of fat are in the stools, use milk containing less fat for diluting; this can be obtained by taking more top milk out of the quart bottle. Where lumps of casein are apparent, the diluent must be increased. If increasing the dilution and reducing the fat and sugar does not overcome the trouble, stop the milk and feed dextrinized gruel for a day, gradually adding a little milk, which is increased in amount as fast as the infant can digest it.

There are times when infants can not digest milk in any form, no matter how much it may be diluted, nor what diluent is employed. They may then be given mutton broth, from which the fat has been removed, extracted beef-blood and water, dextrinized wheat or barley gruel, or dextrinized gruel, to which either the white or yolk of an egg has been added.

The following will show the food principles obtained by such egg mixtures:

Dextrinized gruel and white of egg.—Dextrinized wheat-flour gruel, 8 fluidounces, white of one egg—581 grains (large egg).

About 2 per cent. proteids (egg 1.25, gruel .75), 4 per cent. soluble carbohydrates.

Putting two even spoonfuls of granulated sugar into this mixture, 3 per cent. of sugar is added, which, with the 4 per cent. of digested starch, makes 7 per cent. total soluble carbohydrates.

White of egg contains 85 to 88 per cent. water; .07 per cent. salts; 10 to 13 per cent. proteid bodies, made up of albumin, gobulin and mucoid substance and traces of fats, lecithin and cholesterin.

Dextrinized gruel and yolk of egg.—Dextrinized wheat-flour gruel, 8 fluidounces, yolk of one egg—288 grains (large egg.)

About fat 1.7, proteids 1.7, (egg 1., gruel .70) and 4 per cent. soluble carbohydrates.

By putting two even spoonfuls of granulated sugar into this mixture, 3 per cent. of sugar is added, which with the 4 per cent. of digested starch, makes 7 per cent.. total soluble carbohydrates.

Yolk of egg contains about 47.19 per cent. water and 52.81 per cent. solids, made up of 15.63 per cent. proteids, .96 per cent. salts, 22.84 per cent. fat, 10.7 per cent. lecithin and 1.75 per cent. cholesterin. Proteids of yolk contain phosphorus and iron, which is of great importance in the formation of blood, and a pseudonuclein which is also found in casein of milk. These are not present in the proteids of the white of egg. Lecithin, which also contains phosphorus, is undoubtedly "a very important material for building up of the complicated phosporized nuclein substance of the cell and cell nucleins." Lecithin is also found in milk, especially woman's milk.

THE SPECIFIC TREATMENT OF CROUPOUS PNEUMONIA.*

WILLSON O. BRIDGES, M.D.
OMAHA, NEB.

The mortality of croupous pneumonia is greater than that of any other acute disease; higher than that of diphtheria, and next below that of tuberculosis. The mortality statistics in private and hospital practice show a percentage of from twenty to forty. The census of 1890 indicated that 76,496 persons died of pneumonia in the United States during the preceding year, a death-rate of 186.94 per 100,000 of population. The census reports of 1870, 1880 and 1890 show that the deaths from this disease have slightly increased. It is the most wide-spread of all acute diseases.

It is nearly twenty years since Fränkel discovered the diplococcus lanceolatus and established its causative relation to croupous pneumonia, since which time renewed efforts have been, and are being, made for the discovery of a specific prophylactic and curative agent. Some years ago the Klemperers demonstrated that the injection of blood-serum, obtained from one who had recently recovered from pneumonia, conferred immunity in some of the lower animals, and it was hoped that an antitoxic serum would be obtained which would be prophylactic and curative in man. While some favorable results from the injection of 20-c.c. doses have been reported by a number of observers, the treatment has not as yet gained a foothold. Various drugs have been from time to time advocated as specifics; long before the antimicrobic theory of treatment was suggested, calomel in large doses—20 to 40 grains—quinin in amounts of from 30 to 50 grains daily, veratrum viride in doses sufficient to bring and maintain the pulse below sixty, had the endorsement of many competent observers whose reports were certainly commendatory. The same may be said of venesection, which at one time was supposed to be the treatment *par excellence.* To-day the teaching is that the expectant plan with the meeting of indications by appropriate symptomatic remedies yields as good results as have heretofore been obtained; and there is much less probability of doing harm. Osler states in his 1899 edition that "Pneumonia is a self-limited disease which can neither be aborted nor cut short by any known means at our command. Even under the most unfavorable circumstances it may terminate abruptly and naturally without a dose of medicine having been administered. There is no specific treatment for pneumonia. The young practitioners may bear in mind that patients are more often damaged than helped by the promiscuous drugging which is still only too prevalent." The remedies advocated as specifics before the expectant plan was adopted were selected because of their antiplastic, antiphlogistic and antipyretic properties. Pneumonia was then supposed to be an inflammatory disease and was to be combated like any other inflammation. Calomel acquired its adherents because of its supposedly antiplastic effects, veratrum viride, on account of its antiphlogistic properties, and quinin because of its power over fever.

Flint made a long step in advance, when he announced his conviction that pneumonia was not simply an inflammatory disease of the lungs, but an essential infectious fever with pulmonic inflammatory manifestations. He it was who advocated large doses of quinin on this hypothesis. He writes, "As long ago as 1861 I was led, by the results of the analysis of a considerable number of cases in which sulphate of quinin was given to the extent of only 15 grains daily, to the conclusion that this remedy exerted a marked causative influence on the disease. I can now (1881) bear testimony to the fact that given in large doses, namely 20 to 30 grains daily, this remedy in a certain proportion of cases renders the disease abortive, and that when this does not follow, the disease is often modified to a greater degree than by smaller doses. Now, whatever efficacy belongs to the remedy proceeds evidently not from any direct effect upon the pulmonary affection, but from a controlling influence over the pyrexia, thus sustaining the doctrine that the disease is an essential fever."

---

*Read before the Nebraska State Medical Society, May 10, 1900.

The newer pathology of a pneumococcus infection was but a step in advance of Flint's doctrine, for it determined the actual cause of the infection. It holds that the disease is a general toxemia—resulting from the formation of toxins, produced by the development of the diplococcus in the lung, having a varying effect on the nervous system, the circulation, and the digestive tract, plus an inflammatory condition of the pulmonary vesicular walls and smaller bronchi, the direct irritative effect of the bacterial growth, which results in an exudate filling the air-vesicles and thus interfering with the functional pulmonary circulation and respiration by mechanical pressure. With what we believe now to be the true pathology of croupous pneumonia, may we not hope that a true specific will be found, or are we to calmly sit by the bedside and study the interesting clinical phenomena awaiting the crisis or a fatal termination with only symptomatic treatment? The true specific which shall be applicable to all cases must either inhibit the development of the pneumococcus in the lung—by directly destroying it or by rendering its environment inimical to its growth—or act as an antidote to the toxins produced. It must at the same time be innocuous. With these thoughts in mind I treated a severe case of embolic pneumonia of streptococcus origin nearly two years ago, by means of large doses of guaiacol carbonate,with good results, and was on this account deeply interested in a paper on "The Treatment of Pneumonia as Based Upon Recent Views as to Its Pathology," by Andrew H. Smith, of New York, and published in the *Medical News*, Dec. 6, 1899, in which he urges very strongly the use of guaiacol carbonate or the salicylates as a specific in this disease. He refers to Robinson and Kerr, who are recent enthusiastic advocates of the use of creosote both by the stomach and by inhalation. The great advantage of this remedy is that it can be taken in large doses without harm and that, being eliminated in part through the lungs, it has a double action. E. Congier in an inaugural address published in 1898, showed that the carbonate can be taken in very large doses up to a dram or more, without any irritation of the stomach, and that being slowly decomposed in the intestine, it liberates the creosote so that the blood is constantly charged with it even when there are six to twelve hour intervals between the doses. Thirteen cases from the clinic of Dr. Cassonte, of Marseilles, are reported in this paper, three of lobar and ten of catarrhal pneumonia, in which the carbonate was practically the only remedy employed. In every instance the effect upon the temperature was most marked, defervescence occurring promptly in the cases of lobar pneumonia, while in the catarrhal the severity and the duration of the attack were proportionately lessened. Dr. Wm. H. Thomson, of New York, in the discussion of Dr. Smith's paper before the New York Academy of Medicine, said, "Recently, in cases of double pneumonia, I have had excellent success with 20-grain doses of creosote carbonate administered every two hours. A very palatable emulsion can be made of the drug and patients take it readily. I have had three most unpromising double pneumonias recently recover under this treatment."

Robert Liegel, in 1898, reported seventy-two consecutive cases of recovery from pneumonia under the salicylate treatment. The patients were from 16 to 74 years of age. Eight had emphysema, six cardiac disease and a large proportion were alcoholics. The drug used was the sodium salicylate in large doses, not less than 120 grains daily. No other drug was used excepting an expectorant and small doses of morphin when pain was excessive. Under this treatment not only did recovery ensue in every case, but the duration of the attack was materially lessened and in no case did crisis occur, the temperature declining after the first day, reaching the normal by the fifth, when convalescence was established. The expectoration soon became catarrhal and the physical signs did not fully develop, or where they did rapidly retrogressed. In the first cases treated the remedy was suspended too soon, and a relapse occurred. After this was observed the drug was continued several days after convalescence, when no further tendency to relapse was manifested. Previous to the adoption of this treatment the management of the disease had been unsatisfactory and the mortality high. Liegel believes that the salicylate exerts a specific effect on the mucous membrane, increasing its secretion and throwing off the exudate. Dr. Smith believes that Liegel did not grasp the antibacterial idea of the action of the drug. He states that his own experience with this line of treatment has been encouraging, though not large. He has used all of the drugs which have appealed to him as specifics, with the exception of quinin, which has seemed too slow in action and too distressing to the stomach. He prefers the creosote carbonate to the salicylates, because of the gastric irritation often produced by the latter and its depressing effect upon the heart in the later stage of the disease. So enthusiastic is Dr. Smith in his belief of the efficacy of this plan of treating pneumonia that he urges the family physician "to provide his families with creosotal or one of the salicylates and to instruct them that with the slightest chilly sensation or the slightest stabbing pain in the lung, a dose is to be given at once, and that this dose is to be repeated at stated intervals until the physician arrives. This might prevent the development of pneumonia in some cases and shorten the attack in others."

Have we a specific for pneumonia in these two drugs, and by this I mean a remedy which will apply to all cases on antibacterial grounds, which will do no harm and which will not in any way interfere with the treatment of symptoms? This question I have attempted to solve to my own satisfaction during the past winter when I have had an opportunity to put it in practice, and I append a few illustrative cases, some of which were exceedingly severe.

CASE 1.—Mr. H., aged 35, single, accountant, had pneumonia several years before. When in apparent good health, he was seized with a shaking chill lasting one-half hour attended by severe pain under right nipple and a slight cough. Recalling his former experience he at once went to bed and I was summoned. On reaching him two hours later I found him with acute pain in the right side, temperature 101, pulse 96, respiration 24. During my visit he coughed and expectorated the typical rusty sputum. On physical examination there was diminished expansion of the right side, lessened pulmonary resonance in the lower right mammary region, and characteristic crepitant râles over a part of this area. He was given a prolonged hot bath, 5 grains of calomel, followed by a saline; a mustard and flax-seed poultice was applied to the chest and 15-gr. doses of salicylate of sodium were administered every two hours; and I enjoined absolute rest in bed after the bath, and liquid diet. In eighteen hours the pain was much less, he sweated freely, his temperature was 99.5, pulse 90, respiration 24. no further physical signs. Several times he had raised bloody sputum. Salicylate intervals were increased to three hours. In twenty-four hours later the temperature was normal, pulse 80, respiration 20, sputum only slightly tinged. From this time he went on to complete convalescence, the salicylate being kept up for five days more at longer intervals.

Case 2.—Miss E., aged 30, single, teacher, three days before my first visit had a severe chill while at work, followed by lancinating pain in the right side, and dry hacking cough with fever, severe nausea and vomiting, the latter occurring several times. On first examination her countenance was flushed and expression anxious; there was severe pain in the right nipple line through the shoulder; her tongue was much furred, and she was exceedingly nervous and sleepless; her temperature was 104 F., pulse 100, respiration 40; the cough was dry and painful, and no sputum had been raised. Physical examination showed much-diminished expansion on the right side, increased vocal fremitus, complete dulness and bronchial respiration with bronchophony over right infrascapular and axillary regions. The treatment consisted in liquid diet, absolute recumbency, calomel 8 grs., followed by a saline; guaiacol carbonate 8 grs., strychnia 1/40 gr. every two hours; codein 1/2 gr. and phenacetin 4 grs. for the pain; mustard and flax-seed poultice covered by oiled muslin.

Fourth day.—The patient's temperature was 104, pulse 108, respiration 52; she was delirious most of the time, and her sputum was rusty. Consolidation of the right lung extended to the mammary region, and there were signs of consolidation in left infrascapular region; the treatment was continued.

Fifth day.—The temperature was 104.2, pulse 108, respiration 50; there were delirium, labored breathing and marked cyanosis; oxygen gas was administered for twenty-minute periods every alternate hour.

Sixth Day.—The temperature was 101.4, pulse 106, and respiration 38.

Seventh day.—The temperature fell from 101.4 to 99.6, the pulse from 106 to 92, the respiration was 40.

The termination was by lysis, and convalescence was uninterrupted. The total amount of guaiacol carbonate given in four days was 320 grains.

Case 3.—Mr. N., single, aged 28, chemist, previously well, was seized with severe chill, followed by fever, and pain in the right mammary region. I saw him first on the third day, when his temperature was 104, pulse 120, and respiration 40: He had a cough and expectorated the typical rusty sputum; there was slight delirium and his tongue was thickly furred. The physical signs gave evidence of complete consolidation of the upper lobe of the right lung. The treatment was: calomel 8 grs. followed by a saline; guaiacol carbonate 8 grs., and strychnia 1/30 gr. every two hours; absolute recumbency; liquid diet.

Fourth day.—The temperature was 104.5, pulse 120, respiration 50; the delirium was most pronounced, and there was much restlessness; the tongue was brown and dry, and the consolidation extended to the lower lobe, also to the lower lobe of the left lung. The guaiacol was increased to 12 grs.

Fifth day.—The temperature was 105, pulse 140, respiration 60; there was muttering delirium, sordes tended to collect on the teeth, and cyanosis was commencing. The right lung was completely solidified, the left lobe showed an increased amount of solidification, the heart sounds were feeble but regular. Oxygen gas treatment was commenced, twenty minutes every alternate hour; strychnia was increased to 1/20 gr. hypodermically every two hours; 8 grs. calomel were followed by a saline.

Sixth day.—The temperature was 103, the pulse 103, and the respiration 50; the delirium was less marked; there was restlessness, but cyanosis was not continuous, the tongue was moist, and there was commencing resolution in the upper right lung. Oxygen gas gave great relief, but the patient wanted it no longer than ten minutes; the treatment was continued.

Seventh day.—The temperature was 101, the pulse 108, and the respiration 50; there was no delirium, and the physical signs of resolution in right lung were extended and were commencing in left.

Eighth day.—The temperature was 99, the pulse 100, and the respiration 40. From now on convalescence was uninterrupted and resolution became complete in three or four days. Guaiacol was continued for one week in lessened doses, as was also strychnia.

Case 4.—Mrs. M., aged 32, for several years in delicate health, had a chill with fever and severe pain in right axillary region, and a cough with mucopurulent expectoration. Physical signs of consolidation were not manifest until the sixth day, when they were found in the lower lobe of the right lung; her temperature was 103.4, and her pulse 90. Guaiacol carbonate 12 grs., and strychnia 1/30 gr., were administered every two hours. From this time on for six days the temperature ranged from 101.9 to 104.4, the highest pulse was 120, the highest respiration 60; delirium was marked at times. Resolution took place by lysis, but the temperature did not reach the normal. After one week of improvement the temperature and pulse increased, when physical signs of a pleural effusion were found. An exploratory paracentesis thoracis revealed pus in the infrascapular region after two failure punctures in the mammary and axillary regions. A pleurotomy with rib resection was performed by Dr. Jonas, which was followed by a tardy though continued convalescence, with complete expansion of the lung.

Case 5.—Mr. H., aged 45, married, clerk, very robust, had a cold and cough for several days while traveling. A chill followed by fever and pain in right side occurred before reaching home, and two days before my first visit. I found the temperature 103, the pulse 110, and the respiration 36; the cough was accompanied by an expectoration, prune-juice in character. There were physical signs of general bronchitis, and consolidation in the right infrascapular region. Guaiacol carbonate 10 grs. and strychnia 1/20 gr. were commenced at once, and 6 grs. calomel were given, followed by a saline. Under this treatment and a mild expectorant, resolution took place by lysis so that by the sixth day the temperature was normal, and the bronchitis slowly disappeared.

Case 6.—Mr. C., aged 50, married, accountant, was seen in consultation on the fifth day after a severe chill, followed by high fever and some pain in the side. His temperature had ranged to upward of 104 and pulse to 115. At my first visit he was partially comatose, the tongue was brown and dry, and there were sordes on the teeth; there was enormous distension of the abdomen from gas, and complete consolidation of the right lung. I prescribed calomel 6 grs., to be followed by a saline; sodium salicylate 15 grs. every two hours for four doses, then at longer intervals, and strychnia 1/20 gr. The following morning the temperature had dropped to about 102, and the pulse to 112; the abdominal distension was relieved, the tongue was moist, but the stupor had increased and cyanosis was manifest. Oxygen gas was commenced in the afternoon. The same evening the pulse was 124, and the temperature 103; there was incontinence of feces, the coma had increased, but commencing resolution was manifest in the consolidated lung. In spite of large doses of strychnia and digitalis, hypodermically, the patient died comatose the same night.

Case 7.—Mrs. S., aged 38, housewife, of rather delicate constitution, had been curetted by me on the eighth day after labor, for a sapremia of mild type which had not yielded to uterine irrigation. Her temperature was practically normal and her condition very favorable until the fifth day following, when she had a chill, with headache and general malaise, followed by a temperature of 103.5. The next day severe pain developed in the left inframammary region, which required morphin hypodermically for its relief. A careful physical examination made after the pain was controlled, when the respiratory movements were free, was negative. Fearing the development of pneumonia, at my next visit I took with me 5-gr. capsules of guaiacol carbonate.

Third day.—The temperature was 103, pulse 128, respiration 49; the pain returned and was also present in the supraclavicular region. There was no cough. Physical examination showed consolidation in the left infrascapular region, crepitant râles distinct in inframammary region of the same side. I ordered guaiacol carbonate 10 grs., strychnia 1/20 gr. every two hours, and codein as required for the pain.

Fourth day.—The temperature was 103.2, the pulse 140 and irregular, the respiration 38; perspiration was free and tympanitis marked. Vaginal examination, abdominal examination negative and physical signs the same, but crepitant râles in addition were heard in the supraclavicular left and inframammary right, but there was no cough.

Fifth day.—Morning temperature was 102, the pulse 140, the respiration 44; at 5:30 p.m. she had a chilly sensation for a half hour with a temperature of 106 following, the pulse was not countable, the respiration 40; at 10 p.m. the temperature was 104, pulse 148, respiration 36.

Sixth day.—The temperature was 101.4, the pulse 136, and the respiration 24. Signs of resolution were marked over the consolidated area, and no extension where crepitant râles were heard elsewhere. For the first time she expectorated a bloody sputum which on bacteriologic examination by Dr. Lavender was found to contain staphyloccoci, pneumococci and a very few streptococci. During the next few days all evidence of pulmonary trouble disappeared and the temperature, pulse and respiration became normal. The guaiacol was continued in the same dose at longer intervals.

CASE 8.—This was a case of embolic pneumonia, the result of a septicemia from a self-induced abortion at the second month, terminating in abscess and the expectoration of large quantities of pus containing streptococci and staphylococci. The pulmonary infection occurred in the left mammary region and gave the typical signs of consolidation, with temperature ranging from 102 to 104 and pulse 130. Large doses of guaiacol carbonate with strychnia was the only medicinal treatment, the patient convalescing in ten days with good results.

This case can not be classified with the ordinary pneumonia of pneumococcus origin, and is recalled because of the apparent influence of the antimicrobic treatment over a septic embolic pneumonia.

Individual statistics bearing upon the treatment of disease carry weight only with him who has been through the personal experience of the foundation for the statistics. It requires a collective investigation to determine whether in reality any progress has been made, and more particularly is this true of pneumonia, a disease which is attended by so many surprises, and the results of which are so uncertain. My own experience with the remedies which are so earnestly advocated by Dr. Smith is so limited that I hesitated to bring the subject before you at this time; yet I was so impressed with the results in some of them, which represent the severe types of double pneumonia that I desired to suggest a trial along the same line, in order that we might the sooner ascertain whether we yet had a specific treatment for this disease. We must go on hoping that we shall accomplish as much in this direction as we have in the treatment of malaria, of syphilis and of diphtheria. It is all well enough to write and talk of treating the individual instead of the disease but when we can do both with the same degree of intelligence, we shall lower the mortality of pneumonia to figures which, to say the least, will not be alarming. So far as we know I would rely upon the guaiacol or salicylates as specifics in pneumonia, giving preference to the former in cases past the stage of congestion, in the enfeebled, or where there were heart lesions. The addition of strychnia to the salicylate treatment obviates in part the depressant effect upon the heart, and so does alcohol. I combine strychnia with the guaiacol also for its influence upon the nervous system, and to prepare the patient for very large doses, if they become necessary. I shall not take up your time with the details of the individual or symptomatic treatment, except to say that I have found the hot poultices more agreeable than cold; that I would resort to venesection when there was an overloaded right heart with threatening symptoms; that digitalis is reserved for an irregular and flagging heart; codein in small doses for the relief of pain and delirium; strychnia in increasing doses and alcohol for enfeebled heart action; calomel and saline for constipation or sluggish portal circulation; that oxygen gas is commenced at the first sign of cyanosis and in quantity sufficient to relieve; and last, but by all means first, the absolute recumbent posture until resolution is established.

APPENDICULAR FISTULA.*

JOHN B. DEAVER, M.D.
PHYSICIAN-IN-CHIEF TO THE GERMAN HOSPITAL,
PHILADELPHIA.

The subject of my remarks to-day, appendicular fistula, is such a common sequel to operations for acute appendicitis and is of such great importance to the future welfare of the patient, that I can not too strongly invite your attention to this subject. It is one of the most important sequels to appendicitis operations, for several reasons: on account of its effect on the constitution, the organs it may involve, and the danger in which it may place the patient in regard to future health. That many fistulæ may be avoided, if earlier operative measures were instituted, can not be questioned. This apparently is a very strong presentation to make, but I shall endeavor to show later in the discussion my reasons for making such a statement. I shall discuss this subject by taking up the varieties, the causes and dangers, the means of prevention, and the treatment.

There are two types of fistulæ of appendicular origin—the external and the internal. The external is subdivided into two, the simple and the fecal. The simple fistula is also of two kinds; the first is where the external channel leads from an unhealed abscess cavity and corresponds to the site of the drainage tract. This variety is simply a suppurating sinus, and tends to heal spontaneously. The delay in healing may be due to the presence of an infected ligature or a piece of gauze used for drainage purposes, and which has dropped into the wound and been lost. On the escape of the ligature or the removal of the gauze, closure of the fistula takes place. In the second variety of simple fistula, the lumen of the appendix is in direct communication with, and discharges its contents into, the fistula. The material which is discharged from the fistula is clear mucus. This variety is found when the lumen of the distal portion of the appendix is in direct communication with the fistula, the lumen of the appendix has however become obliterated at some point, or the organ has, from the inflammatory process, become separated from the cecum or in its continuity, thus allowing the secretions of the organ to escape through the fistula.

There are two varieties of the fecal fistula consequent on appendicitis: 1. Those in which the lumen of the approximal portion of the appendix is in direct communication with the fistula, and from which there is a fecal discharge; this discharge later becomes entirely mucus or but slightly stained with fecal matter. 2. Those in which the cecum, the ascending colon, the small intestines, or both small and large intestines, are in communication with the fistula; the opening into the bowel may be so extensive that it may practically amount to an artificial anus.

---

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The factors in the production of appendicitis are likewise the cause of fistula. The invasion and the destructive activity of micro-organisms is in a large measure responsible for this condition of affairs. It is responsible for the softening and gangrene of the appendix and the adjacent bowel. Necrosis from pressure occasionally occurs. Pus is not an essential factor in the production of a fistula, although abscess is undoubtedly the exciting cause in the majority of instances, from the pressure which is attended with necrosis. The pressure of a drainage-tube or the cutting out of sutures which have been introduced into a bowel wall already weakened from the inflammatory process are also causes of fistulæ.

The source of the fecal discharge will be found to be from an opening into the bowel, or from an appendix which has separated from the bowel and discharged the bowel contents from its proximal end or from both.

The persistence of a fecal fistula may be caused by the continued use of a drainage-tube. I have seen a number of cases which were rapidly cured after discarding the drainage. One in particular demonstrates this point: The patient, a youth, was twice operated on for appendicitis with a fistula having two outlets, one on the right side, discharging bile and feces, and a second on the left side, from which pus made its escape. I found in this case that a large-sized drainage-tube had been introduced into the pelvis and had been worn for a number of weeks, without any diminution in the amount of the discharge. The drainage was removed at my suggestion, and this was followed by prompt closure of the fistula.

A fistula does not always make its appearance early, i. e., within a few days after operation; it may not make its appearance for a week or ten days, and one should not dismiss the possibility of this complication occurring even at some more remote period. The following case will show the possibility of a late development of fistula: The patient, a young woman, was operated on for an appendicular abscess. The appendix was not removed at this time, for two reasons—on account of the softened condition of the bowel forming the wall of the abscess cavity and because the appendix was very deeply situated, it was feared that the bowel might be torn in the necessary manipulation to free the appendix. The appendix was therefore left for a subsequent operation. The abscess cavity was packed and allowed to heal by granulation. After ten days had elapsed the dressings were found to be bile-stained, and also with fecal matter. The fistula showed no prospect of a spontaneous closure and later developed an exceedingly painful eczema about the external opening of the fistula. The usual dressings for the eczema had no effect whatever, and the patient's condition became so bad that operation for the cure of the fistula became imperative. Before operation was resorted to all food by the mouth was suspended and nutritious enemata given, but these excited so much rectal tenesmus that they had to be discontinued.

The operation was attended by a number of difficulties. There was a mass of adhesions covering a large area and binding the large and small intestines down to the region of the gall-bladder, calling for extensive and careful dissection to properly expose the fistulous communication with the bowel. The fistula was found to involve the duodenum, as was anticipated, and called for excision of a portion of the bowel, and anastomosis. The unhealed abscess cavity was found unhealthy in appearance and covered with a dirty grayish granulating surface. The lining of the cavity was stimulated and repacked with iodoform gauze, and the abdominal wound closed, except at the point of exit of the packing. A period of two weeks elapsed, when the patient again complained of pain in the region of the wound. The dressings were removed and it was found that the fistula had recurred, and to a more serious degree. The discharges from it were fluid and would contain milk that had been swallowed but a few moments before. Pure bile also escaped from it. Owing to the nature of the fistula, the recurrence of the eczema and the rapid emaciation of the patient, another operation was done. On opening the abdomen and exposing the duodenum the line of the previous operation was seen and found to be intact. The opening in the duodenum was found some distance from the site of the former operation. The duodenum was greatly dilated and thinned out. the opening being large enough to permit the escape of the entire bowel contents, and it was necessary to excise at least five inches of the duodenum in order to include healthy tissue in the anatomosis. An end-to-end enastomosis was performed, the thinned portion of the bowel reinforced by peritoneal flaps, and the external wound closed after packing had been introduced into the unhealed abscess cavity.

The character of the discharge in the external variety of fistula varies according to the type of the fistula and the stage at which it is seen. If seen early, the discharge is fecal in character, except in the type where it proceeds from a separated appendix which is not in communication with the bowel. If the appendix is not removed at the time that the abscesss is evacuated and a fistula supervenes, then the appendix will be found to communicate with the fistula. In one case the appendix was noted to be separated at the time of the evacuation of the abscess. A fecal fistula which had a very small external opening—one not large enough to permit the passing of a probe—resulted. This fistula was treated expectantly, in the hope that it would close spontaneously, but it persisted, and an operation for its closure revealed the appendix to be in communication with the fistula, separated from the bowel and attached to the abdominal wall, draining through the fistula. Recovery followed the removal of the appendix.

A patient with appendicitis, who was originally treated for a perinephritic abscess, which was opened and drained, complained of pain in the region of the loin, and right iliac region, three or four weeks after the wound had healed. The patient was admitted to the German Hospital. On placing him on the operating-table, under an anesthetic, a strong fecal odor was detected, as though he had defecated. On exposing the wound from the former operation, a free discharge of fecal matter was found; it escaped from an opening in the cicatrix, which had broken down at this point. The part was carefully cleansed and an aseptic pad placed over the opening. The patient was placed on his back, an incision made through the abdominal walls over the appendix, and the latter exposed, which was found occupying a post-cecal position and in direct communication with the fistula, the contents of the cecum making its escape through the appendix and out into the fistula. The appendix was removed, the abdominal wound closed, drainage introduced into the former fistulous tract. Recovery followed.

The internal variety of fistula occurs as the result of the evacuation of an abscess into one of the hollow viscera, and is believed by many to be a most favorable termination to pus formation. To this view I must make very strong objections, for I have seen too many cases where this has occurred and been followed by distressing consequences. In one case there was a fistulous communication with the bladder, which ultimately cost the patient his life; in another the fistulous communication was between the appendix and the dilated portion of the ureter, which permitted the escape of feces through the ureter into the bladder and then to the exterior. In still another the fistula was in communication with the upper air-passages. The most favorable variety of internal fistula and that in which the patient incurs the least risk to life is where the abscess breaks into the cecum or the ascending colon. Where the abscess breaks into an adjacent coil of bowel it has, in a number of instances, been the direct cause of an acute internal intestinal obstruction, and caused loss of life therefrom. Acute intestinal obstruction is caused by the slipping of a knuckle of bowel under the point of adhesion of the fistula.

The constitutional effect of a fecal fistula is evidenced by a more or less rapid loss of strength and impairment of nutrition, due to the loss of the bowel contents containing the elements necessary for nutrition. This is more especially true when the fistula occurs high up in the small intestines, either in the duodenum or the jejunum.

As I have before stated, there are several factors which are the exciting causes of appendicular fistula: abscess formation; migration of micro-organisms into the bowel wall, causing softening; separation of the appendix from the bowel; the introduction of too many sutures or tying the sutures too tight in a softened bowel; the presence of the drainage-tube, and pressure necrosis.

On referring to all these causes we can see how easy it would be to prevent the occurrence of any and all of them by instituting surgical interference directly after the onset of an attack of appendicitis. If the appendix is removed immediately after the attack occurs, i. e., before any serious involvement or impairment in the nutrition of the contents of the right iliac fossa takes place, then it is impossible for abscess to occur, except from some fault in the technique of the asepsis; and it will be impossible to have softening of the bowel and cutting out of the sutures, the introduction of drainage will be dispensed with, the likelihood of adhesions lessened and any of the sequelæ which almost always follow neglect in having the patients operated on at the time of election—at the commencement of an attack—be avoided.

The treatment of appendicular fistulæ of the external variety varies with the individual cases. It is well, however, to permit Nature to attempt a cure. The surgeon's attention should be directed to maintaining thorough cleanliness and to regulating the diet. Frequently a fistulous tract will heal spontaneously if the diet be solid food and the bowel contents be kept rather hard. It is not wise to use a syringe, as it irritates the tract. If the fistula persists after the lapse of a reasonable time, operation offers the only hope of cure.

The operative treatment of the simple fistula should consist in exploring the tract to ascertain whether an infected suture be the cause. If it is, this should be removed and the tract curetted and packed with gauze. This usually suffices to insure a cure. When the fistula or sinus communicates with an unhealed abscess cavity, the mouth of the fistula should be enlarged sufficiently to permit of thorough cleansing and packing. When possible without opening the peritoneal cavity, the mouth of the fistula should be enlarged to a degree to equal the transverse diameter of the abscess cavity at its widest part. This should be followed by thorough cleanliness, packing, etc.

The treatment of fecal fistula necessitates opening the peritoneal cavity, removing the appendix—or its remaining portion, as the case may be—and thoroughly breaking up all peritoneal adhesions. When the fistula is in communication with one or more openings in the intestine, closure, preferably by suture, is to be recommended, but resection, end-to-end union, etc., is frequently required.

To summarize the points which I desire to make: 1. The fistula is one of the most important sequels of operation for appendicitis. 2. Certain cases of fistula tend to close spontaneously. 3. When the fistula causes marked constitutional effects, delay in operating is a menace to life. 4. It is possible to avoid fistulæ in the great majority of instances if operation is instituted early. 5. Operative cases of fistula are usually curable, rarely requiring a repetition of the operation for its correction. 6. The fistula does not necessarily occur directly after the operation for the removal of the appendix or the evacuation of an appendiceal abscess.

1634 Walnut Street.

EDUCATIONAL AND LEGISLATIVE CONTROL OF TUBERCULOSIS.*

CHAS. DENISON, A.M., M.D.

DENVER, COLO.

The idea that a known (?) disease like tuberculosis springs from the evolution or rather dissolution of the forces which have to do with our being, that it is an evidence of the variation of the law of harmony to environment, a retrograde movement toward dissolution and death; this idea, I say, of a basic law of degeneracy, which finds its chief expression in this wasting disease, is too profound to be easily grasped, too adverse to our set habits of thought to be easily accepted. Therefore, if I fail to convince the reader in a necessarily curtailed presentation of proof, let me suggest that he simply suspend judgment till the opportunity happily occurs for him to study John Fiske's "Outlines of Cosmic Philosophy," especially the interesting chapters on "Matter, Motion and Force;" "Rhythm;" "Evolution and Dissolution" and "Sources of Terrestrial Energy." Then, I think, he will come to the conclusions here reached and have a clearer understanding of the matter.

There is a deeper and more fundamental source of knowledge than that which the microscope with its wonderful delineation and detail can supply, and the liability of being side-tracked by that instrument's findings should be recognized, that we may not fail to grasp the true origin and evolution of our degenerative diseases.

An important fact in evolution is that, all the way up to man, the beings evolved have had no voice, save instinct, in deciding their destiny. With the advent of man, however, something was added to the law of the survival of the fittest, that is, a deciding brain. This higher order of life—the soul of man with its God-like attributes—involves not only equivalent responsibility but the liability to mistakes because of that responsibility. I am not a preacher to expound and lament man's moral errors, but of all his physical ills, the profoundest and most far-reaching mistake which we now have to analyze is known through its results in tuberculosis, the lately termed "white scourge" of the race.

---

*Read before the American Climatological Association, Washington, D. C., May, 1900.

Let us try to free our minds from preconceived beliefs, and, rising above the details of bacillary evidence, attempt to determine how far man himself is to blame for his miseries, and then endeavor to learn how the punishment of this scourge is as it should be in the Divine order of our creation and our evolution. Thus we may come to realize that tuberculosis springs from the mistaken adaptation of man to his environment, i. e., is chiefly due to the faulty civilization of the present time.

The instinct of the Rocky Mountain beaver teaches him to build his winter hut in conformity to his environment, and wonderfully so with regard to the severity or mildness of the approaching season. A shrewd weather prophet interprets these findings and prognosticates the future for his fellow-men. Who will prognosticate the probabilities of life and death from the character of our own habitations? Are they a healthy outgrowth of man's conformity to his environment? No, it is right here, as I hope to show, that the greatest nonconformity lies. The question of the suitability of man's abode and life to his highest development may be studied better through the subject of ventilation than in any other way.

There was a man in our town who was much annoyed by the constant dinging of a piano in an adjoining apartment of his lodging-house. So he rigged up a gong run by electricity and his improvised music was made to accompany the piano until the latter stopped. If an automatic ventilator could be invented, built into a window pane or into the outside walls of a room, which would sound a gong whenever ventilation was imperfect —by reason of excess of carbonic acid or any organic impurity above an established healthy standard—and if such a device could be used in all living-rooms, there would be so much noise in every town that nothing else could be heard. The racket would probably bring relief in perfect ventilation, and the readjustment of the hearing organs to suit this noisy environment would be accompanied or rather attended by a great decrease in the degeneration which induces tuberculosis. The reward for the successful inventor of such an automatic ventilator should be great, for the good results would be almost inestimable. A visual index of atmospheric purity and impurity might be substituted for an alarm or gong.

This would not be a more wonderful discovery than many that have been made of late, as, for instance, the thermostat or heat regulator, which automatically controls the heat of a building within one degree of a desired point, but what a salutary correction it would be of the defects of our living-rooms! Let us take an average living-room, fourteen feet square and ten feet high, with one door and two windows—the usual condition. In such a room half a dozen may sleep, or one person may occupy a room of three or four times this space. This 2000 cubic feet represents about the average of the hundred thousand living rooms there are in a city of that population. The total window-space is one-half covered with curtain, and as the sun can shine into only one side of a house at a time, and as one-half the time he is usually shut out by clouds, little of the sun's direct rays can get into this average room. This room also has no fireplace, the door is shut nine-tenths of the time, and the windows are not open one-tenth of their area for one-tenth of the time.

This room has been evolved in the progress, and is one of the results of, our civilization. We must admit its necessity because it is here; but the evolution of its ventilation is as yet an unsolved problem to over 90 per cent. of humanity.

What then is sufficient ventilation for the maintenance of health? It is not merely that the carbonic acid which is thrown off from the lungs shall be replaced by its equivalent of oxygen from the outer air. So perfect are the joints the builders make, in this day of advanced art in architecture, that a guest-room, although aired and then unused for weeks, may need ventilating again before a new occupant enters, because it has lost the natural qualities of the out-door air.

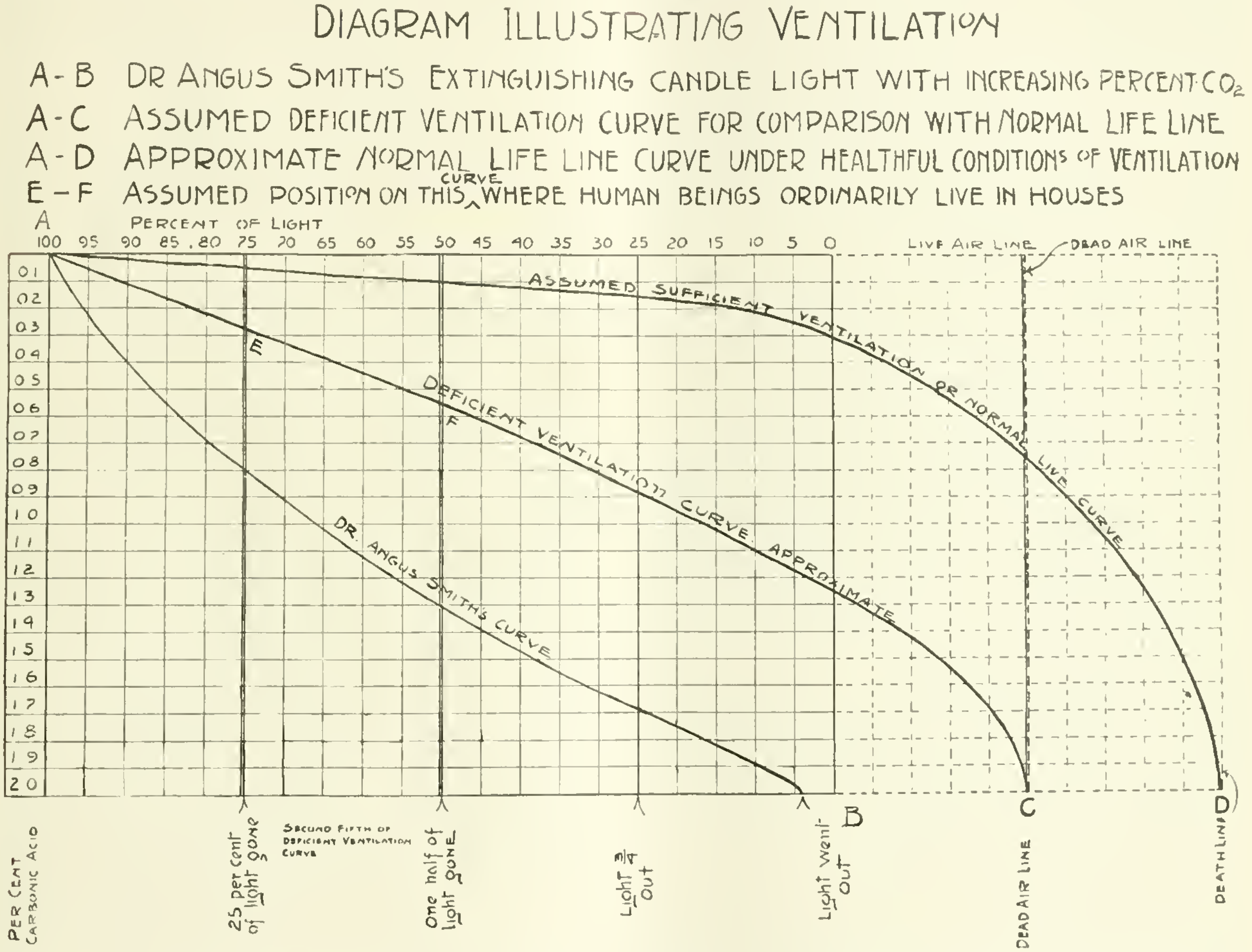
A man exhales 400 volumes of carbonic acid to every two to four volumes he inhales; he must then have 4000 cubic feet of air an hour, according to Parks, and 1800 according to Briggs, lest the carbonic acid in a room exceed 6 to 10,000 and 8 to 10,000 parts respectively, which these investigators respectively considered to be the limits beyond which impurity should not be allowed to go. It is estimated that two candles give off as much carbonic acid as does one man, a lamp as much as two men, and an ordinary gas burner as much as do nearly six men; so, in addition, these sources of impurity must be considered. Ventilation necessitates the recognition of the fact also, based on the consumption of a pound of coal per hour, that for heating a room, 2072 cubic feet of air will be required for fourteen hours in the day. A thorough knowledge of ventilation necessitates, likewise, an appreciation of the various activities of persons in a room; also of the extra equivalent space in a room needed to offset the rarefaction of the air at great altitudes; also the estimation of various diseased states—as when, during fever, additional poisons are thrown off into the air—and also the determination of the chemical and organic changes which take place in laboratories and workshops.

Although all these are important, there is still something more needed to secure perfect ventilation. It is my purpose to show not only that the air-change in a room of this size is inadequate, but that there are other faults about this room, even were it twice as large, which seem not to have been generally, if at all, recognized. This will be plain when we consider the life of the air. We will see that there is a vitalizing principle whose force is annulled by the imprisonment of the air through defective ventilation.

How shall we express our conception of this vitalizing principle so that we may recognize its dissolution under absence of ventilation? We might do this had we some simpler way of giving to the sun its due credit as the source of all the heat, light and motion of life manifested on the earth than has Fiske[1], who says: 'The difference between the tropical heat of India and the cold of the Arctic regions is simply the measure of untold millions of tiny differences in the rates of oscillation of countless atoms of atmospheric gases, determined in turn by innumerable oscillatory movements propagated *from the sun to the earth.*"

The life of the air exists chiefly in its motion, which, with its light, heat and electric or magnetic power, comes from the sun. If the absence of this life—here denominated as "dead air"—is represented as a perpendicular line, and "live air" is represented as another straight line at right angles thereto, then the gradations from live air to dead, under the subtle influences in which we human beings live and die, can be truthfully represented as a curved line which gradually leaves the horizontal line and comes down to the perpedicular. This deficient-ventilation curve is not the same, but is much like Angus Smith's curved line (see illustration) which indicates, at times, the measure of the light of a candle when gradually extinguished by being confined in a closed space.

This receding flame can be fanned into life by opening a window, but let the previous stillness continue and the perpendicular line of extinguishment is surely reached. I wish to call attention to the important fact of the proportionate and gradual loss of light, and by it to illustrate the proportionate loss of vitality in a degenerative disease. Both these losses are so gradual in the beginning that they are unrecognizable. The line of life of the human being who is dying or to die of tuberculosis has a similar curve. So gradual and imperceptible to his comprehension are its graduations that he does not know where he is on the bend of the curve, but he knows quite as much about it as he does about the deficient-ventilation curve, represented by the graded line from live to dead air. We do not apreciate our individual positions on this ventilation curve, as to the respective confinements of our bodies in closed spaces and the resultant imprisonment and dwarfing of our respiratory and circulatory systems; and it becomes a pertinent question to each one of us: Will we be exterminated by these conditions or will the final extinguishing act be transferred to our children, handicapped as they will be by our present ignorance?



Where on our imaginary deficient-ventilation curve, is the room we have described? Do I controvert the judgments of physicians who have so often felt like smashing the scanty windows of the sick-room or sleeping-chamber in order to let in some pure air, by saying that its imperfect ventilation places it 20 to 40 per cent. along on the downward extension of the curve? Admitting this you see the whole force of my argument. We must judge by contrast, and our sensations are only partial guides. The purest air, and therefore the liveliest air I know of,is found when you stand on some eminence in the rays of the rising sun, with the air coming to you from the hills or mountains beyond, sifted through pines and firs; with your feet upon the dry but negatively electrified ground, while your head or perhaps your whole body is in the strongly positively electrified atmosphere. You breathe into your uttermost air-cells this ozonized air, the cast-off carbonic acid goes from you the instant it is exhaled and every nerve in your body is stimulated to normal life.

The deadest air, I think I ever breathed was in the mammoth cave of Kentucky. I found there little 12 by 6 by 8 ft. rooms constructed of stone,with one door and a 16-inch square window in each. They had been built for the supposed climatic effect of the equable temperature, always 58 F. I was told that they took sixteen consumptives down there for one month. Four died there, one a week after coming out, and none were benefited. In comparison with the positive effects of live air cited above, such negative conditions, such deadness of atmosphere and ignorance of the requirements of human beings give the mind an ineffaceable shock.

Should a further illustration of dead air be needed, let us consider the lead chamber which Angus Smith constructed for his experiments[3], in which no possible interchange of air with that outside could occur. Imagine Dr. Angus Smith remaining therein, rebreathing its atmosphere as he did till candles went out, and you will have a good idea of what I mean by absolutely dead air, the effects of which, as described by this faithful investigator, I have no time here to dwell upon[4].

Previous to this experiment, Dr. Angus Smith had thought the real evil was from organic substances in the air, but afterward he concluded that carbonic acid, even in small amounts, had an injurious influence. In this connection it is interesting to note that Lavoisier and Saguin found that the human limit of the possible rebreathing of air was when the carbonic acid had reached 10 per cent. and that "was bearable only for a short time," while Angus Smith says "it seems to be impossible to endure 4 per cent. for any length of time."

The life of the air consists, to a greater extent than has been heretofore recognized, in the molecular motions of its atoms caused by the sun's influence. The diffusibility of the air, the easy motions due to changes of temperature in different strata, and the fact that light and sound depend upon the wave-motions of ether, are all forms of molecular activity which probably impart the life-giving principle to our atmosphere. This motion is always present till meddlesome man interferes. For instance if a narrow beam of light is thrown into a closed dark room in which the air is apparently still, every particle of dust is seen to be in constant motion. From the fact that there are varying states and amounts of electricity in the different strata of the atmosphere, the conclusion is justified that finer forces govern the life of the atmosphere than merely its composition of oxygen, nitrogen, moisture and carbonic acid. Nor should we forget the contribution of vitality vegetation brings through its constant interchange of oxygen for carbonic acid. This, with the qualities of atmospheric electricity and molecular motion, is all in restraint if not annihilated in poorly ventilated rooms.

This restraint of molecular motion and consequent limitation of vitality are in direct proportion to the deficiency of ventilation. Herein I conceive lies the great mistake of our civilization in relation to healthful human life. Here is to be seen the need of education that this cause of disease may be understood.

Let us try to elicit analagous evidence of vitality in the growing media of other products of Nature than those of the dwellers above the surface of the earth. The ground in our latitude becomes dead earth to vegetable growth as the cold of the Fall and Winter gradually annuls its vitality; but the warm penetrating rays of the sun in Spring and Summer transform it into live earth for the wonderful fructification of plant and animal growth. Plants too have their life-curve, which depends upon the vivifying and transmitted influence of the sun's rays. Shut out that influence and the life-curve becomes immediately abbreviated.

Again, let us consider the fish class, a medium creation depending upon air and water for its atmosphere and food. They constitute its life-giving agency and can not be greatly changed without its extinction. How wonderful is the effect of the fish's environment upon its life-curve, and upon its distinguishing characteristics, as shown by the eyeless inhabitants of dark caves, the big-eyed sunfish of the open pond, the sluggish sucker of the mud creek and the lively grayling of the rapids.

The livest water I have ever seen was when, within view of a snowbank in the Rocky Mountains, a cold dashing stream lashed itself, by its perpetual motion over rocks and stones, into a fit abode for the mountain trout, that creature full of ozone and vim, which life elements he transmits even to the fisherman who joyously captures him.

Note the difference in the life quality of that trout and of another of the same species pulled sluggishly up from 100 feet below the surface of a still lake. The higher the order of evolution, i. e., the more delicate and special the development of the nervous structure, the more susceptible to and influenced by the changes in environment are all created beings.

Applying this principle to the human family, we see that a limit of civilization can be reached where delicate or slight changes of environment may cause dissolution as well as evolution; where extinction from lack of conformity may take the place of evolution because of conformity to our environment.

We may argue against the cramped chest and round shoulders of the bicycle rider; but the bicycle is doing a world of good in getting people out of doors, in addition to the improved aeration of the blood which results from its use.

We admit the "visiting the iniquities of the fathers upon the children unto the third and fourth generation," meaning, in these days, syphilis and like hereditary evils; but this law of transmission likewise works itself out to the extinction of the users of defective and deficient ventilation.

We discuss the inhalation of irritant powders and poisonous gases in certain hazardous occupations; but defective ventilation, considered in conjunction with such causes of disease, increase their injurious effects manifold.

We may reason that the tubercle bacillus being the constant accompaniment of the decaying process in tuberculosis is consequently the cause and source of all this evil; but the very lateness of its appearance shows it to be rather the result than the cause. Its absence in many forms of scrofula, adenoid growth, wastings and catarrhs which surely eventuate in mature tuberculosis show that the pre-tubercular stage and perhaps the first stage of tuberculosis are already established presumably in advance of the germ. These conditions have been proved by the tuberculin test to be a part of the real disease before the microscopic or any other ocular demonstration of the bacillus is possible. The Widal test for typhoid fever now joins the tuberculin test in showing a dyscrasia which we know to be due to the presence of latent tuberculosis. This occurs before any ocular evidence of the mature germ is possible.

The destructive influence of sunlight upon the tubercle bacillus is now generally admitted[5]. If, in addition, the contention of Frankel,[6] that it is a facultative anaerobic germ, is sustained, then the claim of a predisposing cause in defective ventilation is strengthened by the favorable conditions furnished for such germination in the unventilated lung.

We thus go back of the tubercle germ to conditions which are bound, under favoring circumstances, to eventuate in it, and the following important statement is warranted, which controverts the trend of scientific thought of this decade as to the prevention of tuberculosis—namely: If all of Koch's bacilli of tubercle on this earth were instantly destroyed, in due time, under the same conditions, our world would again have an ample supply. It is not for me to pretend to know the exact time which would elapse, under such a supposed temporary dispensation of Providence, until the terrible intensity of the "white plague" would be again as great as at the present time. The old times would come back soon enough. Undoubtedly, some of us, even those who are now incubating the germs, would live longer and be much wiser for such experience. We would, however, surely see the wave of bacillary domination sweep back over the human race, bringing the equivalent of the present time, when, as Osler says, 2 per cent. of the people living have the disease, and when, as it seems to me, ten times as many are getting ready for it.

Tuberculosis has come here to stay until we, the thinking masters of creation, acquire the education to understand and abolish it. It will not "down" in response to any edict against street expectoration, the disinfection of rooms occupied by dying consumptives, or even the slaughtering of tuberculous cows, although these measures of prevention are most important.

The drift of this reasoning is to this conclusion: Tuberculosis springs from, or is the outgrowth of, some unified cause which will account for its existence in cattle and horses, birds and other animals, as well as in man.

I wish to refer to the excellent paper presented by Dr. Charles Gresswell to the National Live Stock Association at its late meeting in Fort Worth, Texas.[7] From his considerable experience as a veterinarian in Colorado he shows that it is entirely unnecessary to use the tuberculin test with the "plains" cattle in the Rocky Mountain region, because even those previously infected, and transferred to the plains, there outlive their tuberculosis, and it does not appear in the next generation. In proof, he instances the surviving members and the progeny of a very badly infected herd of overbred Shorthorns, inbred and closely housed, of which I myself was cognizant. If also you bear in mind the great mortality from phthisis, etc., of the French and English cavalry horses under close stabling, which was quickly prevented by open-air stabling[8]; if also you are acquainted with the corroborative evidence of the close domiciling of cows, the confined caging of birds, monkeys, guinea-pigs and other animals, the crowding[9] of human beings in ship-holds, prisons, [10] alms-houses, [11] and places of public detention, or the civilizing and housing of savages, as of the American Indian, you then have to come to the conclusion that tuberculosis results either from a species of autoinfection from rebreathing the body's own exhalations, or from the fact that the air of these confined spaces becomes a source of infection from the loss or annulment of its life-giving principle.

Thus we are brought back to our sample room, the abode of a human being, the meagre size of which, and its deficient sunlight and air circulation, afford a sufficiently marked degree of deficient ventilation to constitute it a glaring fault of our civilization. This now seems to be the initial cause or starting-point of tuberculosis, which probably kills more people than war together with any other one form of disease known.

The study of the remarkable diffusibility and penetrability of gases, even through glass windows and brick walls, not to mention wooden doors with the many cracks around them, gives us some hope through what is called "insensible ventilation."[12] But the fear is that even this much of protection will be annihilated through the perfection of carpentry. The education which the people need, even the common people, and we doctors too, *must* be obtained and the architects and builders are not exempt from this necessity.[13]

A more thorough study of this intricate question would lead the architect, whose usefulness is too much limited by the demands of an ignorant public, to be an upbbuilder of people's health as well as of their houses. It is to be hoped that he will thus arrive at a more encouraging conclusion than did James A. Greenlief, C. E., in his "How Much Ventilation?" when he said "For the ordinary private house a systematic air allowance per individual is almost an absurdity—for many of them a thorough systematic plan of ventilation is unnecessary, even were it not debarred by reason of the expense inseparable from it."

Whether ventilation, suited to the size and purpose of a building, the climate and the exposure, shall be by natural or artificial means, whether by propulsion or extraction, and how it shall be modified by the artificial aid of heat, steam and electricity, I have not time to consider in detail. My object now is to emphasize the need of ventilation of our living and working rooms. Lack of ventilation leads to the pale face, sallow skin, weak pulse, cold hands and feet and sluggish bowels; the feeble powers of digestion, assimilation and nerve energy—all proofs of a flagging vitality. This lethargy is due to enfeebled and poisoned blood-corpuscles, and a probable autoinfection, but especially to deprivation of food for the blood, i. e., oxygen from the air. In addition, the dead air, which marked deficiency of ventilation implies, compels inactivity and limited use of the lungs, and this, in turn means the gradual clogging of out-of-the-way air-cells with the products of combustion. In this manner, carbonic-acid poisoning and the species of autoinfection, heretofore described, are most naturally located and more or less permanently established.

I will not pretend to say what the details of a law of ventilation should be, but there should be such a law, enforced by proper legislation. That detail will be an outgrowth of the education which is essential to right legislation. In general, however, it should determine the minimum ventilation allowable in every assembling-place or habitation for human beings, and for dairy cows, horses, etc. The limitation should be adjusted to the various lives and their activities, with which the law has to do. If law can protect life by fire-escapes, the necessity of stand-pipes, the abatement of the smoke nuisance, the ventilation of sewers, and the non-pollution of drinking water, certainly this more subtle and ever-present cause of degeneration and death, defective ventilation, even in its slighter degrees, should come under its fostering care.

I suggest that an effort be made to establish and maintain the equivalent of the following: For a living apartment, a minimum space of 1500 cubic feet per individual, and a minimum ventilation or change of air of 2000 cubic feet per hour per person. If this is not afforded in new houses, then transoms over outside doors and windows, preferably opening inward at the tops, should be required.[14]

A course for the study of ventilation should be made a prominent feature in all advanced schools and colleges, and the government should carry out the many investigations which will help to determine both the best means, and the proper and necessary limits of ventilation. This is one of the ways in which a national bureau or board of health, properly established and supported by our general government, could prove itself one of the most useful and worthy of all the different departments which are represented by secretaries in the President's Cabinet. Until such a national board is established, the government ought to found and liberally maintain a commission on ventilation of houses, public halls, schools, factories and mines. Properly conducted, such a commission could do incalculable good.

BIBLIOGRAPHY.

1. Fiske: Outlines of Cosmic Philosophy.

2. The table explaining the Angus Smith curve gives regular periods of time till the light goes out, and the extinguishment is divided into gradations from .1 per cent. carbonic acid up to 2 per cent. when the light goes out. It took .8 per cent. carbonic acid for the first quarter of extinguishment, .5 per cent. for the second, .4 for the third and .3 per cent. additional carbonic acid for the last quarter and total extinguishment.

3. Angus Smith: Air and Rain.

4. Dr. Angus Smith, in his "Air and Rain," in describing his sensations when confined in his experimental "lead chamber" containing 170 cubic feet, says of the chemical actions going on in the body: "They may take ten years to gather impetus to make their movements strong enough to produce sensations, and disease may be generated unknown to the individual, although it may kill him in the eleventh year, but if the chemical action began at first so violently as to produce decided sensations, he might be able to avoid it at once before it produced any abiding impression." After remaining in his chamber 100 minutes he found a reduction of oxygen to 20 per cent. and "the air had an unpleasant flavor or smell," and on entering it again after a minute he found "it extremely bad." He says "it took about four hours for the lungs to recover their tone."

5. Koch: International Medical Congress, Berlin, 1890.

6. Sternberg's Manual of Bacteriology.

7. Greswell: The Elimination of Tuberculosis Out in the Open. THE JOURNAL Feb. 3, 1900.

8. Parkes, in his Practical Hygiene, refers to the experience with horses in the French cavalry service and says that in ten years an annual loss of 190 per 1000 was reduced to 68 per 1000, by giving them more room in their stables, while in the English cavalry service, the change for the better by similar treatment was even more striking till the annual mortality was reduced to 20 per 1000.

Parkes, in his Practical Hygiene, notices the relation of increased mortality to density of population and adds that "its main concomitant condition is impurity of air from over-crowding."—"especially among children whose delicate frames always give us the best test of the effect both of food and air."

10. Dr. de Chaumont's analysis, in Parkes' "Practical Hygiene," of the air in 11 barracks and hospitals showed an average excess of over 6 volumes carbonic acid per 10,000 and nearly twice that in the cells of four different prisons. Other and extreme analyses of air in rooms (in orphanage dormitories and detention places), with space per head all the way from 51 to 150 cubic feet, gave from 31 to even 72 volumes of carbonic acid to 10,000. The ratios were constantly greater, the more confined were the persons or animals.

11. Carmichael found in the Dublin House of Industry, crowded with children, that "the only causes for the excessive phthisis were the foul air and want of exercise."

12. In illustration, take notice of the dark lines on the plastered ceiling of a much used room. They are the interspaces between the laths where the dirty air has been sifted through.

13. That this education needed must be mainly directed to the ventilation of closed habitations is beyond any doubt: for Angus Smith's calculations, made in the cities of London, Manchester and Glasgow, showed so small a difference in the percentage of oxygen, as well as of carbonic acid, in the open places that we may conclude it is not so much the size of the city or the number of rooms in it, as it is the character of the rooms themselves. Parkes says "the colliers of Durham and Northumberland, where the mines are well ventilated, do not appear to suffer from an excess of lung disease, or to do so in a slight degreee." While as to "metal miners," he says that among them there comes to be, in advanced life, for males aged from 45 to 75, five times as many deaths from pulmonary disease "as for males exclusive of miners in Yorkshire." This latter evidence bears upon the quality of the dust in crowded places and rooms, which is organic to no small degree. Tichbone (Parkes' "Practical Hygiene") in a Dublin street, found it from 30 to 45 per cent. organic, and Chalvet, in a hospital ward in Paris, found the dust to be 36 to 46 per cent. organic matter. The sickening headache which some sensitive persons experience in, or after being in, a crowded theater, is probably wholly due to the rebreathing of excessive carbonic acid. "Crowd poison," as this air of crowded halls is sometimes called, undoubtedly contains much organic matter thrown off in the exhalations of the people there assembled. Even the moisture of these exhalations is not inconsiderable. Parkes averages an estimate of 211 cubic feet of air needed to maintain, in a state of vapor, the 25 to 48 ounces of water which a human being gives off in twenty-four hours' time, and he adds that when carbonic acid in the air has reached 7-10000 the smell of organic matter is generally perceptible, and it is "very strong" when 10-10000 is reached.

14. The variation of a proper law may be needed to suit the assembling of large bodies of people in halls, churches, etc., where occupancy is limited to a short time and a less space per capita seems to be allowable, or again where additional air is required, as in hospitals and certain work-rooms. But the building inspector, properly working with or under the Board of Health, should not only be possessed of a spirit of the law's righteousness, but should be a man of high intelligence and force.

DISCUSSION.

DR. PHILLIPS, of Washington, in the discussion, called attention to the experiments of Dr. B. W. Richardson[1], which served to confirm this contention for the life of the air. Richardson confined under glass, so they could be watched, four warm-blooded animals—a cat, dog, rabbit and pigeon, also two frogs—and gave them forty gallons of pure oxygen. He proved that the passing of the electric spark through the once used oxygen—which had killed or was killing the warm-blooded animals although only one-eighth of the oxygen had been consumed or was lost—restored the lost life or vivifying power. To quote Dr. Richardson:

> Oxygen, when breathed over and over again, although freed entirely from carbonic acid and other known products of respiration, loses its power of supporting life; the process of life ceasing not from the introduction of a poison, but as by a negation or a withdrawal of some principle extant in the primitive oxygen which is essential to life[2].

Whatever explanation we give for this, whether that there is a possible rearrangement of the molecules of oxygen due to respiration which makes it afterward unsuitable to respiration, or, as Dr. Phillips suggests, that our accepted molecular divisions of matter are possibly not ultimate, we are entitled, I think, to assume this experiment to be the strongest possible proof of the main argument of this paper, i. e., that the chief vitalizing principle of the atmosphere is annulled by deficient ventilation.

THE DIAGNOSIS OF APOPLEXY UNACCOMPANIED BY MOTOR PARALYSIS.*

WM. N. BULLARD, M.D.

BOSTON.

Apoplexy unaccompanied by motor symptoms is often overlooked by the general practitioner, or its manifestations are not understood, while even the specialist is at times in doubt in the more obscure cases. It is not, however, a very rare occurrence, although in most of the general and special text-books but little space is given to it. It seems, therefore, worth while to draw attention to these cases and to point out the symptoms and the method of diagnosis. This may best be done by briefly reporting a few cases of apoplexy where the motor symptoms were either very slight or absent.

CASE 1.—J. B., a man 67 years old, born in Ireland, now living in Boston, having previously been in good health, though somewhat worried, had on Aug. 13, 1889, a sudden attack in which he turned blue in the face and seemed as though he were about to suffocate. He was raised up in his bed and shortly recovered. There seems to have been no marked loss of consciousness. The next day there was no paralysis of the limbs, no pain, no headache, but since the attack he has partially lost the power of speech and his mind seems confused. He complains of sense of weight on his head and his head feels heavy. He was seen on August 19, six days after the attack, and has stayed in bed most of the time since the latter, but can and does get up at times. Physical examination showed no paralysis anywhere. His mind was somewhat confused and there was some loss of memory and aphasia.

In this case the attack was evident and there could be little room to doubt the diagnosis. It seems doubtful as to how much loss of consciousness existed during it. While in the larger proportion of these cases there is a marked loss of consciousness accompanying the initial attack, this does not seem to be a necessary accompaniment. Attacks may occur which are not specially recognized at the time either by the patient or his friends.

The next case is typical of the more severe, and in many cases the most easily recognized, form of this trouble.

CASE 2.—G. L., a male, 30 years old, clerk, was seen

---

[1] Preventive Medicine.

[2] See also "Composition of Expired Air and Its Effects on Animal Life": Smithsonian Contribution to Pathology, by Billings, Weir Mitchell and Bergey.

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

April 30, 1891. He is said to have been in good health up to the date of the present trouble. He probably had a slight attack three years ago. Eighteen months ago, while at supper, he had, without known cause, a sudden attack supposed to have been a shock, which was not considered important at the time, and since then he has been in his present condition. No paralysis was detected at any time. He has, however, been entirely unable to work, although he has tried to do so.

Physical examination showed him somewhat childish and a little weak-minded, excessively suave and courteous, and laughing constantly without cause; also unable to fix his attention. There is marked indistinctness in the pronunciation of words, so that at times he can scarcely be understood. He understands many things said to him but not everything. In attempting to read aloud he reads rapidly, but uses chiefly imaginary or meaningless words with here and there one of the real words interspersed. He can write his own name but can not write other names. There is no paralysis except an old iridocycloplegia on the right side, which existed previous to this attack. He grasps fairly well and his gait is normal; his knee-jerks are exaggerated and there is slight ankle-clonus on the left. On May 4 he had another shock and fell downstairs and was found unconscious. Since then he has been excited, talked much, was much annoyed with his family, and had delusions, though no hallucinations were detected. There was no paralysis.

By June 4, his mental condition had not improved. He had marked dementia, hallucinations of hearing, had become violent, and was committed to an asylum, where he grew rapidly worse and after a few months died.

This patient undoubtedly had syphilis.

The great seriousness of the mental condition in spite of the absence of paralysis is characteristic of many of these cases. How far the symptoms were the direct result of the apoplexies and how far any of them may have been due to the direct action of syphilis on the brain, can not be definitely determined, but inasmuch as the symptoms came on or grew worse in direct connection with the attacks, we are justified in the belief that the apoplexies were the principal immediate cause. This is also deducible from the evidence of other cases.

Case 3.—A single woman, 46 years old, a tailoress, a patient of Dr. Samuel Breck, had some cardiac trouble six years ago and at times since has been "nervous," but no signs of hysteria have been detected. On Aug. 6, 1891, she went to the country, in her ordinary health; on the 14th she had epistaxis and was a little feverish; on the 17th, hemoptysis. She was feeling poorly, but on the 20th decided to return to Boston. When she awoke, on the morning of this day, her friend noticed that her face looked pinched, and it seems to have been drawn slightly to the left. It was also noticed that she readily allowed objects to drop out of her hands. Her mind was disturbed, she was incoherent and, contrary to her habit, she talked very loud. She did not notice or perceive things. She asked for her umbrella when she was holding it in her left hand and on being told that she had it in her hand, held out her right hand, which was empty, and said that she did not have it. She returned on this day to Boston, however, and seems to have walked and to have used her hands during the journey.

Since her return her mind has been affected. She has been complaining of many things, contrary to her usual disposition, and she has become obstinate and refuses advice. She tries to go to work, for which she is wholly unfit, and is said to have thrown her money away in the street. When seen on August 30 she had become violent and had to be restrained by force, and on this day refused food.

She is now excited, incoherent, mind much affected and weakened, but there is no paralysis anywhere. There is a diastolic souffle over the aorta and a presystolic one at the apex, with considerable cardiac enlargement, principally on the left.

This is probably a case of cerebral embolism. It illustrates well, however, the conditions often seen. The amount of paralysis which existed in the beginning was so slight, if any existed, as is probable, as to be neglected, and when later I saw the patient, it had wholly disappeared. The mental condition was at that time, and really throughout the whole affection, the prominent feature. There was no aphasia.

These cases differ pathologically from cases of ordinary apoplexy with motor symptoms, probably only in the seat of the lesion. Clinically we find usually a marked degree of mental involvement, on the whole more pronounced than in the cases with motor symptoms.

The diagnosis, while evident enough if the initial attack is seen or carefully reported, is often difficult when the patient is seen later. The mental weakness, the dementia and the loss of memory prevent the acquirement of an accurate history. The presence of partial aphasia might suggest a condition of this character, but does not necessarily prove it.

Apoplectic attacks may be, moreover, primary as regards lesions of the brain tissues, or secondary to them. In the first place, the cerebral symptoms are to be regarded as the direct result of the injury to the brain produced by the hemorrhage, thrombosis or embolism. In the second place, the cerebral symptoms may be due to the primary disease, such as paralytic dementia or tumor of the brain, and it may be very difficult or impossible to determine which are due to the primary disease and which, if any, to the secondary hemorrhage. In all cases whatsoever, of apoplexy or apoplectic stroke, it is important in the first place to determine whether it is due to disease of the intracranial blood-vessels from causes lying in themselves or outside of the cranium, or whether it is dependent on affections of the brain tissues. Sometimes both causes may act together.

The differential diagnosis of cerebral apoplexies without motor symptoms is usually easy when a proper history can be obtained. The most important evidence is the sudden onset of the symptoms. If motor symptoms, even though very slight, have been present, this favors the diagnosis. Where we see a patient some time after the appearance of the mental affection and where no history can be obtained, the diagnosis depends: 1, on the character of the mental impairment; 2, on the absence of symptoms pointing to paralytic dementia or to intracranial tumor.

In the cases of primary apoplexy—primary as regards previous affection of the brain tisues—which have come under my observation, the mental condition has been chiefly one of dementia more or less marked, with or without partial aphasia. Excited conditions have existed temporarily and hallucinations and delusions are not uncommon, but the dementia has been on the whole the more prominent condition. In mild cases this may be slight and the differential diagnosis between these and senile dementia can not always be made, if the history fails.

The second element in the differential diagnosis of the results of "primary" apoplexy from paralytic dementia or other cerebral affections is the presence or absence of the symptoms characteristic of these affections but not usual in the simple apoplexies. The condition of the pupils, the tremor, or the peculiar mental condition common in paralytic dementia, the severe headaches, the optic neuritis or optic atrophy of brain tumors, together with other symptoms common to these affections considered either separately or as a symptom-complex, will enable one to determine the pathologic condition.

89 Marlborough Street.

THE PLAGUE IN SAN FRANCISCO.

DOUGLASS W. MONTGOMERY, M.D.
SAN FRANCISCO, CAL.

The Journal has asked for the facts about the plague in San Francisco. The following are the cases, with their bacteriologic examinations, and experiments on animals as given by Dr. W. H. Kellogg, city bacteriologist, and Dr. J. J. Kinyoun, U. S. quarantine officer. I can endorse these tests and examinations, as I have taken a steady interest in them, and was deputed to follow them. Furthermore, the character of the men making these tests is above suspicion, and the scientific examinations made may be taken as correct, no matter what the conclusions drawn from them should be. They are here set before their proper jury, the medical profession.

The following reports of cases are made up from notes furnished me by Drs. J. J. Kinyoun and W. H. Kellogg: (Case 1 was reported in full in The Journal for May 19, p. 1236, and a full report of the result of the animal experimentation was also given.)

Case 2.—Chu Gam, aged 22, died March 15 at 723 Sacramento street. No clinical history was obtainable. The friends of the deceased gave conflicting stories as to his illness, some claiming that he had been sick over two months. When the body was first seen the face was enormously swollen and edematous; the skin of the whole body greenish black, and large blebs were present on the dependent portions of the body. The body had the appearance of having been dead a week. On section there was found a very little enlargement of the lymphatic glands. The lungs were dark and congested, but showed no evidences of pneumonia. The heart was very soft, with thin walls; there were no valvular lesions. There was considerable turbid fluid in the pericardium, in the pleura and in the peritoneal cavities. The spleen was enlarged, dark and friable, and the intestines showed evidences of inflammation. Microscopical examination of the blood and spleen demonstrated putrefactive organisms in large numbers and a few bacilli which had the appearance of the bacillus of plague. Attempts made to isolate this organism from the rest were successful. Cultures so isolated were sent to Dr. Kinyoun with the request that he inoculate an animal from these. Dr. W. H. Kellogg was informed that the animal died within 36 hours, of what appeared to be acute toxemia, and on examination very few organisms were found in the tissues except those at the point of inoculation. These gave a typical picture of plague.

Case 3.—Ng Ach Ging, aged 35, died March 17, at 905 Dupont street. No accurate clinical history was obtainable. The man was found dead, and immediately thereafter was turned over to the undertaker for burial. At the autopsy, performed forty-eight hours after death, the body was fairly well-nourished, but considerably discolored. On section, the glands were found not to be enlarged. The peritoneum contained about three pints of bloody fluid. The intestines were reddened, and the blood-vessels of the mesentery engorged. The spleen was slightly enlarged, dark in color and friable. The liver was slightly enlarged and congested. One of the most remarkable features was the complete transposition of the viscera. The spleen occupied the right side, the liver the left, the cecum being in the left iliac fossa. The lungs were edematous and hypostatically congested. The pericardium contained about two ounces of flocculent serum. There was also a considerable quantity of bloody serum in each pleura. The heart cavity contained several clots. Specimens were taken from the spleen and heart's blood for microscopical examination, which showed quite a number of putrefactive organisms present, and in addition thereto a short thick bacillus with rounded ends, which had the appearance of the bacillus of bubonic plague. It was readily decolorized by Gram's method. Animal inoculations were made from this material, which killed a guinea-pig within thirty hours and a white rat in five days. Drs. Kellogg, Kinyoun and Ryfkogel were present at the autopsy.

Case 4.—Lee Sun Kong, aged 47, died March 18, at Oneida place. When seen, forty-eight hours after death, the face was swollen and edematous. The skin of the whole body and part of the face and neck was greenish black. There was but little enlargement of the lymphatic glands. The lungs were dark and congested, but there were no evidences of pneumonia. The heart was soft and flabby, the walls of the ventricles thin, but there were no valvular lesions present. There was an inflammation of the peritoneum, the cavity of which contained one or two pints of turbid bloody fluid. The spleen was enlarged and very dark and soft. Microscopic examination of the blood and spleen demonstrated myriads of putrefactive organisms, and also a short thick bacillus with rounded ends, corresponding morphologically and in staining reaction to that of the bacillus of plague, and also corresponding in every respect to the organism found in the previous cases. This organism was not isolated in pure culture.

Case 5.—Law An, male, aged 38, a resident of California for thirty years, died April 24, in St. Louis alley, off Jackson street. This man had a large bubo in the left femoral region. Incision disclosed considerable bloody fluid and hemorrhages in surrounding tissues. Coverslip preparations showed among other organisms the bacillus of plague. Two guinea-pigs were inoculated, with the result that one died in fifty-eight and the other in sixty-one hours. Both these animals showed typical lesions of the plague, and the bacillus was found in large numbers in the spleen and heart's blood.

Case 6.—Lim Fa Muey, female, aged 16, died at Clay Street, May 11, seventeen days after the fifth case. She had a large bubo on the right side, in the femoral region, over which a sticky black plaster had been applied by a Chinese physician. The glands were as large as walnuts, dark, and the interior soft and mushy. Smears showed the specific bacillus, and its identity was confirmed by inoculation experiments on animals by Dr. Kellogg. Dr. J. J. Kinyoun also made inoculation experiments and got positive results.

Case 7.—Chu Sam, merchant, fifteen years in California, died May 11, at 717 Jackson street, aged 38. Dr. Kellogg saw this case on the day of death, with Dr. Wilson, at which time there was nothing visible to account for death, and the only suspicious thing about it was the heat of the body, which was quite noticeable, although twelve hours had elapsed since death. There was some distension of the abdomen with gas. There was a slight enlargement of the lymphatic glands in the femoral region, more marked on the left side, and these Dr. Kellogg removed for examination; but their appearance was so innocent that he set them aside and did not inoculate with them until forty-eight hours after removal.

The next day we went down to perform an autopsy and found the body in such a state of decomposition that we could not have recognized it as the same one we saw eighteen hours before, had it not been for a secret mark which we used to prevent substitution of bodies. The face was puffed up and edematous, the abdomen almost ready to burst with contained gases, and the skin discolored all over. The heart was very flabby, walls thin, and ventricles distended with gas; the lungs were normal, and the peritoneum was slightly inflamed. There was some fluid in both pericardial and peritoneal cavities. The speen was much enlarged, being six inches long, four inches wide and two thick. Color, a dark greenish slate with reddish patches. Smear preparations from the blood and spleen showed many organisms, but nothing resembling the bacillus of plague. Animals inoculated from the spleen died of toxemia, but no pest organisms could be demonstrated in them. The lymphatic glands, removed the day before autopsy, were slightly enlarged and showed slight hemorrhages into the gland substance; but they were firm and otherwise normal. A smear preparation showed a few organisms resembling the bacillus of plague, as seen in cultures. A guinea-pig which was inoculated with an emulsion of the glanduar substance died on the sixth day, with most typical lesions of plague. The spleen was at least ten times its normal size, covered with yellowish spots which, when examined, showed the presence of the plague bacillus in enormous numbers and in pure culture. The whole of the abdominal wall was edematous and there was an extensive coagulation-necrosis about the site of isolation. The organism was isolated from the spleen in a pure culture. The appearance of the body and also the pericardial lesions and general condition of the viscera were in every way identical with Cases 2, 3, and 4, already reported, in which difficulty was encountered in isolating the organism. It is believed, in view of the fact of this case, that if the glands had been taken from Cases 2, 3, and 4 as soon after death as in this case, and animal inoculations made from them, the same results would have been obtained. In this case, before the results of animal inoculation were known, the obscurity of the lesions seemed to be more in keeping with beri-beri than with bubonic plague.

Case 8.—On May 15 Dr. J. J. Kinyoun was informed by the assistant city physician, Dr. F. P. Wilson, that he had been notified of the death of a Chinese girl, which had occurred at the Pacific Hospital on the previous evening. The history obtained from the attending physician was that the girl, Chin Moon, was 16 years of age, a servant in a respectable Chinese family, at 730½ Commercial street, and had been ill for about five days. The girl was seen about three days before she died, and the symptoms then presented were headache, high fever, nausea, and pain in the right iliac region. The attending physician made a diagnosis of typhoid fever, and, observing the case to be very critical, had her sent to the Pacific Hospital; she was then in a moribund condition, and died on the following day. The attending physician at the hospital also made a diagnosis of typhoid fever and stated to me over the telephone that probably here was appendicitis. Dr. Kinyoun was invited to be present and assisted Drs. Kellogg and Wilson in making the post-mortem examination. An inspection of the body showed it to be well-nourished, and presenting no evidence of long illness. In the right femoral region there was rather an obscure swelling, which on palpation revealed a considerable mass of glands about the size of a walnut. Dr. Kellogg made an incision through the tissues down to this mass and demonstrated the correctness of the diagnosis. The swelling was a mass of enlarged glands. The tissues surrounding this mass of glands were edematous, containing a quantity of bloody serum. The mass of glands was dark, and hemorrhagic on section, and it was soft and necrosed in the center. Immediately on its removal Dr. Kellogg cut the mass in two, which on examination revealed the same organisms as had been previously observed in the glandular tissues of previous cases.

On the morning of May 14 Dr. Kellogg inoculated two guinea-pigs, weighing about 500 grams each, with an emulsion made from this glandular tissue. Death occurred in these pigs in sixty hours. Examination of guinea-pig No. 1 showed edema covering the whole of the abdominal wall. The peritoneal cavity contained a large quantity of bloody serum. The spleen was enormously enlarged, dark in color, and friable. Yellowish spots were observed on its free surface. The liver was enlarged and darkened, and the intestines were darkened and congested. The mesentery contained a considerable number of small hemorrhages in and about the mesenteric glands. The pleural cavity and the pericardium contained a considerable quantity of bloody serum. Coverslip preparations made from the point of inoculation, from the spleen, from the liver and from the heart's blood, showed an enormous number of short bacilli, having rounded ends, taking a typical bipolar stain. Cultivations were made from the several organs. In guinea-pig No. 2 the appearances were identical, with the exception that the spleen did not contain yellowish spots, as previously described in the case of guinea-pig No. 1. Coverslip preparations made directly from a portion of the mass of glands removed from the Chinese girl showed enormous numbers of a short bacillus with rounded ends, taking the characteristic stain. Cultivations were also made from this piece of gland, with the result that after thirty-six hours numerous colonies were observed on the surface of the agar and blood-serum. The cultures made from the several organs of the two guinea-pigs showed after thirty hours numerous small colonies on the surface of the blood-serum and agar tubes. These colonies were transparent, and when viewed under a low power were seen to be very slightly granular, and had a slightly irregular contour. Coverslip preparations made from these colonies gave identically the same picture as observed in the original preparations from the gland. The organism was non-motile. These pure cultures killed the animals injected with them, within sixty hours, and the post-mortem appearances were identical in every respect with those observed in the animals inoculated with a portion of the gland. Dr. Kinyoun, who was present at the post-mortem examination of this Chinese girl, took tissues directly from the body, and made independent examinations clear through and the above description is an amalgamation of the notes made both by Dr. Kellogg and Dr. Kinyoun.

Case 9.—Herr Woon Jock, aged 53, male, laborer, married, ten years in California, had recently arrived from Stockton. He died May 14, at 740 Pacific street. Examination showed a bubo on the left side in the femoral region. The skin over the swelling was slightly discolored. The gland was dark and mottled on section, contained considerable serum, and the glandular tissue was soft and mushy. The smear preparation showed great numbers of the bacillus of plague, the identity of which was confirmed by animal inoculations.

Case 10.—Dang Hong, aged 40, male, laborer, a resident of California for the last sixteen years, died May 29, at 706 Pacific street. There was a large fluctuating swelling under the left side of the jaw, and a slight enlargement of the glands in the femoral region. Dr. Kellogg cut down on the glands on the left side and found them necrosed, and some thick pus present. A smear preparation showed the plague bacillus in the glandular tissue from both sources. The next day at 11 a. m. an autopsy was performed, at which were present Drs. Shrady, Montgomery, Kinyoun, Wilson, Morrissey, Cable and Kellogg. The lungs were normal, the heart muscle pale and flabby. About six ounces of bloody serum was found in the pericardial sac. The pleuræ contained about a pint each of the same fluid, and the peritoneal cavity three or four pints of bloody-serum. There were no lesions of Peyer's patches, but congestion of the peritoneal coat of the small intestine in spots. The great omentum showed intense congestion; the spleen was perceptibly enlarged and its substance a reddish brown color; and the mesenteric glands were enlarged. Animals were inoculated with the emulsions made from lymphatic glands, by Dr. Kinyoun and Dr. Kellogg, independently, and all died with typical plague infection.

Case 11.—Chen Kuey Kim, cigarmaker, single, aged 49, died June 2, at 10 a.m., at 817½ Clay street, between Dupont and Stockton streets. He had lived twenty-five years in California. An unreliable history of nineteen months' illness, with cough, was obtained from the undertaker and the Six Companies' physician. It was also stated that he had been sick for four or five days before death. The body was that of a large, well-built and well-nourished man. There was an incision in the left groin and on the right side of the neck from which the lymphatic gland had been removed. The integument was beginning to turn dark all over the body, but was more marked on the face and neck. The median incision passed through about an inch of fat. The lungs were dark and congested, but otherwise normal. The pericardium contained about 60 c.c. of bloody serum. The heart was a trifle flabby, but showed no valvular lesions: peritoneum dry; spleen enlarged and showing petechial hemorrhages beneath the capsule. A cross-section showed numerous yellow dots all through its substance, which was soft and friable. The mesenteric glands were enlarged and showed evidence of inflammation. Kidneys normal. By enlarging the incision found in the left groin a lymphatic gland about the size of a hazel nut was found, which as necrosed. Microscopical examination of this gland and of the heart's blood and spleen showed the presence in enormous numbers of the plague bacillus.

The autopsy on this case was performed by Dr. Donnelly, assistant bacteriologist, and was witnessed by Drs. F. P. Wilson, assistant city physician, Dr. Henderson, member of the State Board, and Dr. Kellogg. Drs. Henderson and Wilson accompanied Dr. Kellogg to the laboratory, where they were joined by Drs. Kinyoun and Baum, and where the preliminary examination of the blood, spleen and lymphatic glands was made and witnessed by the above named gentlemen. A coverslip preparation of the blood stained with thionin showed a marked leucocytosis and the presence of large numbers of the bacillus pestis, which were short rods with rounded ends, bipolar staining and frequently occurring in pairs. The Gram method of staining was also tried and they were found to decolorize perfectly. The spleen and lymphatic glands were simply crowded with large masses of the same bacilli, which was enough in itself to establish the diagnosis. To make assurance doubly sure, a guinea-pig was inoculated with an emulsion made from a piece of the spleen, with the result that it promptly died on the sixth day with the most typical and positive appearance of plague. The organism was recovered from the organs of the guinea-pig in pure culture and has been fully identified. Another pig was inoculated with this culture with the same result. Dr. Henderson, of the State Board of Health, witnessed preliminary examination of this case and took away with him slides which were made and sealed in his presence.

Case 12.—Jay Man Tong, male, aged 60, merchant, residing at 759 Clay street, a high official in the Six Companies. According to a certificate signed by white physicians employed by the Chinese, he had been sick for a year, and had died June 9, at 3 a. m. of angina pectoris; was said by his friends to have suffered from pain in the chest and cough for a year previously, and that his death was sudden.

Autopsy was performed June 9, at 1 p. m. The man was five feet ten inches in height, and weighed about 175 pounds. Body was well-nourished. Impaired tricuspid valve. Blood, in heart cavities, fluid. Two or three ounces of clear serum in the pericardium. Lungs normal. Some bloody fluid in the peritoneal cavity. Intestines were dark—distended with gas—and showed evidences of intense inflammation. Injection of vessels of mesocolon. Appendix normal. Spleen slightly enlarged.

Dr. J. J. Kinyoun reported on the animal experiments in the case of Jay Man Tong as follows:

June 10, 1900.—Guinea-pig 1, inoculated with emulsion of mesenteric glands stated by Dr. Kellogg to have been taken from the body of the Chinese, Jay Man Tong, who died the day before. Guinea-pig dead in 46 hours. Autopsy showed considerable edema at the point of inoculation, a slight enlargement and marked congestion of the inguinal glands, particularly on the right side. The spleen was not enlarged. The lungs were in a state of commencing pneumonia. The peritoneum was dry.

Coverslip preparations made from the point of inoculation, the spleen, heart's blood and lungs showed a large number of bacilli, short and thick, having rounded ends, with a tendency to bipolar staining. Cultures made from the spleen and heart's blood. After about sixty hours, the several cultures were examined and found to contain a mixture of several organisms, many of which were the same morphologically as those found in the tissues of the animal. It became necessary to again make secondary cultures to isolate the several species.

June 11.—White rat, half grown, was inoculated with emulsion of the gland from Chinese dead June 10. Rat died after eighty-four hours.

Autopsy showed marked edema, and extensive suppurative necrosis of the abdominal wall, at the point of inoculation, some peritoneal effusion, spleen enlarged and dark in color. The kidneys were the seat of small abscesses. Coverslip preparations made from the point of inoculation, spleen, kidneys and heart's blood, showed enormous numbers of a short thick bacillus having rounded ends, bipolar staining, which were decolorized by Gram's method. Cultures made from the heart's blood, spleen and kidneys were examined after forty-eight hours, when large numbers of colonies of several varieties of bacteria were found. The colonies were so numerous and overgrown that it was impossible to isolate them, so secondary cultivations were necessary.

After several days colonies were isolated which corresponded in every way with those of the plague bacillus. June 24, 1 a. m., a half-grown white rat was inoculated with this culture. Animal dead June 27, 80 hours. Autopsy made June 28 in the presence of Drs. Ryfkogel and Fagan. There was a considerable area of suppurative necrosis at the point of inoculation, and an extensive edema covering the whole abdominal wall. The intestines were dry; spleen enlarged, dark in color and friable. Coverslip preparations made from the spleen, point of inoculation and the heart's blood, showed a short, thick bacillus, having rounded ends, which took a characteristic bipolar stain with thionin. It was decolorized by Gram's method.

Cultivations were made from the spleen and heart's blood and showed at the end of forty-eight hours characteristic colonies of the plague bacillus.

Besides the above cases, there were a number where the indications pointed strongly to the plague, but where either from advanced decomposition or superinfection, the plague bacillus could not be isolated.

The only bacteria which, in their size, shape and coloring peculiarities, might be mistaken for those found in the above cases, are those of hog cholera and those of septicemia of rabbits. Neither the hog-cholera nor the rabbit-septicemia bacilli, however, would be pathogenic for rats; they are therefore excluded as sources of error. The points of resemblance are very few, but Dr. Ryfkogel, to settle the question, inoculated a pigeon with plague bacilli from those cases, with no result. If they had been chicken-cholera or rabbit-septicemia bacilli, they would have killed the pigeon. The plague bacillus is innocuous to pigeons.

On the other hand, every fact speaks for a diagnosis of plague, and nothing valid has, up to the present, been brought against this view.

The following are the arguments against the existence of plague in Chinatown:

1. No two cases have been reported as occurring in the same house; 2. No diagnosis of plague had been made on a living patient; 3. The number of cases found has been too small for so virulent a disease as the plague, and the death-rate in Chinatown has not been notably increased.

In answer to the first objection, it must be remembered that the habitation of a given Chinaman in our Chinatown is a difficult matter to fix, especially at such a time as the present, when they are alert and suspicious. I believe it could only be accomplished by police registration similar to that practiced in European countries.

It is true that no diagnosis of plague has been made on a living patient, and I have it from a China woman, who is an educated physician, that no living patient having the plague will be found until the number of sick is so great that they can not be hidden. At one time lately the corps of white inspectors, all educated physicians, went over Chinatown three times in five days, from Monday till Friday inclusive, without finding any one sick. During three of these days, Monday, Tuesday and Wednesday, no deaths were reported in Chinatown; then immediately thereafter, two and three deaths a day were reported for several days. It is absurd to suppose that in a population of between twenty-five and thirty-five thousand, even when deaths were occurring, no one was sick.

In answer to the third argument against the plague being in Chinatown, it must be remembered that plague does not enter a community rapidly, but slowly and insidiously, and it is not till many disease foci are established that the disease assumes the proportion of an epidemic. It is thought by some well-informed men that the plague strikes a community with the same rapid malignancy that it attacks an individual. This is not so. It advances slowly in a community, attacking house after house. The people living in an infected house fall ill of the disease, but not even all the people in such a habitation contract the plague, or at least not all at the same time. Doctors and inspectors, as is well known, for instance in Bombay, visit such houses with impunity, but do not linger in them.

The outlook for the future is not bright. The plague has a tendency to subside during the summer, but probably it will appear with increased violence next winter. The board of health has done and is doing all the sanitation possible with the meager funds at its disposal, and there is some agitation on foot to put Chinatown in a thoroughly sanitary condition. The heart of the people is, however, not in the work, and they refuse to believe the plague is present. The daily press keeps up a steady abuse of the board of health, and of Dr. Kinyoun, on one hand, and urges several fantastic, impracticable schemes for cleaning Chinatown, on the other. Glimmerings of the truth, however, occasionally filter through. They protest too much that the plague is not present, and on June 29 last, one of the bitterest enemies of the board of health, the *San Francisco Chronicle*, in an editorial, even spoke of Chinatown as "the infected property." Infected with what?

It is a wise custom of the medical profession not to answer abuse appearing in the daily press by return abuse, and the board of health, Dr. Kinyoun and Dr. W. H. Kellogg have acted up to the best traditions of the profession in this respect. They have done and are doing their work well, without paying any attention to the papers.

SPECIAL ARTICLE.

RELATION OF PHARMACY TO THE MEDICAL PROFESSION.*

VIII.

ELIXIRS.

In the administration of liquid medicines, eligibility of the preparation is of importance scarcely secondary to that of therapeutic efficacy. With the advent of the elixirs, the former impalatable mixtures and decoctions were made not only more palatable but often even inviting to the other physical senses—odor and color. For about twenty years—1870-1890—the elixirs enjoyed great medical favor, they with the fluid extracts being the chief product of nearly a score of manufacturing pharmacists of national reputation. But like many other good things, the "elixir idea" became a craze; everything desired was presented in this form until drugs of the most repugnant taste, as well as agents of the most incompatible character, were associated in the form of elixirs. As the preference for the elixir rested primarily upon its name, suggestive of something sweet and agreeable, there was much rivalry engendered through the desire to present the most elegant and palatable preparations, with the result of sacrificing therapeutic quality and strength for elegance and taste.

---

* The first of this series of articles appeared in THE JOURNAL of April 21.

THE DECADENCE OF ELIXIRS.

As a consequence the elixirs fell into disrepute and, with but few exceptions, are now comparatively seldom used. And yet the elixir is the best form of administration adapted to a great many medicinal agents and their combinations, if proper care and judgment be exercised in their selection. To produce an agreeably flavored saccharine vehicle, containing sufficient alcohol to make it a good solvent, and to promote the prompt absorption or effect of the medicinal agent, and, when required, associated with adjuvants and correctives to mask the taste and to modify their effect, is to realize the ancient motto of Asclepiades: *Curare, cito, tuto et jucunde.*

The decadence of the elixirs was also greatly encompassed by the various solid forms of preparations, modifications of pills, such as tablets, which have for some time been the ruling fashion. The tablets have much less to commend them as a general form of medication than have the elixirs, but, unlike the elixirs, neither incompatibility nor insolubility needs to be taken into consideration in their preparation. In the elixirs the most apparent of such pharmaceutical objections were self-evident, but in the tablets "everything goes," and to this fact, more, perhaps, than any other, do the tablets owe their popularity.

CASCARA PREPARATIONS.

While there is no end of cathartics, and numberless combinations of these in pill, granule and tablet-form, there has always been a desire for a liquid laxative of pleasant taste, prompt but agreeable in effect. For children, women and persons of sedentary habits generally, such a preparation seems almost a necessity. Until the introduction of cascara sagrada some twenty-five years ago, this want was filled chiefly by senna and, on the Continent, by Rhamnus frangula, somewhat similar in its action to cascara sagrada (Rhamnus purshiana). The value of senna, aside from its immensely popular domestic use, is attested to by the medical favor even such proprietary medicines as Syrup of Figs have enjoyed. As has already been pointed out, that largely used domestic medicine "Castoria" is substantially a syrup of senna. The official syrup of senna will be found a superior preparation, provided it is made strictly according to the process of the Pharmacopeia. With reference to the cascara preparations, there are several things to be taken into consideration in determining the activity of its various preparations and their indications. No experienced physician will prescribe such gentle laxatives as senna or cascara sagrada when a strong cathartic or purgative is indicated, and yet fault is often found with cascara preparations because they do not act in those cases in which a saline purgative, or castor-oil, should have been administered. The very mild action of cascara is what makes it valuable in habitual constipation, its administration gradually restoring the intestinal movement to its normal condition and it should therefore not be administered when irritants, such as aloes, colocynth, podophyllum and other resins, are indicated. Owing to the great demand for cascara sagrada, to its being indigeenous to only a limited area on the Pacific slope, and to the fact that the bark should be collected under certain conditions, an active reliable bark is not always obtainable in the drug market, and an inferior, sometimes worthless, specimen of the drug is used for its preparations. To disguise its extremely bitter taste, various drugs have been used, chiefly licorice, and also aromatics and correctives. More recently the so-called tasteless preparations of cascara have been introduced. These are made by combining magnesia with the drug, which modifies the bitter taste, and, it is said, also its cathartic action. The first of these preparations was the "Cascara Cordial," whose formula was published whn introduced by the manufacturers. It contained berberis aquifolium with licorice and aromatics. Other similar preparations are: "Arolax," "Elixir Purgans," "Elixir Purgative," "Kasagra" and many different brands of "Cascara Aromatic" of which the "Extractum Rhamni Purshianæ Fluidum" of the National Formulary is the type. This is the fluid extract of cascara deprived of bitterness, containing some licorice and flavored with compound spirit of orange.

The following elixirs are also given:

Elixir Rhamni Purshianæ, N. F.

℞.	Fl. ext, rhamni pursh	ʒ6¼	25
	Elixir taraxaci comp.	ʒ18¾	75

M.

Elixir Rhamni Purshianæ Compositum, N. F.

℞.	Fl. ext. rhamni pursh	ʒ3⅛	12	5
	Fl. ext juglandis	ʒ1⅝	6	5
	Syrupi senna	ʒ6¼	25	
	Elixir taraxaci comp.	ʒxxv	100	

M.

The dose of either of these is one to two teaspoonfuls.

VIRBURNUM COMPOUNDS.

There are many preparations of virburnum of similar composition. While Virburnum prunifolium or "black haw" was not introduced into general practice until about twenty-five years ago, the Virburnum opulus or "cramp bark" had long been used as a uterine tonic and sedative, especially by physicians in the Central States. Associated with these were the "false" and the "true unicorn root," Aletris farinosa and Helonias dioica; "life root," Senecio aureus; "Wildgam," Dioscorea illosa; "skullcap," Scutellaria lateriflora; "skunk-cabbage," Symplocarpus fœtidus, "blue cohosh," Caulophyllum thalictroides, "squaw vine," Metchellarepens; Hydrastis Canadensis and similar indigenous drugs.

Formulas for various decoctions, tinctures, extracts and syrups of these drugs have appeared in the American Dispensatory and have been largely employed by the so-called eclectic physicians. Many similar preparations are offered at the present time under more or less descriptive or therapeutically suggestive names.

Among these may be mentioned: "Aletris Cordial," "Helonias Cordial," "Diovibурnia," "Utero-tonic," "Eumetria," "Liquor Uterans" and "Hayden's Virburnum Compound." The latter, prepared after the formula of Dr. Hayden, is the most popular of all these preparations. The famous "Lydia Pinkham's Vegetable Compound" is of somewhat similar composition. As will be seen, this group represents only the more simple of galencial preparations, or mixtures, and does not require any special skill in manufacture. The drugs are easily obtained from which the preparations are made by extraction with suitable mentsrua, as in the following from the National Formulary:

Tinctura Viburni Opuli Composita.

℞.	Virburnum opulus		
	Dioscorea, āā	ʒviiiss	35
	Scutellaria	ʒiiss	10
	Cloves	ʒxiiss	50
	Cinnamon		
	Glycerin, āā	ʒxviss	65
	Alcohol	℥xxiv	750
	Aquæ, q. s. ad	℥xxxii	1000

M.

Or a prescription may be formulated:

R.	Fl. ext. viburni opuli	m.160	10
	Fl. ext. dioscoreæ		
	Fl. ext. scutellaria, āā	m.80	5
	Tinct. cinnamomi		
	Tinct. caryophylli, āā	ʒ6¼	25
	Glycerini	ʒ2½	10
	Elixir adjuvantis	ʒ30	120

M. Sig. c. p., t. i. d.

Somewhat similar is the well-known preparation "Celerina," the "nerve tonic and stimulant," said to contain in each fluidram 5 grains each, coca. kola, virburnum and celery.

The National Formulary has the following:

Elixir Apii Graveolentis Compositum.—(Compound Elixir of Celery.)

R.	Fl. ext. apii sem.		
	Fl. ext. viburni prunifol.		
	Fl. ext. erythroxylon		
	Fl. ext. sterculide, āā	ʒiss	6
	Elixir aromatici, q. s.	ʒxxv	100

In order to prevent confusing the botanic name "Apium" with "Opium," the full name of the celery plant, Apium graveolens, has been selected for the title of this preparation.

"MERELY MIXTURES."

While these preparations are largely prescribed and no doubt useful, the various drugs from which they are prepared have nearly related virtues, and the different combinations, it would appear, could be formulated as wanted, with better advantage to the physician, patient and pharmacist. The fluid extracts and tinctures of these drugs, prepared from the best quality of drugs, are easily procurable by any pharmacist, and so the preparation becomes excedingly simple. This group may easily be regarded as the class of preparations which have no *raison d'etre,* as pointed out in the last article of this series by a well-known manufacturer. They are "merely mixtures," requiring no skill in their preparation. They present no originality in combination, but when a new brand appears under a fancy name it adds to the trials of the physicians, who have, to stand in the breach and have their time and patience frittered away by the advance agents, as shown by Dr. Witherspoon in his Oration on Medicine at the last meeting of the AMERICAN MEDICAL ASSOCIATION. These unnecessarily load up the pharmacist's shelves and become a burden to him. The prices at which they sell are usually out of proportion to the absolute cost. The pharmacist is required to purchase full original bottles of each of a score or more of these different named preparations in order to dispense a small quantity occasionally, the remainder being left on his hands, until they deteriorate. He naturally complains because he is required to keep on hand so many of these similar preparations, which he could mix for the physician. He also objects because, as a rule, these preparations are introduced by those who have no interest in either pharmacy or medicine.

This class of preparations have nothing to commend them to medical men and soon degenerate into popular medicines through their suggestive titles and the many often imaginary ills they are recommended to cure.

Therapeutics

Dionin.

Smithwick has used dionin as a cough remedy in 30 cases, of which he has records: 12 of chronic bronchitis, 7 of phthisis, 3 of whooping-cough, and 8 from various other causes. Sixteen were apparently cured, 9 benefited, and only 5 not benefited. He has never noticed any unpleasant effects, in which it has a decided advantage over morphin and can be safely adapted for children where morphin should not be used. He has never noticed any tendency to habit in its use even when it is prolonged. As an analgesic it is inferior to morphin.—*Merck's Archives,* June.

Aqueous Extract of the Suprarenal Gland.

In *Merck's Archives* for June the physiologic action of suprarenal gland extract is first briefly stated by Somers, who claims that the non-toxicity of the drug renders it especially applicable for inflammations of the mucous surfaces. In no case has he observed idiosyncrasies toward the drug, and besides being harmless itself, it to a marked extent prevents the toxic effects of cocain. The solutions are non-irritating and have no deleterious after-effects. Its action being local, there is no danger of contracting a useless habit. The great difficulty has been in obtaining a stable solution that will retain its power and yet remain sterile. Putrefaction, however, does not destroy its special qualities, even after an extreme degree of decomposition. Glycerin in from 10 to 25 per cent. will prevent putrefaction for several days, and in the following formula of Ingals it will remain undecomposed from three to five weeks:

R. Adrenal ....gr. xv
Boric acid..............................gr. iv
Cinnamon water ....ʒi
Camphor water (hot)......................ʒii
Boiling water, q. s. ad..................℥ss
M. Macerate four hours; filter.

This is useful in mild congestions, but can not be depended on to control hemorrhage or subdue active inflammation. Alcohol, in proportion of 1 minim to a dram in the aqueous solution, will preserve it for three days. Salicylate of soda, 1 grain to a dram, will enable it to keep from four to six weeks, and carbolic acid in the same proportion will preserve it several months and not impair its qualities. The following formula as a local application in hay-fever is often productive of marvelous results and does not lose its physiologic activity for several months:

℞. Adrenal ....gr. xx
Phenic acid ....gr. ii
Eucaine B...............................gr. v
Distilled water..........................ʒii
M. Macerate ten minutes; filter.

Used alternately with orthoform it will prove of value in hay-fever and painful congestion of eroded mmbranes. The activity depends on the contractile power of the extract on the small arterioles and basement membrane, and it is more prominent where it can remain in contact with the tissue for several minutes. When used to prevent hemorrhage it should be applied to the parts, then cocain applied and the adrenal again applied. In operations where it has been used the results are in every way more satisfactory than when not employed, and it seems to enhance the anesthetic effect of cocain. Somers concludes that aqueous extract of suprarenal glands is the most powerful astringent and vasomotor constrictor that we possess. Its action is peripherally exerted directly on the vessel-walls and is limited only to parts with which the drug comes in contact. It is non-toxic, non-irritating, and does not cause habit or tolerance. It prevents the toxic effects of local anesthetics by retaining them in the tissues and preventing absorption, and while it readily decomposes, it does not lose by this its physiological activity. It first blanches and then contracts mucous tissues and will subdue active or passive inflammation. Its activity is not impaired by boiling, and it may be readily sterilized in this way, while carbolic acid will preserve the solutions indefinitely and not impair their value. It will prevent primary, and greatly lessen danger of secondary, hemorrhage. Its action is rapid, manifesting itself in twenty seconds, attaining its maximum in five minutes and lasting from one and one-half to twenty-four hours. It increases the tonicity of the parts, auguments the action of other drugs, especially cocain, and diminishes post-operative swelling. It markedly restricts exuberant granulation tissue wherever situated, and, finally, it diminishes secretion and aids in more rapid healing.

Treatment of Epididymitis.

That so large a majority of patients afflicted with epididymitis are compelled to remain on their feet has caused H. M. Christian, in the *Therapeutic Gazette,* March 15, 1900, to describe the treatment for this affection followed in the University and Polyclinic hospitals of Philadelphia. The testicle is first gently massaged with a small amount of 20 per cent. guaiacol ointment made up with lanolin. The same ointment is then spread on lint and applied over the affected testicle and the whole of the scrotum is wrapped in absorbent cotton. A snugly-fitting, laced suspensory bandage is then applied. This treatment is repeated every other day for about six days. By this time, inflammation has subsided, the testicle has lost its sensitiveness and an ointment made up as follows is substituted, the application being made in the same manner.

R. Ung. hydrarg.
Ung. belladonnæ
Ichthyol
Lanolin, āā..............................℥ii

If the patient can be kept in bed two or three days and the affected parts poulticed or kept enveloped in moist heat, frequently applied, and such hygienic medication administered as the case requires, before beginning the guaiacol treatment, a more speedy relief will follow. However, in the last few weeks he has treated sixty acute walking cases, and in all but six great relief from pain followed within twenty-four hours.

New Facts Regarding the Use of Croton Oil.

A. K. Bond, in the *Therapeutic Gazette,* March 15, 1900, gives the results of recent experiments with this little-used drug. It has been the custom to regard this substance as a last resort in extreme cases, and in nearly every instance the text-books state the dose as one drop. Nearly the same description is given in all text-books, namely, that it is a "violent drastic and hydragogue cathartic, which may excite an erythema, even when taken internally." For these reasons it has been shunned. The prejudice, he finds, is largely due to the dose employed. A drop of croton oil is in proportion to forty grains of calomel or one grain of opium. Confining himself to one-eighth, or one-sixth of a drop, a gentle purgative action is secured, without violent or even disagreeable results. As with many drugs, caution must be used to learn a person's tolerance of larger doses; and contraindications to its use are pronounced heart weakness or inflammation of the digestive tract.

He finds little to corroborate the idea that is extant regarding the uncertainty of croton oil, and all such uncertainty is within the power of the pharmacist or manufacturer to overcome. To avoid any such uncertainty of action, he supplies the drug personally, when required, from a vial of known strength. He has found the drug to act harshly when it followed ineffectual doses of other purgatives. The simplest method of administration is by bread pill made on the spot. In moderate doses, he finds that croton oil produces two or three small, usually dark, discharges, with very little, if any pain. He has never known hardened feces to follow its use, and thinks the drug must excite the outflow from the intestinal glands.

Pericarditis in Bright's Disease.

Bose *(Nouv. Montpellier Méd.)* concludes an article on pericarditis in Bright's disease with the following treatment:

For the heart complication, dry cups with repeated injections of ether, the latter remedy being sufficient to control the dyspnea.

For the underlying uremia, purgative enemata, wet cups over the kidneys and general blood-letting, followed by intravenous injection of saline solution.

Not too much is to be expected from the above regimen, because the double intoxication of uremia and the pneumococcus rendered all hope feeble.

To Relieve Neuralgia of Phthisical Patients.

Capitan prescribes the following ointment. A very small quantity is lightly applied and the part covered with some impermeable material and absorbent cotton. The application must be discontinued as soon as the skin becomes even slightly reddened:

℞. Guaiacol
Methyl. salicylatis, āā..........gr. lxxx
Ext. belladonnæ..........gr. iiiss
Ext. opii..........gr. iv
Vaselin
Lanolin, āā..........℥ss

In very acute cases menthol (15 grains), antipyrin (30 to 45 grains), or potassium bromid (80 grains) may be added.—*Gaillard's Med. Jour.*

Treatment of Mosquito Bites.

For the treatment of mosquito bites the application of aqua ammoniæ may counteract the infectious principle, but this is doubtful, for it does not penetrate the tissues, as did the insect's bill. At any rate it reduces the suffering if applied with a little rag and left *in situ* a few moments.

Menthol sometimes affords considerable relief, the crystalline, solid or camphoraceous substance being rubbed over the surface.

Neal highly recommends the following mixture for local applications:

℞. Pulv. ipecacuanhæ..........ʒss
Spir. vini rectif.
Etheris, āā..........℥ss
M.

Ottinger affirms that ammonia is of little benefit, and that the best results are obtained from the application of ichthyol. In numerous bites and stings of flies, gnats, bees, wasps, etc., he found that it quickly and surely caused the phenomena of inflammation—which he attributes to its vasoconstrictor action—to subside. It is best applied pure in a quite thick layer, though it may be used in the form of an ointment.

Morris also suggests painting the bites or stings with a saturated solution of either camphor or salol in ether; or a mixture of 30 grains each of salicylic and benzoic acids in 7 drams of collodion, may be tried. Brocq and Jacquet recommend the following as effective for the bites of fleas, mosquitoes, gnats, sand-flies, mites, etc.;

℞. Camphorated oil of chamomile..........parts 100
Liq. styrax..........parts 20
Peppermint essence..........parts 5
M. Apply.

When many bites have caused violent local tumefaction and congestion a cold lead-water poultice forms a very soothing application. Lemon juice is also useful.—*Monthly Cyclopædia of Practical Medicine.*

Digitalis in Pericarditis.

Baginsky, in his Berlin clinic, has found sixty cases of pericarditis in children, of which twenty-four were of rheumatic origin. Careful percussion is necessary to diagnose the condition. It is rare to see a case of polyarthritic rheumatism without involvement of the heart, and the lesions of the pericardium are proportionate to the number of recurrences. Salicylic acid he has found to fail in these cases, but he has obtained good results, notably in the relief of dyspnea and edema by administering digitalis and diuretin.—*Sem. Med.*

Nephrolithiasis.

Dr. Charles G. Cumston, of Boston, Mass., in the *International Med. Magazine*, says that in the attempt to dissolve renal concretions by alkalines he has frequently ordered the following combination, with apparently happy results:

R. Sodii phosphat.
Sodii bicarb., āā.......... 45|
Lithii carbonat.......... 10|
M. D. in scatul. Sig. A dessertspoonful dissolved in a glass of water thrice daily.

Danforth speaks most highly of potassium citrate in the dose of two grams every three or four hours, and the writer has prescribed it with good results, as follows:

℞. Potass citrat.......... 1|
Sodii bicarb.......... |5
Lithii carb., efferves.......... |25
M. In chart. No. 1. D. tal. dos. No. xx. Sig. Take four or five powders daily in a glass of water.

When there is pyelitis the writer has given urotropin, dose 5 grams in water several times daily, on account of its real antiseptic properties in the genito-urinary tract, or the following formula:

℞. Acidi benzoic.
Natrii salicylat., āā.......... 3|
Aquæ chloroformi.......... 90|
M. D. Sig. To be taken in four doses during the day.

For severe hematuria we have employed ferripyrin in several cases, with a satisfactory outcome, combined as follows:

℞. Ferripyrini .... 1|
Tinct. gentian comp.......... 10|5
Syr. cort. aurant.......... 90|
M. D. Sig. Take a dessertspoonful every two hours.
Or:
℞. Ferri albuminat.......... |25
Acidi tannici.......... |05
Sacchar. alb.......... |5
M. In chart. No. 1. D. tal. dos. No. xv. Sig. Take three or four powders daily according to indications.

A cure at some mineral resort is really of some value, and at these places the advantages of producing oxidation of uric acid by baths, strict attention to diet and a well-directed exercise, tend to have an excellent action.—*The Med. Bull.*

Treatment of Prostatis.

Abeille, of Nantes, has been very successful with an original treatment of gonorrheal prostatitis which he describes as follows in the *Revue Clin. d'Aur. et de Gyn.* After securing anesthesia of the urethra with cocain, he introduces a Nélaton sound, No. 12, and connects it with a reservoir containing potassium permanganate at 1 per 4000 or 1 per 2000, according to the ability of the urethra to support it, at a temperature of 35 to 38 C. The liquid passes through the sound up to the sphincter and flows out between it and the walls of the canal. When the penile portion is thus well irrigated, the sound is inserted through the sphincters, without interrupting the flow of the liquid, and the bladder receives the same cleansing. If there is a strong desire to urinate, the urine can pass out through the sound. With this treatment Abeille has aborted many a case of prostatitis which would have suppurated if left to itself.—*Revue Internat. de Méd. et de Chir.*

Strychnin in Alcoholic Neuritis.

E. R. Houghton (*Med. Rec.*) cites the case of a young man suffering from alcoholic neuritis, for which he was treated ineffectually for over a month. Finally he was put on 1/10 gr. strychnin four times a day, and improvement began at once. Two weeks after this treatment was begun the patient was about on crutches, and in two weeks more was walking about. At the present time (two weeks later) be is entirely well.—*Merck's Archives.*

Apomorphin.

In the June number of *Merck's Archives*, Douglas states that apomorphin acts as a prompt and well-nigh infallible hypnotic, if given hypodermically in doses of 1/30 gr. In some patients, however, this is too large and produces nausea. The proper dose is one that should just fall short of this effect, and 1/30 gr. being about one-third of the ordinary dose, it is naturally safe. He has found that it becomes inert if given in a saturated solution of boric acid, of which fact he has not discovered any mention in the medical literature. There is no danger of producing habit, as an overdose at once causes emesis. The advantages it possesses besides safety and lack of habit production, are its promptness of action in producing sleep in less than half an hour, its almost absolute certainty of action, even in the wildest delirium, and the refreshing character of the sleep.

Treatment of Uremic Attacks.

Use hypodermoclysis, provided the symptoms are not pressing and there is no trouble with absorption because of edema; when the danger is pressing, or edema is present, even in a very slight degree, use intravenous injection. In a large proportion of cases the patient should be bled, particularly if nervous excitement or convulsions are present or threatened, because this will relieve cerebral congestion, and aid in the elimination of toxins and in the absorption of the fluid from the subcutaneous tissues; or if intravenous injections are used, it will make room, so to speak, for the artificial serum. I believe this is of importance, unless the circulation is evidently very feeble from profound debility and anemia. Again, it is of great importance to aid sweating by the use of the hot pack, using care that heat stroke is not produced; but this again should not be used unless the patient fails to sweat, nor if he has a feeble heart.—*Hare: The Therapeutic Gazette.*

Oil of Wintergreen in Gynecology.

At a meeting of the Paris Obstetrical and Gynecological Society, M. Jouin reported that he had treated metritis and its various complications, but more particularly gonorrheal endotrachelitis, by means of applications of oil of wintergreen, and with success. He stated that in some cases the medicament has found its way into the Fallopian tubes, and cured old cases of salpingitis.—*N. Y. Med. Jour.*

Medicolegal.

Sixty-Four Years Makes an Old Man.—Without any discussion of what may be said to constitute an old man, or when one becomes such, the Supreme Court of Mississippi holds, in the case of Bertram vs. The People's Railway Company, that a man 64 years of age was manifestly an old man.

Not Questions for Medical Experts.—A few cases seem to support asking medical experts, in prosecutions for rape, such questions as whether that crime can be committed upon an ordinary, mature female. But the Supreme Court of Iowa says that the better opinion appears to be the other way, for the reasons: First, that to permit such evidence would allow the witness to assume the functions of the jury; and, second, the matter inquired about is not the subject of expert evidence. Wherefore, it holds, in State vs. Petersen, that an objection to a question of this character was properly sustained, as also objections to questions propounded to medical experts, based on facts that the evidence tended to prove, calling for an opinion as to whether or not it was possible for the defendant to have had intercourse with the prosecutrix, a German girl 15 years of age, against her will and objection.

Sale of Intoxicating Liquor in Compounds.—Under the law, the Supreme Court of Iowa says, in the case of State vs. Gregory, a registered pharmacist has a right to compound and sell drugs and medicines, even though they contain intoxicating liquor. But where, as in that state, he is not allowed to sell any preparation or compound, intoxicating in character, that might be used as a beverage whether or not a compound is such that a sale thereof is inhibited is not a question of law, but of fact for the jury. And, in a prosecution for keeping a liquor nuisance, or an unlawful sale of intoxicating liquor, the test would seem to be, and the court holds that the jury should be instructed, that, if the liquor sold was so compounded with other substances as to lose its distinctive character as an intoxicant, and no longer desirable for use as a stimulating beverage, and was in fact a medicine, then the sale of it by a registered pharmacist did not violate the law.

Authorized Disclosures in Murder Cases.—Section 834 of the New York Code of Civil Procedure, which provides that "a person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient," etc., was enacted for the protection of the patient, and to enable him to make known his condition to the physician without danger of any disclosure by him. In a case to which this section of the code is applicable, the privilege can not be waived by any one save the patient, and, if he be dead, the seal of the statute can not be removed. But Mr. Justice Hooker, who made these statements at a special term of the Supreme Court of New York, goes on to say, in People vs. Benham, that the aid of this section can not be invoked to shield a person charged with the murder of the patient. And, such declarations and confidential communications from the patient to the physician being admissible under this statute, when they tend to prove the crime of murder, he holds that they are none the less admissible when they tend to disprove it.

Impulses, Delusions, and Proof of Insanity.—The doctrine of irresistible impulse, which has been upheld by some supreme courts, the Court of Criminal Appeals of Texas disavows. It maintains, in Cannon vs. State, that, if a person has an irresistible impulse to commit a crime, and does not know the nature and quality of the act, he is insane. If he does know right from wrong, and knows the act to be wrong, he is not insane. Likewise, the court holds that there is no grade of delusion that mitigates crime. In other words, a party can not be half insane. If at the time he kills another he is laboring under a delusion, and such delusion deprives him of his capacity to know right from wrong, he is insane. Moreover, general reputation of insanity, the court holds, can not be proved. Nor does it consider that the sanity or insanity of a defendant's wife can throw any light upon his mental status. And because it is convinced that drugs and narcotics may have a more injurious effect upon the mental condition of one person than they do upon that of another, it holds that it is not admissible to show that one person was insane simply from the use of such drugs. Not only does it consider that this would certainly be the rule where there was no proof as to the relative physical resistance of the different parties using the drugs as to the effect of such drugs, but that it would also be the case even if the proof showed that they used the same amount of drugs for the same length of time, as it would be true where there was no proof that they used the same amount of drugs or for the same length of time.

Mental Injury Amounting to Total Disability.—In the JOURNAL of May 12, 1900, on page 1181, were given the views which the Court of Civil Appeals of Texas arrived at on this subject on a rehearing which it granted in the case of the Fidelity & Casualty Company vs. Getzendanner. As there stated, the court decided that it had erred in condemning, on the first hearing, a charge which had been given to the jury with regard to what mental injury would amount to a total disability under a policy of insurance against accidents to the person which should "wholly disable and prevent the assured from performing any and every kind of duty pertaining to his occupation." But after its first decision was rendered, and apparently before it had time to reverse itself, the Supreme Court of Texas was called upon, through the medium of a certificate of dissent, to give its opinion upon the charge in question. Whether or not it was in the meantime advised of the effect of the rehearing does not appear, but regardless of the fact that the court of civil appeals considered that it had made a mistake in the first instance in condemning the charge, the supreme court now holds that it was right in condemning it. The supreme court does not enter into any particular discussion of the general subject. It believes that the great weight of authority is against holding to a literal construction of such language as that used in this contract. At the same time, to say that one who is disabled by an injury is wholly disabled to do anything, merely because he can not do it "in a manner reasonably as effective as the same would have been performed if the injury had not been sustained," it declares seems to it a solecism in language, if it does not involve a contradiction in terms. And as that is what it considers was the practical effect of the charge in question, it holds that it involved a technical error, as it could only be justified upon the theory that the slightest impairment of the mental faculties wholly disables one who is engaged in buying and selling, for example, from pursuing his avocation, whereas such is not the fact, because there are infinite gradations in mental deterioration, and it is a matter of common knowledge that persons with some degree of cerebral disturbance may continue to proseccute with reasonable efficiency a business which requires the exercise of judgment and discretion. As well, it seems to think, say that a carpenter with a sprained finger is totally disabled, if it be that he can not pursue his calling as effectively as if he had not received the injury, although he may be able to do, without serious inconvenience, 90 per cent. as much work as he could have done before the accident happened.

Physical Examinations in Federal Courts.—It is settled in the Supreme Court of the United States, as the latter declares, that no power exists at common law to order a surgical examination of the plaintiff in an action to recover damages for injury to the person; in other words, that the court has no inherent power to make an order for such an examination in such a case. This rule, too, it expects to be followed in United States courts sitting in states where no statute has been passed providing otherwise, but in which it has been held that the court has inherent power to order the examination of a plaintiff in this class of action without the aid of a statute. And this, notwithstanding that section 721 of the Revised Statutes of the United States provides that "the laws of the several states, except where the constitution, treaties, or statutes of the United States otherwise require or provide, shall be regarded as rules of decision in trials at common law in courts of the United States, in cases in which they apply." But where a state has a statute which provides for the making of an order for the examination of the person of the plaintiff in such a case, the supreme court now holds, in Camden & Suburban Railway Company vs. Stetson, the section just quoted applies that statute to cases of such a nature on trial in federal courts sitting in that state. Nor does it consider that the citizenship of the plaintiff at the time of the injury is material so long as the court below has jurisdiction of the case and the parties at the time of the commencement of the action. Such a state statute, the one under consideration being the New Jersey act of May 12, 1896, it does not think violates the federal constitution. The statute, it says, concerns the evidence which may be given on a trial in the state, and, it further holds, does not conflict with any statute of the United States upon that subject. It is not a question of a general nature, like the law merchant, but simply one concerning evidence based upon a local statute applicable to actions brought within the state to recover damages for injury to the person. Hence, the statute comes with the principle of the decisions of this court holding a law of the state of such a nature binding upon federal courts sitting within the state.

On Vaccination and Revaccination.—Section 23 of chapter 214 of the North Carolina laws of 1893 contains, among other provisions, this clause: "The authorities of any city or town, or the board of county commissioners of any county may make such regulations and provisions for the vaccination of its inhabitants under the direction of the local or county board of health or a committee chosen for the purpose, and impose such penalties as they may deem necessary to protect the public health." This, the Supreme Court of North Carolina holds constitutional, being, as it pronounces it, in the case of State vs. Hay, an exercise of that governmental police power to legislate for the public welfare, which is inherent in the general assembly, except when restrained by some express constitutional provision. It calls it but everyday common sense that, if a people can draft or conscript its citizens to defend its borders from invasion, it can protect itself from pestilence by such measures as medical science has found the most efficacious for that purpose. If, in the days of imperfect communication, smallpox often destroyed a third or more of the population of a country which it attacked, and so futile was every other precaution and the most careful seclusion that the greatest sovereigns fell victims to it, the court points out that the present rapid means of intercourse between the most distant points would so spread the disease as to quickly paralyze commerce and all public business, if the government could not at once stamp it out by compelling all alike, for the public good as much as for their own, to submit to vaccination. True, there are those who, notwithstanding the well-ascertained statistical facts with regard to the protection afforded by vaccination, deny the efficacy thereof, as there are always some who will deny any other result of human experience, however well established. But the legislature, acting in its best judgment for the public welfare upon the information before it, having deemed vaccination necessary for public protection, its decision, being within the scope of its functions, must stand until repealed by the same power. The power of the legislature to authorize county and municipal authorities to require compulsory vaccination, has been exercised by nearly every state, and there are no decisions against it. And the court goes on to say that even if it were of opinion with the small number of medical men who contend that vaccination is dangerous to health, and not a preventive of the disease; the court is not a paternal despotism, gifted with infallible wisdom, whose function is to correct the errors and mistakes of the legislature. Taking up the construction of section 23 before mentioned, the court holds that it does not require that the board of aldermen of a city shall pass the ordinance authorized in conjunction with the board of health. It holds that it merely provides that the execution of the ordinance—i. e. the vaccination—shall be under the direction of the local board of health, or a committee appointed by the aldermen. And it holds a valid exercise of the power conferred the passage of an ordinance, on the 13th of the month, that all citizens of the city "not successfully vaccinated within the last three years" should be vaccinated between that date and the night of the 17th, and that all persons refusing to be vaccinated should be fined $10 for every day they refused after being called upon by the doctor appointed, or imprisoned for 30 days. It says that it is true that there may be some conditions of a person's health when it would be unsafe to submit to vaccination, and which, therefore, would be a sufficient excuse for noncompliance; but, it holds, it does not vitiate the ordinance that such exception is not provided for and specified therein. It is not a defense that a person *bona fide* believes that it will be dangerous for him to be vaccinated, or believes that he is already sufficiently protected by former vaccination. Nor, the court further states, would the opinion of his personal physician on either point be conclusive (though it would naturally have weight with the jury), for there might be evidence or circumstances tending to the contrary. Indeed, as to a former vaccination being sufficient protection, the court holds that the opinion of the official physician supervising the vaccination should be presumptively correct. Finally, that which would relieve from a compliance with the ordinance, it holds, is a matter of defense, the burden of which is upon the defendant, and is a fact to be found by the jury.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, JULY 14, 1900.

PYREXIA AND ANTIPYRESIS.

There was a time when the febrile process, as well as the inflammatory one, was considered a distinct morbid entity, with more or less constant and characteristic features; and, although we are not yet cognizant of the intimate nature of the reactions that take place under such conditions, it is appreciated that they are due to the operation of a number of factors of varying kind and degree; so that the resulting phenomena may be correspondingly variable. It has further been maintained, as Liebermeister[1] points out in a philosophic communication on the subject of antipyresis, that the course of the febrile process should not be interfered with, but that it should rather be supported. It has, however, been learned more recently that while there are some conditions in which this precept is a good one to follow, there are others in which it is advisable to control the fever.

It was at one time thought that the febrile process represented a curative effort on the part of Nature, and antipyresis was, therefore, believed to be contraindicated; and, even now, fever is conceded to be a factor in the process of recovery, although when necessary, steps should be taken to mitigate its severity. Cold water has been employed on a larger or smaller scale for more than one hundred years, but it is only within the past forty that it has received at all systematic application. If it be granted that the febrile process exerts a conservative effect, it should not be forgotten that it is also capable of harm.

The dangers of fever depend in part on the fact that the total bodily metabolism is increased, while in consequence of impairment of appetite and of digestion, nutritional compensation is rendered more difficult; therefore, fever of any considerable degree is attended with loss of flesh, and long-continued, chronic fever may result in marked emaciation. In acute febrile diseases, and when the fever is high, there is also danger from the elevation of temperature itself. The human organism and all of its functions are adjusted for a temperature of 98.6 F., and any considerable deviation from this must have a bad effect on both structure and function, as manifested especially in parenchymatous degeneration when the temperature remains persistently high.

All tissues exhibit, during the existence of fever, a tendency to degeneration; so that mechanical or chemical influences that occasion little or no harm in the healthy body induce most serious changes, or even necrosis or gangrene. Wounds and ulcers show no tendency to heal while fever is present, but rather a disposition to extend. The functions of vital organs, as the heart and the brain, are interfered with by high bodily temperature. Cardiac weakness gradually develops in the presence of persistent high fever, and paralysis of the heart is one of the most common intimate causes of death under such circumstances.

On the other hand, as has been already stated, the febrile process is attended with increased metabolism, and this is antagonistic to the invasion of micro-organisms, and probably also inimical to their presence. It may be concluded that combustion of the bacterial toxins is, at the same time, hastened by general increase in oxidation processes. The indication for the physician is, therefore, to inhibit the deleterious effects of fever, without interfering with its beneficial effects. Practical have outstripped theoretical considerations in this connection, and, for a long time, abstraction of heat has been resorted to for the relief of severe febrile disorders, and when the treatment has been judiciously carried out, the results have entirely justified the practice. It may be admitted that the febrile process need not be attacked in every case, but only when it is attended with or threatens danger.

When abstraction of heat is desired, the full bath is the most efficient agent, and this may be, in accordance with the nature of the disease and of the patient, tepid, cool, or cold. During the cold bath, while heat-dissipation is increased and the temperature of the surface is lowered, heat-production also is increased, and the temperature of the interior of the body is perhaps raised, although subsequently the internal temperature also declines. Thus, by repetition of the bath, sufficient reduction in temperature can be effected to avert danger from this source, while at the same time the curative effect of the febrile process is not prevented, in so far as this depends on increased metabolism. Respiration becomes deeper, the action of the heart strengthened, the mind clearer, appetite and digestion improved, the patient feels refreshed and recuperative sleep is favored. Perhaps, also, toxins present are destroyed as a result of increased oxidation-processes. In order not to lose the good effect of the febrile process, it is Liebermeister's practice not to interfere, as a rule, with the fever during the day, unless it be excessive, and to give a sufficient number of baths during the night to bring about a satisfactory remission. The danger of high fever resides especially in its continuousness, and the plan mentioned overcomes this.

Hyperpyrexia may, however, be more conveniently reduced by the use of antipyretic drugs; but the results from the use of such remedies exclusively have been by no means good, because, even if no toxic effect is induced, the useful influence of the febrile process is also removed with the reduction in temperature. Antipyretics may, however, be advantageously employed in cases in which the baths appear incapable of inducing remission in the fever, or in which they are contraindicated for one reason or another. The object to be attained, however, is not an entire suppression of the febrile process, but rather the induction of adequate remissions from time to time.

---

[1] Berliner Klin. Woch., 1900, No. 12, p. 249.

THE RELATION BETWEEN PATHOLOGY AND THERAPEUTICS.

Intelligent and successful treatment—prophylactic, curative, paliative—obviously demands a proper knowledge of the causes and the processes of disease. It is imperative, for the judicious application of therapeutic measures, that one be able to discriminate normal from abnormal effects, as well as to appreciate those induced through the intervention of art. It may at times be helpful to aid the natural processes, not less than to check, or to divert them as occasion requires. The last two decades have witnessed a wonderful transformation in our conceptions of pathologic processes, and it will scarcely be contended that we have yet wholly emerged from the obscurity that naturally attends the evolution of a new phase of knowledge. The progress made in this department of medicine has in turn not been without a profound influence on what after all is the ultimate function of the true physician—the preservation of health, the prevention and the cure of disease, and the relief of suffering.

In a philosophic essay, delivered as the annual address before the Medical and Chirurgical Faculty of Maryland in 1896, Dr. S. Solis-Cohen[1] forcefully pointed out that health and disease are not entities or forces, but states of the organism. Health, he defined, as the condition in which the adjustment of internal relations to external relations is most readily maintained. Disturbance of internal relations constitutes disease, and this may result from failure of internal adjustments, from failure to react properly to changes in external relations, or from failure in the process of reaction and readjustment. Schleich describes disease as "a form of the struggle for existence against those injurious influences to which man is not yet adapted," while, according to Hueppe, disease may be looked upon as an endless chain, from which, if any link be missing, the closing of the chain is impossible, and disease can not occur. Cohen further maintains that disease and recovery are alike vital processes, sometimes one continuous process, in which the organism itself is the most active agent. Neither the agents provocative of disease nor the agents used in treatment impart to the organism new qualities, or introduce into its operations new powers. They may modify that which is habitual, or they may evoke that which is latent. The power of the human body to return to health comes from within, and not from without, as a natural endowment, and not as a gift of art.

In a thoughtful paper read recently before the Practitioners' Society of New York, Dr. T. Mitchell Prudden[2] points out that the practitioner, after all, is ever a pathologist, his clinical observations being really studies in pathologic physiology. At an earlier period the most distinctive function of the physician-pathologist was the making of autopsies and the naming of tumors. Later, as the work of the pathologist became more thoroughly specialized, his most obvious aim was to discover some new lesion, or to give greater precision to the morphology of an old one; to gather statistics; to exploit organs of exaggerated size; and in general to celebrate the monstrous and the strange. Description and classification became the business of the hour. As time went on, the cell was no longer looked upon as a mass of living matter of simple chemical composition, but as a most complex mechanism with varied structural features, while the nucleus contained the special structures closely involved in reproduction and heredity and the processes of cell-nutrition.

In the evolution of our conceptions of the causes and nature of the infectious diseases it has become clear that disease is a process resulting from the action of the living body-cells, on the one hand, and specific inciting factors on the other. Disease and health are not things, but processes, essentially transformations of energy, differing in accordance with the differences in the conditions under which the forces are brought into play. The normal processes represent the results of the conditions under which the cells have been slowly evolved, and at the time placed; while the abnormal processes involve no new forces, but represent a modification by new conditions of the manifestations of energy of the normal state. The resultant lesions, however, do not constitute the disease. The cause of physiologic performances is the potential energy, or capacity for work inherent in the organism, and the true causes of disease are the same dynamic conditions acting under modified circumstances. The manifestations of the infectious diseases are expressions of processes of the body-cells, and not of the invading micro-organisms, which afford only one of the necessary conditions.

With regard to immunity and tolerance, and health and disease, Prudden points out that the life of the cells of the body, like the life of microbes, is a continuous adjustment between the properties of the organism and those of its environment, that the nice balance of health may be swayed by innumerable agencies from within the body and from without, and that the body-cells, as well as the bacteria, are organisms capable of considerable variation, in both form and function, when the conditions of their existence change. Natural or acquired cell-tolerance to poisons may be, and often is, a matter of cell-education, although it can not be denied that there is such a thing as specific immunity. Inflammation, as suggested by Adami, may be looked on as a series of changes constituting the local manifestations of the attempt at repair of injury, while the solution of the etiology of the new-growths must be deferred until we know more of cytology in general.

---

[1] Therapeutic Gazette, Sept. 15, 1896.

[2] Medical Record, March 10, 1900, p. 397.

THE ATAXIC VARIETY OF ALCOHOLIC MULTIPLE NEURITIS—SO-CALLED PERIPHERAL NEUROTABES.

The recognition of multiple neuritis as a distinct morbid entity dates back only twenty years, when the clinical and anatomic characters of the disorder were first fully pointed out by Leyden. Previously the symptoms had been attributed to lesions of the spinal cord; but in the small number of cases in which post-mortem examination could be made these alterations were not found. It has since been learned that polyneuritis may result from traumatic influences, in the course of infectious diseases, and from the action of various poisons. Exposure to cold acts probably as a contributory factor, merely lowering vitality and thus favoring the invasion of micro-organisms.

Chronic alcoholism is probably the most important etiologic factor, and under such circumstances the disorder has been observed to appear in three forms, in which motor, sensory and ataxic symptoms have respectively predominated. The motor, or paralytic, or amyotrophic variety is by far the most common; the ataxic is much less so; and the sensory variety is quite rare. In the ataxic cases the inco-ordination may be present in the upper or the lower, or in all four extremities; and the motor and sensory symptoms are wholly subordinate. The disorder often develops with violence, in the course of several weeks, in a person previously well, when static and motor ataxia will be found to be present, with abolition of the knee-jerks, while the reflex activity of the pupils is preserved. Other symptoms of tabes dorsalis have also been observed, as, for instance, a girdle-sensation, vesical disturbance, amblyopia, diplopia. Also alterations in the electric reactions of the muscles and nerves: enfeebled response to the faradic current, or complete or partial degenerative reaction, have been noted. Sensory changes are slight or wanting, and when present affect especially the localizing sense. Irritative phenomena, in the form of spasm, may also attend polyneuritis.

An interesting case illustrating many of the foregoing points is recorded by Hőnig.[1] The patient was a butcher, 55 years old, without neuropathic predisposition, but with a history of syphilis and alcoholic excess, in whom, in the course of four weeks, weakness appeared in the lower extremities, then extending to the upper extremities, with various paresthesiæ, and painful spasms in the muscles of the fingers. The most conspicuous symptom was ataxia, which appeared on standing and walking, and was marked on spontaneous movement of the upper and lower extremities. There was scarcely any sensory disturbance, and this involved only the power of localization. There was, however, marked atrophy, especially of the thenar muscles, with partial reaction of degeneration. The plantar reflexes and the knee-jerks were abolished, but the pupilary and the remaining reflexes were preserved. The functions of the rectum and the bladder were unaffected. The use of alcohol was strictly interdicted, and the patient was treated with daily baths at a temperature of 82.4 F., faradization, and strychnin, and marked improvement progressively took place. The ataxia disappeared; the absent reflexes returned; sensibility and the electric reactions became normal; and almost all of the previous symptoms subsided, only slight stiffness without pain persisting in some of the fingers of one hand, but even these eventually disappeared.

In an analytic consideration of this case and of the related literature, Hőnig points out that in a not inconsiderable number of cases of alcoholic multiple neuritis, changes of varying degree and extent have been found in the spinal cord and in the brain, in addition to those in the peripheral nerves. In view of this fact, and of the further fact that in some cases spinal and cerebral symptoms are present, such as the muscular spasm in the present case, and psychic disturbances and ataxia, the conclusion is expressed that neurotabes can no longer be considered a disease purely of the peripheral nerves, but, as the evidence shows, may also involve the spinal cord, and probably also the cerebrum, and particularly its cortical structure.

THE SAN FRANCISCO PLAGUE SITUATION.

Now that some of the San Francisco papers are demanding that an example, so to speak, be made of Dr. Kinyoun for the part he took in regard to the plague in that city, it may be well to notice some of the facts in the case. From March 6, the date of the first case identified until quite recently, the weight of medical testimony has been in favor of the existence of sporadic cases of plague in San Francisco, the chief seaport gate to the Orient on the Pacific coast. There is nothing remarkable in the fact that the diseae should appear there, for the city has been in constant danger from China and Japan, and there is not much more reason to suppose it would escape than Honolulu or Manila, which were infected from these sources. San Francisco contains, moreover, a large Oriental population, living in most unsanitary conditions and affording an excellent bed for the pestilence when it came. The San Francisco health officials felt their responsibility and acted accordingly, and the abuse they have received from mercenary commercialism is the strongest evidence that can be afforded that they attempted to do their duty. The cleansing and quarantining of the Chinese quarter was of course offensive to the Chinese, and the reputation of being a plague-infectd city was disastrous to the business interests. hence the attacks upon the health officials in the newspapers, which have assumed and insisted for business reasons, that there has been no plague whatever in the city. Finally legal proceedings were brought against the health board and quarantine officers at the instance of the Chinese consul and the Six Companies that control the Chinese, and the quarantine of Chinatown was abolished by a judge who is said to have expressed his personal opinion with his judicial decision that no plague had ever existed. The mercantile interests called in to their aid the politicians and the governor of the state, who insisted that the medical authorities were all wrong and that plague did not exist and had not existed. Finally Dr. Kinyoun was arraigned for contempt of court, though this has come to nothing. A New York physician was sent by a syndicate of newspapers to investigate the matter, and while he did not condemn the health officers, he has certainly been unlucky in the published interviews and statements credited to him by the local press. Some local physicians have also committed themselves strongly against the health board and the United States medical officers in a way that appears to us to be most unfortunate, considering all the facts. If the health officers had slighted their duty and the disease had obtained a foothold through their neglect, no condemnation would seem too severe to those who are now blaming them for what they did. If they have failed to do enough, on account of the embarrassments under which they worked, the penalty will be upon their detractors, who will then recognize their error and see that newspaper dicta, judicial opinions or gubernatorial utterances have no more effect on a pestilence than Mrs. Partington's broom on the flood. On the other hand, if the energetic measures they instituted have been sufficient to stamp out the disease, they deserve public gratitude—which they will not receive—the appreciation of their efforts will depend upon their failure.

---

[1] Deutsches Archiv f. Klin. Med., Bd. lxvii, H. 1 u 2, p. 163.

The situation is not a satisfactory one, but it is the best that can be expected under present circumstances, and they will at any event have the reward of a clear conscience in the matter. It is far from certain that their vindication will not come, the possibilities are all still ahead and the future may show a worse condition of affairs than has yet existed. The matter is one that interests the whole country; if plague gains a foothold in a Pacific port, the danger is one common to us all, and it is not to our advantage to be supine and allow Chinese companies and trading interests to let loose a pestilence upon us. It would not be surprising to those who know the natural history of the disease if it should suddenly break out again with great virulence. While it is hoped that events will prove that there is no cause for further alarm, still it might be well, even from a financial point of view, to remember that the time has not yet arrived for the rendering of the final verdict. The experience of other cities has been that sporadic plague one year has often been the precursor of an epidemic the year following. We trust this will not be the case in San Francisco.

In this connection we call attention to the report by Dr. Montgomery, which appears elsewhere in this issue, in which he reviews the facts in the case.

THE ALCOHOL QUESTION.

Professor Hall's paper in this issue is a contribution to a subject that has at present a special adventitious importance. The food value of alcohol is insignificant at best, if it can be assumed to exist, but recent utterances on the subject have been so utilized by interested parties, far beyond any desire of their authors, that corrective articles like that of Dr. Hall and that of Drs. Woodbury and Egbert in a former issue of The Journal are timely and valuable. It is not desirable that any truth should be misrepresented or suppressed, but a suggestion of caution as to statements that can be possibly perverted or distorted, such as those that can be construed to favor alcoholic indulgence, will never be much out of place. The experience of some who have been unguarded in this respect can hardly be considered desirable.

TUBERCLE BACILLI IN THE BREAST MILK OF A TUBERCULAR WOMAN.

We know that in the bovine species tubercle bacilli may appear in the milk of tuberculous females, even though there is no tuberculosis of the udder. The literature does not contain any report of the presence of tubercle bacilli in the milk of nursing mothers having been demonstrated by animal experiments previous to the case recently described by Roger and Garnir.[1] The woman was 34 years old and died from advanced pulmonary tuberculosis, with miliary nodules in other organs, two weeks after giving birth to a child, which nursed its mother's breasts for a few days, dying from generalized tuberculosis when six weeks old. Subcutaneous injection of a guinea-pig with 4 c.c. of the breast-milk caused the death of the animal after five weeks; here was a typical general inoculation tuberculosis. Clinically there was no evidence of tuberculous infection of the mammary glands of the mother. Anatomically this point does not seem to have been investigated. Further observations are consequently necessary before it may be stated positively that bacilli may pass into the milk without local tuberculous lesions of the breasts. This case points in this direction, and the inference is supported by the positive demonstration of bacilli in cow's milk without disease of the udder.

THE ANNUAL CASUALTY DAY.

The Fourth of July has passed with its usual record of casualties and it becomes necessary to say our annual word in regard to them. There is a phase of the popular idiocy of the day that has not received the attention it deserves, yet it is a psychologic factor of great influence in the often unfortunate outcomes. It is not mere noise, that the average boy or hobbledehoy enjoys; it is the zest of risk and the notion that there is something manly in playing with gunpowder and firearms on this day of license. If it were not for this, half the interest would be gone—we can testify to this, since, as the saying goes, we have been there ourselves. The younger the child, the easier is this gratified, the firecracker burns on the fingers and the holes in the clothes are shown with pride. With the older child the gas-pipe cannon and the giant cracker get in their work, or the pistol or old musket finds its victim. There is hardly an average citizen who has not had personal knowledge or experience of some unreported minor casualty of the Fourth and there is no one of ripened years and judgment who does not deprecate the costly and foolish performances that he probably enjoyed in his immaturity. As medical men we have double reason to appreciate the idiocy of the performance, and would hardly be doing our duty did we neglect the occasion to condemn it. The man who will invent and popularize a more rational way of celebrating our national holiday will deserve to rank with those who founded it, as the savior of a very large contingent of his countrymen.

---

[1] Compt. rend. de la soc. de biol., 1900, p. 175.

HEMORRHAGIC NEPHRITIS THE EXPRESSION OF GENERAL INFECTION.

Instructive cases have been described recently by Holst[1] of acute hemorrhagic nephritis as the principal manifestation of a general microbic infection of the blood. In one case the disease lasted nearly eight months and was in reality a streptococcus bacteriemia—streptococci being found in the blood and elsewhere—but appeared clinically as a hemorrhagic nephritis of a febrile type. In the second case, the renal symptoms were associated with evidences of acute endocarditis. Staphylococcus albus was grown from the blood during life, and after death from the excrescences upon the mitral valve. A third case was observed for a time. Here there existed a fully-compensated heart lesion of some duration, but which rather suddenly became complicated with symptoms of acute nephritis. While under observation, the urine, secured under aseptic conditions, contained micrococcal masses that proved to be staphylococcus albus in pure culture. Holst emphasizes especially these two points: 1. Acute hemorrhagic nephritis represents a bacteriemia—latent pyemia or septicopyemia—more frequently than is commonly believed. 2. Transitory hemorrhagic exacerbations occurring in the course of chronic nephritis may be caused by an infection of the blood, just as is frequently the case in recrudescence of endocardial inflammations, the recurring hemorrhagic nephritis being similar pathogenically to recurring endocarditis.

URETERAL IMPLANTATION.

Many pathologic conditions offer indications for implantation of the ureters into the rectum or colon. As examples may be mentioned uretero-vaginal fistula; stricture and obliteration of the ureters under conditions preventing reinsertion of the ureter into the bladder; large vesico-vaginal fistulæ; tuberculosis and carcinoma of the bladder; and atrophy of the bladder. In these and other conditions, new routes for the discharge of the urine are desirable. Turning the urine into the rectum is not altogether against all physiologic precedent. In birds, for instance, there is a common route of exit for both urine and feces, and cases have been recorded in which the ureters emptied into the rectum in human beings, by virtue of the persistence of an early embryonic condition. Richardson's patient lived seventeen years, and without urinary incontinence. We have also learned that the rectum may acquire tolerance of the presence of urine. It is the occurrence of ascending infection of the urinary tract that constitutes the most serious obstacle to uretero-colostomy. The only method that, so far, successfully overcomes this danger is Maydl's, whereby the part of the urinary bladder containing the ureteral orifices is properly fixed in the intestinal wall. The preservation of the normal ureteral openings is the reason why Maydl's method is superior to all other procedures yet devised. In all other operations, even when the ureters are inserted obliquely and the orifices guarded by an ingeniously constructed valve of rectal mucous membrane, there is, sooner or later, retraction, atrophy of the valve, and infection. Inasmuch as Maydl's method of ureteral transplantation is not always applicable, a method of creating an orifice in uretero-colostomy that does not retract is a desideratum, which surgical ingenuity has yet to furnish.

THE ETIOLOGY OF PERTUSSIS AND ITS SERUM TREATMENT.

In the recently issued and splendid volume, entitled "Contributions from the William Pepper Laboratory of Clinical Medicine," occurs an article by Joseph Walsh on the etiology of whooping-cough. He notes that the number of organisms discovered in this disease is quite remarkable—a new organism has been found for every alternate year of the last two decades. Protozoa, cocci, and bacilli have been described. Two bacilli have received especial notice: The one described by Afanassiev, whose finding was confirmed by Koplik of New York, and the bacillus of Czaplewski-Hensel. Walsh studied twelve cases and made one autopsy, isolating the Czaplewski-Hensel bacillus from the sputum seven times and finding the same organism in smears from the sputum of nine cases and from the trachea at the postmortem. On carefully reviewing the characteristics of this bacillus, Walsh is forced to the belief that it is a so-called pseudo-diphtheria bacillus. It is not necessary to recount the cultural and other properties that identify the bacillus with the pseudo-diphtheria group. This identity makes it hard to prove that the bacillus is the actual cause of whooping-cough, because similar forms are often present in the healthy throat. Its presence in overwhelming numbers in so many cases of pertussis, even in the washed sputum, and on the tracheal lining after death, makes it probable, however, that it is the exciting cause of the disease. It seems that Koplik has changed his opinion to the effect that he also dealt with the Czaplewski-Hensel bacillus (Walsh). On account of the almost perfect immunity granted by an attack of whooping-cough, Walsh thought that the serum of persons who have passed through an attack might contain an antitoxin. A few injections of human serum were given patients with pertussis, and all injected showed immediate and marked improvement, with complete cessation of the whoop for two or three days, after which it returned, except in one case, the first to be injected, in which it never returned. The results obtained seem to indicate further trials in this direction.

---

[1] Norsk. Magaz. f. Lægevid., 1899.

Medical News.

Reaumur thermometers are no longer to be officially tested in Germany as heretofore. The Centigrade is henceforth the only standard thermometer for the Empire.

Victims of alcoholism in the Russian Army are to be treated in a special hospital, the funds for the erection of which have been contributed by the Russian government.

Medical promenades at the Exposition, to point out and describe articles of special interest to visiting physicians, have been organized by Drs. Helm and Marcel Baudouin.

An institute for medical diagnosis has been inaugurated in Berlin, in which various specialists, such as Klemperer, Posner, Eulenberg, etc., hold clinics of an hour each during the day.

All surgeons, assistant-surgeons, acting assistant-surgeons or contract surgeons, and hospital stewards, who served in the army or navy of the late Confederate States, are requested to send their post-office addresses to Deering J. Roberts, M.D., Secretary Surgeons' Association, C. S. A., Nashville, Tenn.

The Medical Club of Paris offers temporary membership to visiting physicians at its handsome quarters, 5 Avenue de l'Opéra, with all the privileges of club life, large dining-halls and dinner at 7 p. m., with concerts and dramatic entertainments from time to time. The fee for temporary membership is ten francs, or $2.

The Duchy of Meiningen in Germany has extended the system of medical school inspection to the rural as well as to the city schools. After the current year, only the children entering school for the first time will be examined, with further examination when they leave school or at the request of teachers. The service is free and will be extended to private schools on demand. Much good is anticipated from the advice to be given to boys leaving school as to their physical fitness for certain trades.

On the initiative of the medical profession in the Bordeaux district, France, a statue has recently been erected to the memory of Dr. Jean Hameau (1779-1851) in the remote village where he lived and died. In a pamphlet entitled the "Study of Viruses," which lay unnoticed in the pigeon-holes at the Académie de Médecine for seven years, and was then only vaguely comprehended, Hameau outlined the theory of parasitic infectious diseases which was confirmed later and rendered intelligible by Pasteur's discoveries.

The new German law for the prevention of contagious diseases aims at the compulsory isolation of every person affected, or even suspected of being affected with leprosy, cholera, petechial typhus, yellow fever, plague and smallpox. The physician is required under penalty to notify the authorities. When the sanitary officials are prevented from attending to the duties imposed by this law civilian physicians are compelled to act in their stead. Severe penalties are imposed for knowingly passing over to a third party any articles that have been used by or for a patient affected with any of the above diseases. An indemnity is paid by the government for articles destroyed in disinfecting. The law does not conflict with the regulations now in vogue for other transmissible diseases.

Sanitary Telephoning.—Telephone booths in Vienna are furnished with napkins, and those who telephone are requested to wipe the mouthpiece of the transmitter. If the napkins are changed often enough and the telephone users are careful to observe the instructions; the mouthpiece should be kept in fair sanitary condition.

Trichinae in German Pork.—A Nuremburg paper, commenting on the fact that eleven out of thirteen trichinous pigs, found in the city market during the last year, were all of Prussian lineage, concludes that the policy of excluding meat from the United States is foolish and that careful inspection is the only safeguard.

The Health of Manila.—Major Edie's recent report shows that the health of Manila compares favorably with that of other oriental cities. The death-rate from October to June was 28 per thousand. The total number of deaths was 8535, of which 180 were caused by the plague, and 1073 by internal diseases. This report demonstrates that the sanitary condition has materially improved.

Asepsis in Churches.—The Roman Catholic bishops in Italy are instructing their clergy to sweep and disinfect the floors of churches with sublimate at least once a week, and after each crowded service. The receptacles for holy water and other articles are to be frequently cleaned with boiling water or sublimate. The *Semaine Médicale* urges the generalization of these measures as a great benefit to the health of the public, if systematically applied.

ANOTHER CASE OF PLAGUE.

(Special Telegram to The Journal.)

San Francisco, California, July 10.—A Chinese laborer, aged 40, was sent to the City and County Hospital, July 4. He had been perfectly well until one week before. He felt tired and depressed; had fever and drank large quantities of water. He was confined to his bed for two days and was then carried to the hospital his temperature was 104 F.; pulse, 120; respiration 36. The abdomen was much distended and tender on pressure, and the spleen greatly enlarged. The bowel passages were blood-stained. A large bubo, the size of the fist, was seen in the left inguinal region, but he had no urethral discharge. The urine gave no diazo reaction. After his entrance to the hospital, dyspnea developed and he lay in a semi-conscious condition, and was delirious until his death, which occurred July 6, at 6:30 a. m. On autopsy the mucous membrane of the intestines was found to be thinner than normal; the solitary follicles normal; there was hyperemia of the heart, swelling of the axillary and inguinal glands, and infectious swelling of the spleen. Bloody fluid was found in the pericardium. A guinea-pig that was inoculated with fluid aspirated from the bubo on the day before the patient's death died sixty hours after the inoculation. The autopsy revealed widespread edema of the subcutaneous tissue, with coagulation-necrosis at the site of the inoculation. The pleural and peritoneal cavities contained turbid bloody fluid. The blood in the heart was fluid and the heart muscle dark and friable. The spleen was three times its normal size and contained yellowish-white spots, which were colonies of the bacillus pestis. The plague bacillus was found in the blood, in the inoculation wound, and in the spleen. Cultures made from the fluid aspirated from the patient before death showed the plague bacillus. This is the first case of bubonic plague in San Francisco in which the diagnosis was made before death. Many animals were inoculated from the fluid aspirated from the bubo, and interesting results from these inoculations may be expected.

[This telegram was received after the editorial on this subject had gone to press. Ed.]

PENNSYLVANIA.

Dr. F. E. Jenkins, of Carbondale, has gone to San Francisco, from which place he will sail for Manila.

Dr. Henry Armstrong, of Sharon, who has for some time been attending a case of smallpox near that place, is said to have contracted the disease, and the Board of Health has placed guards around his residence.

BOVINE TUBERCULOSIS.

Dr. Leonard Pearson, state veterinarian, announces that the following sums have been paid during the past year for the destruction of tuberculous cattle: Bradford County, $1242.50; Bucks County, $2663.50; Chester County, $4775.50; Dauphin County, 737; Erie County, $1412; Lancaster County, $1802.50; Montgomery County, $3737.50; Washington County, $1215. The total amount paid for this purpose over the whole state was $33,997.

COMPULSORY VACCINATION IN PENNSYLVANIA.

Judges Pennypacker and Sulzberger, in Common Pleas Court No. 2, during the first week of June, after hearing the argument on the petition of Charles J. Field for a writ of peremptory mandamus directed against Martha L. Robinson, principal of the Keystone Public School of Philadelphia, requiring her to admit to the school the daughter of the petitioner, Victoria Field, notwithstanding she has never been vaccinated, stated that the question at issue was whether after the legislature believed in the efficacy of vaccination, a citizen had the right to appeal to the court to say that such was not the fact. Counsel for the defendant stated that he had collected every decision made in every state regarding this question, and that the practice of vaccination had no justification in science; that it did not mitigate smallpox, but often inflicted worse diseases, and for that reason was an abuse of the police power of the State to enforce this law. Attorney for the defendant attempted to prove that vaccination was without value, and cited as his authority the name of a physician in attendance at a municipal hospital (see Journal of June 23, 1900—Philadelphia Letter), but which was contradicted by the physician named. The judges held the matter under advisement. On July 3 they overruled the demurrer and entered judgment for the defendant, Martha L. Robinson, principal of the Keystone School, who acted under the instructions of the law as outlined in the act of Assembly of June 18, 1895, thus making legal the enforcement of the compulsory vaccination law in the State of Pennsylvania. A similar opinion was given by the Supreme Court in 1894, on an appeal from a decision of Judge Metzger, of Lycoming County, who denied a writ of mandamus on the same grounds. In the latter case cost of the suit was imposed upon the appellant.

Philadelphia.

Dr. Melvin M. Franklin has been appointed surgeon on the staff of St. Joseph's Hospital to succeed Dr. John S. Miller, resigned.

Dr. Jacob M. DaCosta tendered a complimentary dinner to a number of invited guests at his home near Villanova, June 29.

Dr. Judson Daland leaves for Europe July 15. He will attend the meeting of the British Medical Association and the International Medical Congress at Paris.

Dr. Joseph Leidy has been appointed a member of the Jury on Hygiene from the United States, at the International Congress on Hygiene, which meets in Paris, August 4.

The public baths of the city have been well patronized during the past week, 416,220 persons having availed themselves of the opportunity thus afforded.

During the past week a decision has been handed down in the case of Robert Nebinger, who died several years ago, in which the court allows the gift of $3000, made to St. Francis Hospital.

Three persons charged with violating the pure food law were arraigned in court during the past week, and held in bail of $400 each. Three other defendants failed to appear and steps will be taken to compel them to be present.

Considerable excitement exists in the neighborhood of "Plaster Row" over the discovery of two cases of smallpox among the colored people. The patients have been taken to the Municipal Hospital, and about 200 of those exposed have been placed in quarantine, while eight policemen have been detailed to see that the quarantine is enforced.

MORTALITY STATISTICS.

The number of deaths occurring in this city during the past week was 544, an increase of 47 over that of last week, and an increase of 109 over the corresponding period of last year. The principal causes of death were: apoplexy, 22; cancer, 9; cholera infantum, 73; tuberculosis, 35; inflammation of the brain, 29; pneumonia, 27; marasmus, 30.

STERILIZED MILK AND ICE SOCIETY.

Through the work of this society an incalculable amount of good has been done during the past week for the relief of the children of the poor. This is the seventh year of the work of this society, and four depots have been established in the city for the distribution of these necessities. At all of these places the milk is carefully sterilized and sold at absolute cost to those who need it. A six-ounce bottle of milk together with a small piece of ice to keep it cool is usually the amount allotted to each applicant.

FOURTH OF JULY CASUALTIES.

Although the mayor had issued strict injunctions against the useless firing of toy pistols and other devices for making a noise during the celebration of the Fourth of July, that event has again been attended with several hundred injuries. As usual, lacerated wounds of the hands and face, injuries to the eye, and burns of the face and hands were most frequent. One colored boy fired into a collection of torpedoes, causing a wreck of the store and the death of eight people. The city is making an inquiry into this accident, as the storing of such explosives is forbidden by law. Friends of the Italian who owned the store at which the explosion occurred are said to have threatened death to any who would report the facts in the case.

NEW YORK.

Dr. R. J. Wilding, of Malone, sailed last week for Europe.

Dr. Albert Snell, of Rochester, who has been in London for a year, has returned.

Dr. F. Hollet Spencer, of Binghamton, has resigned the position as assistant physician and surgeon at the Robert Parker Hospital.

Dr. Robert B. Lamb, of the staff at the Matteawan State Hospital, has been appointed medical superintendent of the Dannemora Hospital for the Insane.

The new hospital established in Mineola, L. I., by the Nassau Hospital Association, was opened June 30. Addresses were made by Dr. James, of Manhattan, and Supt. C. Irving Fisher, of the Presbyterian Hospital.

At a meeting of the Medical Board of Thrall Hospital, Middletown, Dr. W. C. Douglass was added to the consulting medical board, Drs. D. B. Hardenbergh and M. A. Stivers were elected to fill vacancies in the medical board, and Dr. W. I. Purdy was transferred from the medical to the surgical staff.

FINE FOR ILLEGAL PRACTICING.

The New York County Medical Association has obtained a legal decision authorizing it to receive the fines inflicted for illegal practice of medicine. The law provides that where the complainant in such cases is a state medical society or a county medical society entitled to representation in a state society, such fines shall be paid to the complainant. It was claimed by the city authorities that the act referred only to the county medical society in affiliation with the state medical society, but the plea was overruled. Justice McAdam, in his decision, said: "The construction of the statute contended for by the defendant would not effectively carry out the provisions of the act in regard to prosecuting offenders, for this is more surely accomplished by the liberal construction now given to it. The plaintiff discovered the offender, secured his conviction; the fine represents the fruit of its efforts, and there is no reason why it should not have the ransom."

A NEW HOSPITAL FOR CHILDREN.

At a meeting of the New York State Hospital for the Care of Crippled and Deformed Children, held at the residence of Bishop Potter, the president, the committee on site reported that it had secured the lease of the residence of Dr. Angell, on the Hudson River, in Tarrytown, Westchester county, N. Y. The changes necessary to equip the building for hospital use will be made, and the hospital will be opened early in the autumn. The following were elected members of the consulting medical board: Drs. Francis Delafield, Robert F. Weir, W. Gilman Thompson, Joseph D. Bryant, Lewis A. Stimson, A. Alexander Smith, Reginald H. Sayre, of New York; Roswell Park, of Buffalo, and L. A. Weigel, of Rochester.

New York City.

Dr. Edward J. Ill has been appointed medical director of St. Michael's Hospital, to succeed Dr. Wm. Pierson, deceased.

An appropriation of $20,000 has been made to the State Board of Health for the purpose of fumigating the Chinese quarter and taking other precautions against the plague.

At a meeting of the corps of teachers of the New York School of Clinical Medicine, held at the Academy of Medicine, June 21, it was decided to wind up the affairs of the school and close it permanently. This action was taken in consequence of continuous interference of the lay board of trustees in its affairs.

ILLINOIS.

Dr. Margaret Shults has been appointed a member of the staff of St. John's Hospital, Springfield, to serve as pathologist and have charge of the children's department.

"Divine Healer" Schweinfurth has again come to the surface after a long submergence. It is now announced that his colony is scattered, that he has become a "Christian Scientist," and furthermore, that he has gone into business as a life-insurance solicitor. Evidently the divine healing business has not been found to be a permanent bonanza.

Chicago.

Dr. Nicholas Senn has gone to Southwestern Texas on a hunting trip.

Dr. Fenton B. Turck sails for Europe on the *Belgravia*, July 17.

Among those who sailed on the *Potsdam*, July 7, were Drs. E. T. Dickerman and W. H. Wilder.

Dr. James Nevins Hyde has gone to Europe to attend the International Dermatological Congress.

Dr. Boerne Bettman, the oculist, who went abroad for his health six years ago, has returned to Chicago, but is not yet able to resume practice.

A building at Calumet Heights, that will be immediately converted into a hospital with accommodation for about twenty-five patients, has been purchased by the South Chicago Hospital Association.

The number of blind children in Chicago, as found in the school census statistics, is 297; 160 boys and 137 girls. The needs of these children will be met by one school on each side of the city. These schools will be opened in September.

HEALTH DEPARTMENT.

Only one case of smallpox has been reported to the department during the past week. The patient, a colored man, 37 years of age, who has never been vaccinated, had been working with a gang of street pavers in Indianapolis. He was taken ill on July 2; three days later the eruption appeared, and on the next day he took the train for Chicago. He did not call a physician until July 9. The case was at once recognized as smallpox and the patient sent to the Isolation Hospital. The case is mild, but many have been exposed. The secretary of the State Board of Health of Indiana has been notified of the facts, that he may trace the source of the infection. Only eight deaths from sunstroke were reported for the week ending July 7, and the mortality from all causes was only slightly increased by the heat—thirty more than the preceding week and four more than the corresponding week last year. The total number of cases of contagious diseases reported was 96: scarlet fever, 43; diphtheria, 49; measles, 6. Fifty-two disinfections were made, and 13 funerals inspected. Of the 369 samples of milk and cream analyzed, 8.92 per cent. were found below grade.

OHIO.

Dr. Fannie C. Hutchins, for two years assistant physician at the Cleveland State Hospital for the Insane, has resigned.

Dr. Byron Stanton, professor of diseases of women and children in the Miami Medical College, has resigned, and his chair has been divided, Dr. E. W. Mitchell taking pediatrics, and Dr. R. B. Hall, gynecology. Dr. Mitchell's former chair materia medica and therapeutics, will be filled by Dr. Julius Eichberg.

By the will of the late Dr. James T. Whittaker, the Medical College of Ohio will become possessed of his library of nearly 1500 volumes. Among the especially valuable antique books in the collection are Celsus Medicinæ (1467), Opera Omnia Anatomica and Physiologica (1687), De Visonum Organis Generationia Inservientibus (1678), Elementa Physiologiae Corpus Humani (1777).

INDIANA.

Dr. B. C. Stevens, of Logansport, has gone to Europe for the summer.

At the graduating exercises of the Elizabeth Hospital training school for nurses, Lafayette, Dr. George Beasley, the president of the faculty, presented the diplomas.

MARYLAND.

Baltimore.

Dr. John G. Joy sailed for Europe, July 6.

Dr. W. B. Wolf has returned after a year's absence in Europe.

Dr. Jose L. Hirsh has gone to Wood's Holl, Mass., to spend some weeks in the laboratory there.

Two cases of smallpox were sent to the Quarantine Hospital, July 5 and 6, and thirteen colored men at Sparrow's Point, who had worked with the smallpox patients, were sent to the detention camp.

For the week ending June 30, there were 251 deaths, of which 127 were of children under 5 years of age. The death-rate was 24.12 per thousand, showing the usual proportion of about 1 white to 2 colored. From cholera infantum 71 died; from consumption, 23; from pneumonia, 13, and from diphtheria, 2.

BADGES FOR HEALTH OFFICERS.

The mayor has approved the ordinance requiring health officers of the city to wear badges as evidence of their official authority. They are to be of circular form with a red cross in the center, and with the title of the official at the head of the circle, and the words "B. C. Health Department" at the bottom. A fine of from $5 to $25 is provided for wearing the badge without authority.

CALIFORNIA.

Dr. F. M. Casal has been elected health officer of Santa Barbara, to succeed Dr. J. M. McNulty, deceased.

At the graduating exercises of the California Hospital Training School for Nurses, held June 27, at Los Angeles, Dr. F. T. Bicknell made an address and presented the diplomas.

SAN FRANCISCO MATERNITY.

The maternity department of the San Francisco Lying-in Hospital and Foundling Asylum was opened June 29. The attending physicians are Lucia M. Lane and Virginia W. Smiley; the consultants, Henry Gibbons, Jr., C. Van Hoffman, William Watt Kerr and D. W. Montgomery.

INTERNES FOR CITY AND COUNTY HOSPITAL.

The State Board of Health adopted a resolution, at the meeting of June 26, providing for the selection of thirteen internes for the City and County Hospital; five of these will be from the University of California Medical College and four from the College of Physicians and Surgeons.

MINNESOTA.

At the recent examination held by the State Medical Board, licenses were granted to fifty-four candidates.

The tenth annual commencement of the training school for nurses at St. Peter State Hospital was held June 29. A report of this year's work was made by Dr. Darling. Dr. Arthur Sweeney, St. Paul, delivered the address and Dr. H. A. Tomlinson presented the diplomas.

LOUISIANA.

New Orleans.

Dr. M. H. McGuire has been appointed resident physician to the New Orleans Sanitarium.

Dr. J. N. Thomas has been appointed to take charge of the Louisiana Quarantine Station at the mouth of Mississippi.

Dr. F. A. Larne is among the visitors to the Paris Exposition.

The medical department of Tulane University is adding instructors, made necessary by the four-year course. Dr. Ralph Hopkins will conduct quizzes on the lectures of Prof. S. E. Chaillé, professor of physiology, pathology and hygiene; Dr. J. Birney Guthrie will conduct quizzes on the lectures of Prof. L. F. Reynaud, professor of materia medica and therapeutics.

CONNECTICUT.

Dr. Ansel G. Cook, of Hartford, delivered the address at the commencement exercises of the Backus Hospital Training School for Nurses, at Norwich.

Yale University authorities are negotiating for the purchase of a site for the new medical school, adjacent to the New Haven Hospital.

The graduating exercises of the Yale Medical School were held June 26, and degrees were conferred on a class of twenty-six. Dr. J. M. DaCosta, Philadelphia, delivered the annual address on "Questions of the Day in Medicine."

NEW JERSEY.

Dr. George E. McLaughlin, of Jersey City, has gone to Europe.

The State Board of Medical Examiners met in Newark, July 5. Dr. William Perry Watson, New Brunswick, was elected president; Dr. C. L. B. Godfrey, Camden, secretary; Dr. Armin Uebelacker, Norristown, treasurer.

MONMOUTH MEMORIAL HOSPITAL.

The Monmouth Memorial Hospital at Long Branch, N. J., reports that during the past year 130 operations were performed. The surgical cases numbered 365; the number of medical cases was 176; the cash disbursed was $21,696.84, leaving a balance of $1,964.41 in hand; total number of patients admitted was 497; 17 cases were treated for appendicitis; of the 31 deaths, 2 died in from two to twenty-four hours after admission; number of patients cured was 320, improved 35, unimproved 5.

WEST VIRGINIA.

The regents of the state university have arranged for a medical department, and the following have been appointed members of the faculty: James W. Hartigan, professor of anatomy; A. E. Thayer, professor of histology, bacteriology and toxicology; A. R. Whitehill, professor of chemistry and toxicology; Otto Folin, professor of physiological chemistry; J. B. Johnston, professor of zoölogy; S. S. Wade professor of physiology; L. S. Brook, professor of materia medica and therapeutics.

CANADA.

Dr. G. S. Ryerson, Canadian Red Cross Commissioner in South Africa, sailed from Cape Town, July 4, for England, on his way back to Canada.

At the recent centennial celebration of the University of New Brunswick, at Frederickton, the degree of LL.D. was conferred on Drs. William Bayard and Boyle Travers of St. John.

Dr. Membry, late house surgeon for the Home for Incurables, Toronto, who went to Accra, West Africa, as Assistant British Commissioner, has been promoted to the position of Commissioner. He is about to start on an extended trip into the interior.

According to the prohibitory law of Manitoba, physicians will not be limited in the amount of liquor in prescriptions; druggists will not be charged any license; and veterinary surgeons and dentists will be allowed to procure and administer liquor in cases required by their respective professions. Provision is also made for hospitals, such as those at Brandon and Morden, which have no resident physicians.

THE HOSPITALS OF ONTARIO.

In the thirtieth annual report of the hospitals and charities of this province, which is for the hospital year of 1899, the detailed statements show to how great an extent charity is dispensed in Ontario. There are now fifty hospitals in operation in this province, and two more have been placed on the list for receiving government aid. The number of sick treated in these institutions during the past year amounted to 26,825, exclusive of the thousands known as outdoor patients. Nearly half a million dollars has been expended for the maintenance of these hospitals during the year. Of this amount the government contributed $110,000. In addition to these, there are about forty houses of refuge, thirty-one orphan asylums, four homes for incurables, three convalescent homes, eighteen county homes for the poor, and two Magadalen asylums, having an aggregate of 10,000 inmates, with a yearly expenditure for maintenance of $300,000, of which amount the Ontario government contributes $80,000.

BUREAU OF PUBLIC HEALTH.

Last week, Dr. G. G. Roddick, M. P., brought up this subject in the Dominion Parliament. He had been looking up statistics, and found that in doing so he had to go to two or three different departments of the public service, and he thought the subject sufficiently important to be concentrated under one bureau. He would consider it far better for the country if such a department were created and placed under a responsible head, and Dr. Montizambert would make an efficient deputy minister and sanitary adviser. In addition to this, he would have the direction of the marine quarantine act; as sanitary inspector of the Indian reserves, be director-general of the leper asylums, director-general of the Dominion Service of Vital Statistics, and have under his charge the sanitary portion of the census, the protection of waterways, sanitary police, and sanitary measures in unorganized territories, the protection of public health against the invasion of tuberculosis, the arrival of consumptive immigrants, and the importation of unhealthy articles of food and undesirable freight, such as rags. The question of sanitary police was particularly important, and these could co-operate with the various provincial authorities. He said that the Dominion should now have sanitary police in British Columbia to guard against the introduction of the bubonic plague, also the Dominion had need of a bacteriologic laboratory, for at present they had to depend on the United States, England and Japan. He said that he had recently attended a medical convention in the United States, where a medical man, who read a paper on leprosy, announced that he intended to visit Ottawa and make a study of the subject in the laboratory there, and he was compelled to inform this doctor that there was no such thing in Ottawa. He commended the organization of such a bureau to the consideration of the government, and, furthermore, made a suggestion that the government should have medical men in the great ports of Europe, who should carefully examine intending immigrants, and see that the ships were suitable, and properly equipped for the sanitary care of those on board.

Montreal.

Sir William C. Macdonald has offered to build a modern crematory for the city at his own expense.

Sir William Hingston has sailed for England, where he will be made an honorary fellow of the Royal College of Surgeons of England. This will be the first time this honor has been conferred on a Canadian physician.

SMALLPOX.

Scarcely had the last outbreak of smallpox been effectively suppressed, when the disease broke out again in a new quarter, and there are now six cases in the city, one of which is hopeless, the other patients are stated to be progressing favorably. One patient sent to the Royal Victoria Hospital, suffering from supposed obscure abdominal trouble, was subsequently diagnosed as smallpox, and as a result this hospital has been closed and no more patients are to be admitted until sufficient time has elapsed to warrant safe admission. Along with this new outbreak, comes a savage attack on the administration of the Montreal Civic Hospital by one of the victims of the previous outbreak, a man largely interested in mining matters, who was said to have brought the disease to Montreal from Rossland, B. C. This gentleman alleges gross negligence on the part of the health department of Montreal, which, he states, provided him with pavilion accommodation at first, of the vilest, most filthy and disgusting character; when he was afterward removed to the hospital proper, his surroundings were very little, if any, improved. He provided two nurses for his own personal care, and even then it was a very difficult matter to get the place in anything like habitable shape. These charges have excited much indignation among Montreal physicians against the board of health for the careless and ineffective administration of affairs.

PARIS LETTER.

THE BAZY-ALBARRAN DISCUSSION.

The recent meetings of the Society of Surgery have been in great part taken up with the discussion between Albarran and Bazy as to the merits or demerits of ureteral catheterization in renal tuberculosis. The war of words has been intense and, though Albarran seems to have silenced all the other men, such as Tuffier, Ricard and Bazy, it is more than likely that the subject will be taken up again at some future date. The cause of the discussion can be given in a few words: Dr. Albarran considers catheterization a relatively easy, safe and innocuous means of ascertaining the condition of both kidneys, and is in favor of removing a tuberculous kidney—when in initial stage of the disease or when the other kidney is found quite normal. Dr. Tuffier considers catheterization a difficult operation; and Dr. Bazy is opposed to the indiscriminate use of this mode of investigation; he prefers to trust to the usual methods of exploring the kidney, and considers the methylene blue test sufficient to indicate the condition of the kidney presumed to be still healthy. He, moreover, no longer advises only nephrectomy, but advocates surgical intervention when the kidney directly affects the patient by hemorrhage or by suppuration.

PROFESSIONAL SECRECY.

Professional secrecy is carried out to its extreme limits in France, and a recent occurrence shows how severe the law is in this respect. A midwife had, on her own responsibility, given damaging evidence against a woman whom she had confined. The court decided that such evidence should not be admitted, and the attorney-general had the case taken before the criminal chamber of the Court of Cassation. It was established that the court had decided rightly, and the judgment given shows that professional secrecy is no longer relative to the conditions laid down as to the responsibility of witnesses, but is absolute and without exception.

RAW MEAT IN THE TREATMENT OF CONSUMPTION.

Professor Richet has published recently an important article on the treatment of consumption by the use of raw meat. Three or four hundred dogs have been experimented on, and the results have been quite remarkable. The theory involved is quite new, as it seems to explain the action of this remedy by the antitoxic influence of meat-juice. Dr. Richet's communication has caused the publication of two articles on the same subject. Dr. Odolin Martin, of Lyons, has declared that by using dry meat-powder he has been able to observe, after two and one-half months, a most distinct change in patients suffering from consumption, and that signs of cicatrization were quite apparent after that lapse of time.

SMALLPOX IN LYONS.

Smallpox is still in evidence in Lyons, there having been 219 new cases and 47 deaths during May. This shows that the epidemic is relatively benign, compared with that in Marseilles, where 245 deaths took place during the month of December. There seems to be an antivaccination feeling in Lyons, as the health officers, on going into the poorer quarters of the city, were able to vaccinate only a small proportion of the whole population. In one large manufactory, also, only a few of the workmen would allow themselves to be vaccinated.

BACTERIOLOGY OF RHEUMATIC FEVER.

A work of some importance has just been published on this subject by Drs. Triboulet and Coyon. Three years ago Drs. Achalme and Triboulet made some researches on the bacteriology of rheumatism, and it was thought at the time that the microbes discovered were those of primary acute polyarthritis, or the usual form of rheumatic fever. More recent investigations, however, tend to show that these microbes play a secondary rôle in the creation of rheumatic fever, and that the real cause has not as yet been found. Still, it may be considered that they are the cause of the cardiac complications so often seen in this affection. This discovery might aid in determining, from the outset, what microbes exist in any given form of rheumatic fever, and thus might be a means of recognizing those forms of acute polyarthritis that are accompanied by valvular lesions. Achalme has already described an anaerobic bacterium, and certain staphylococci and streptococci have also been observed. A microbe called the "microbe of Coyon," has been found in the blood in certain cases. It is a diplococcus, and presents reactions which differentiate it clearly from staphylococci, streptococci or pneumococci. On inoculation it does not produce any special results, with one exception, where in a rabbit it caused valvular endocarditis, similar in nature and appearance to that seen in rheumatic fever. These facts are important, as they may allow the physician to determine the prognosis of the disease. It is thought that where staphylococci or streptococci exist, the complications will be very slight. On the contrary, when the microbes described by Coyon and Achalme are found, cardiac complications are much more apt to be encountered.

London Letter.

THE DUBLIN METHOD OF EXPELLING THE PLACENTA.

At the meeting of the Royal Academy of Medicine in Ireland, Dr. Henry Jellett read a paper on "The Dublin Method of Effecting Delivery of the Placenta." He remarked that in 1876 two well-known writers stated that the method of removing the placenta by external manipulation had been first introduced in Dublin, and that it was identical with the method which was introduced at a later date in Germany by Credé of Leipsic. Now all German and most British works on midwifery term this Credé's method." He describes the gradual evolution of the Dublin method from the time of Fielding Auld up to that of Sinclair and Johnston. Credé's method was brought forward prominently in 1860 at the meeting of the Association of Physicians and Naturalists at Königsberg, although it had been practiced in Dublin from time immemorial.

DEATHS FROM SUNSTROKE.

The four deaths which occurred at Aldershot from exposure to heat, among the soldiers engaged in maneuvers, have caused wide-spread indignation against the authorities. A field day was ordered and 30,000 men came on parade after breakfast, at a quarter past six. When the troops started there was exceptional heat, but about 10 o'clock great heat was felt, and "halt" was sounded at 10:30 and "cease fire" at 11:15. It was then directed that the men should march back as early as possible. A large number fell out and twenty-eight patients were received at the hospital, suffering severely from the exposure to the heat, of whom four died. The whole distance covered by the troops there was about fourteen miles. The head-dress worn was the small fatigue cap, which affords practically no protection. In the House of Commons, Mr. Wyndham stated that before this occurrence the adjutant-general was at work on a sun-shade to be attached to the fatigue cap. The commander-in-chief has now directed that helmets shall be worn, and that those men who, in consequence of the exigencies of the war do not possess them, shall not be allowed to undergo severe exertion at a distance from the barracks. Two years ago, when the fatigue cap was worn, sixty-one cases of sunstroke occurred at maneuvers. But such is the "hide-bound" conservatism of the war office that the deaths of these unfortunate men have been necessary to teach the military authorities to provide a rational head-dress for the soldiers. A few days after the fatal maneuvers the troops were again engaged in field operations, carried out in the early morning, and the men all wore helmets. But there was no sun; the weather was cold and damp!

WORLD'S TEMPERANCE CONGRESS.

The meeting of this organization has been held recently under the presidency of Mr. W. S. Caine, M. P. The president referred to the temperance problem in India, and stated that among the 70,000 British troops there, 23,610 were total abstainers.

Dr. T. D. Crothers, Hartford, Conn., read a paper on "The Scientific Study of Inebriety in America." He stated that the first medical authority who asserted that inebriety was a disease was Dr. Rush, of Philadelphia, who did so in 1809. There are now over fifty asylums in the United States and Canada where inebriates are treated medically: the opinions of authorities showing that about one-third of the cases are restored by the treatment.

Dr. James J. Ridge followed with an interesting account of the medical abstinence movement, stating that the discovery of distillation was made in the eleventh century, and that the manufacture of spirituous liquors began then. In Great Britain. it was not until the seventeenth century that the use of spirits spread like an epidmic. At the commencement of the nineteenth century, medical abstainers could be numbered by tens, to-day they are numbered by hundreds. The British Medical Temperance Association, founded in 1876 by a few medical men, now numbers 486 doctors and 515 students.

Mr. E. Wood read a paper on "Abstinence as a Factor in Promoting Health and Longevity." He said that the experience of all British insurance societies which had special sections for total abstainers proved conclusively that abstinence conduced to longevity. Thus the United Kingdom Temperance Institution expected 8048 claims in 34 years in the temperance section, while the actual claims were only 5724, or 70 per cent. In the general section, on the same actuarial basis, the expected claims were 10,369 and the actual claims 10,469, or 96.3 per cent. The most recent evidence was supplied by the Sun Assurance Society, which announced that total abstainers of at least two years' standing would be allowed an immediate reduction of 5 per cent. In the Foresters, a fraternal society, the average sickness was 12½ days per annum, per man—in the Sons of Temperance, only 7½.

NATIONAL SOCIETY FOR THE EMPLOYMENT OF EPILEPTICS.

This society is one of the most useful of the philanthropic societies of this country. At the annual meeting of the Governors, it was stated that among the epileptic "colonists" sent to the country residence at Chalfont, a marked improvement had been noted in the majority of instances. The principles followed are the removal of the epileptics to the country, their suitable employment, under direction, in a well-regulated life, avoidance of excitement, an abstinence from alcohol. The Chalfont colony has made rapid progress during the five years of its existence.

AUTOBIOGRAPHY OF SIR JOSEPH FAYRER.

The autobiography of Surgeon-General Sir Joseph Fayrer, K.C.S.I., LL.D., just published, is a record of a most interesting career. In 1853, he was appointed resident surgeon at Lucknow, where a most eventful period of his life was passed. The ideas entertained by rich natives of adequate professional fees might arouse envy, but Sir Joseph never accepted a larger fee than he thought just. When he restored to health one of the wives of an Indian king, in Durbar, the latter ordered 20,000 rupees to be sent him. He actually received 3000, and other gifts in kind. A little later the mutiny broke out, and he found himself shut up in Lucknow, to undergo the horrors of the siege.

CLINICAL LABORATORIES AT WESTMINSTER HOSPITAL.

The clinical laboratories which have been added to Westminster Hospital were opened in the presence of Lord Lister, the presidents of the Colleges of Physicians and of Surgeons and a distinguished audience. They are equipped with the latest apparatus, and the most recent microscopic, chemical and bacteriologic methods will there be applied in the diagnosis of disease.

OCCLUSION OF CENTRAL ARTERIES OF RETINA.

At the Ophthalmological Society, Mr, Jessop described a case of occlusion of both central arteries of the retina in a woman aged 35, who had been married nine years, and had no living children. She had had a miscarriage soon after marriage, and eight months ago she was delivered of a child at the ninth month, which lived only a few hours. On Oct. 21, 1899, while in apparently good health, on awaking, she found that she was blind in the right eye.. Signs of embolism of the central artery of the retina were found with the ophthalmoscope. On December 20, she suddenly lost vision in the left eye, and the signs of embolism were again found. Now both discs are atrophied and the retinal arteries are reduced to mere threads. and in paces there is a white thickened condition of the sheath--periarteritis. The vision of the right eye has improved to be 6/36, but with the left there is perception of light only. Mercury has been given. No source of the emboli could be suggested, but the condition is probably of syphilitic origin.

EPIDEMIC CEREBROSPINAL MENINGITIS.

At the Royal Academy of Medicine. in Ireland. Dr. Drury read a paper on this subject. He had met with 8 cases at the Cork Street Fever Hospital. The first patient, a man aged 20, was admitted on November 18. and after a prolonged illness recovered. Of the other 7 patients. 4 died. In only one case was there a rash—a typical feature of the great Dublin epidemic of 1866-67. This rash was not petechial, but pustular, with hemorrhage into the pustules, and came on late in the disease. In all cases the disease commenced suddenly, with rigidity of the neck or retraction of the head, and sometimes with opisthotonos. All the patients had deafness in some degree, pain in the head and limbs, and Kernig's sign. Dr. Falkner presented a table showing the number of deaths in Dublin from meningitis from 1895 till 1900. From 1895 till 1899, the average number of deaths from all forms of meningitis for the first nineteen weeks of each year was 102, but in 1900 it was 182, and the increase embraced ordinary tuberculous, cerebrospinal and secondary meningitis. Sir J. W. Moore said that in the present epidemic, he had found that the most successful measures were leeching and the repeated application of small blisters behind the ears. The agonizing headache was relieved by a combination of acetanilid, caffein. and sodium bicarbonate. Dr. O'Sullivan described post-mortem appearances in some of the cases. The fluid obtained by lumbar puncture was turbid, but colorless. The pus in the spinal region lay, in one case, outside the dura, the cord being apparently healthy. In the other cases, it lay in the meshes of, or underneath the pia, and the cord was softened. The diplococcus intracellularis was found in the turbid fluid, and in the pus, usually in pure culture. Professor McWeeny remarked that there was a disease of horses in which the essential lesion was a cerebrospinal meningitis. Intracellular cocci had been found in the pus, and it was quite possible that the disease might be identical with human cerebrospinal meningitis. Numerous cases had been observed in horses in Dublin—a fact of interest in connection with the present epidemic.

CERTIFICATES OF INSANITY.

The unsatisfactory condition of English law in the matter of certificates of insanity, is illustrated by a case just concluded. A coachman, in a state of great mental depression, consulted a medical man because his wife was pregnant, and he was alarmed at the responsibility of the future. His wife stated that he threatened to murder both her and her children. When seen at his house, the patient said "he heard voices which prevented him from sleeping." As his wife was still alarmed, the doctor communicated with the relieving officer, who removed the patient to the lunacy ward of the workhouse.

After three days he was discharged. He brought an action against the doctor, alleging that his detention was due to professional negligence. Expert evidence was given, showing the case to be of suicidal mania, that the defendant had acted most properly in the plaintiff's interest, and that rapid recovery was quite possible. A verdict for the plaintiff—the only possible one—was given, and the defendant was mulcted in costs. This means that of the expenses incurred in defending the suit, probably at least $500, a portion cut down by the taxing-master to the lowest figure will be due from the plaintiff. Considering the plaintiff's position, it is probable that the doctor will never be able to recover a penny. This is the state of English law: A medical man in the discharge of his duty in securing the detention of a patient who is a danger to himself, to his family, and perhaps even to the public, is exposed to the inconvenience, anxiety, and cost of legal proceedings. It is not to be wondered at that, as a result, many doctors will under no circumstances sign a lunacy certificate.

BORIC ACID AND FORMALIN AS MILK PRESERVATIVES.

A number of prosecutions of milkmen for selling milk to which boric acid or formalin had been added as a preservative, has resulted in fines being imposed of from ten to fifty dollars. There was some conflict of medical evidence whether the quantity of boric acid present was injurious. In several cases the cream contained .5 per cent. of boric acid. Professor Boyce stated that this quantity would be injurious if taken continuously. He based his opinion on experiments made by him on kittens, in which the boric acid retarded digestion. Dr. Rydial, a public analyst, stated that he had made a special study of the subject. He agreed with those who said that a certain proportion of boric acid was poisonous, but this depended on the quantity taken. To get a medicinal dose of boric acid 700 to 800 cups of tea would have to be taken. Borax and honey were recommended for infants by nine out of ten monthly nurses. He had never heard of less than fifteen grains a day injuring an adult, or five grains a child.

WOUNDS IN THE BOER WAR.

One of the most remarkable facts established by the South African War is the great humanity of the modern bullet, and the possibility of rapid and complete recovery from wounds of almost any organ of the body. The brain, lungs, liver and abdomen have been traversed by bullets, with comparatively trivial results. The only vital organ for the Mauser or Lee-Metford bullet seems to be the heart. Many of the ideas previously held as to treatment have been quite exploded. The percentage of recoveries among the wounded treated at the hospitals has sometimes been as high as 96. Mr Treves stated that in his experience 60 per cent. of those shot in the abdomen recovered without operation, while, on the other hand, the result of operations in the field was bad. He considered that laparotomy was indicated only when the patient was seen within seven hours of the injury, and only when the transport was short and easy, when the wound was anteroposterior above the umbilicus, and the bullet had escaped, when there was excessive hemorrhage, and in some wounds below the umbilicus with escape of the bullet, especially if hemorrhage had occurred. He attributed the high rate of recovery without operation to the fact that most of the men, when shot, were fasting, that peristalsis was inhibited for some time by the shock, and that the Mauser bullet makes a very small "slit-like" hole in the intestine. In wounds of the knee-joint, amputation was scarcely ever performed, and in most cases recovery was rapid and the mobility of the joint was little, if at all, impaired. This is in strong contrast with Sir Thomas Longmore's report that in the Crimea "Not one wound of the knee-joint recovered without operation," and the fact that in the Civil War out of 3355 recorded cases, 2431 were treated by amputation at the knee-joint or through the thigh, with a mortality of 55 per cent.

GASTROENTEROSTOMY FOLLOWED BY PYLORECTOMY.

At the Clinical Society Mr. Arthur E. Barber described a successful case of this kind in a woman, aged 55, who had symptoms of partial intestinal obstruction, and a tumor to the left of the left rectus muscle under the border of the ribs. On abdominal section the tumor was found to be a cancer of the pylorus. Retrocolic gastroenterostomy was performed, and five weeks later the pylorus was removed and the resulting openings in the stomach and duodenum closed. The patient recovered rapidly, increased in weight, went about as usual, and ate ordinary food. She died from recurrence one year after the operation. Murphy's button was used, and was passed on the twelfth day. The operation was much facilitated by taking it in two stages.

MIDWIVES' BILL.

The discussion and excitement produced by the "Midwives' Bill" is subsiding. By this measure it is proposed that the government shall regulate the practice of midwives. They will be registered, and in future an examination will have to be passed by every woman who desires to be placed on the roll of those who present themselves to attend normal labor for the purposes of gain. The violent and unreasonable attack on the measure made by those who are supposed to represent the interests of the general practitioner has been quite ineffective, and has only served to make the public regard the profession, or at least that part of it, as actuated by the most sordid motives. The cry was raised that a new and ill-instructed order of medical practitioners was being created, into whose hands the destinies of the parturient woman were to be confided, much to her disadvantage. But the fact is that already—from economical or other motives—considerably more than half the labors in the country are attended by midwives. The question, therefore, is—and the agitators decline to face it—should the public be left at the mercy of the ignorance and incompetence of many of these women, or should a better and properly trained class be created? The men who profess so much solicitude for the parturient woman, and who are horrified at the idea that she should be attended by a properly trained midwife, were never troubled by the fact that she was being attended by an untrained one. The bill has passed its second reading in the House of Commons by a large majority, and the most the opponents now hope for is to be able to modify it.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

This institution continues to make steady progress, in spite of the ill-feeling and jealousy which its inauguration has aroused, in a small circle, among some of the older institutions. While the smaller metropolises of every country in the world have for many years made ample provision for post-graduate instruction, nothing worthy of the name existed in London before the establishment of the Polyclinic. Some distinguished surgeons yet regard it as a most unnecessary innovation, and the greatest and most authoritative of medical journals, the views of which are rightly received with respect all over the world, doubted its utility and said that it would "abstract much energy from existing institutions." Truly we are a conservative people! A dinner in order to raise funds, of which the Polyclinic is still in great need, has just been given at the Trocadero Restaurant, under the presidency of Lord Strathcona and Mount Royal, formerly High Commissioner for Canada. He was supported by Sir William Broadbent, Mr. Jonathan Hutchinson, and many other well-known men. About £600 was subscribed.

THE HILL STATIONS OF INDIA AS HEALTH RESORTS.

At the meeting of the British Balneological and Climatological Society, Sir Joseph Fayrer delivered an address on this subject. He considered these stations not merely in reference to the treatment of disease but also as resorts in which Europeans might preserve health and avoid the physical deterioration of protracted residence on the plains, and where it seems even possible that they might thrive and propagate. History shows that colonization of the plains is impracticable. Of the Portuguese, who preceded the British, no descendants without an admixture of native blood exist. Every variety of climate is met in India. Malaria is wide-spread on the plains, and here Europeans can not exist for any continuous length of time, but there are many hill stations where they can live, and many other localities which have never been explored. There are good reasons to suppose that in the vast mountain ranges and tablelands of India the physical and climatic conditions necessary for the preservation of health, and perhaps even for colonization by Europeans, exist to a much greater extent than has been heretofore supposed.

RAISING THE STANDARD OF PRELIMINARY EDUCATION.

A further attempt to raise the standard of medical education is now being made by the General Medical Council. At the last meeting Sir John Batty Fulse presented a report by the Education Committee on the question of raising the standard of preliminary examination in general education. Detailed suggestions were made as the result of reports received from experts throughout the United Kingdom. It was also proposed that an age limit should be fixed, below which an applicant could not be registered as a medical or dental student. The committee proposed that this limit should be fifteen. At some future time, when the standard of preliminary education had been raised, it might be advisable to raise the limit to seventeen. This would have the effect of inducing those who intend to enter on the study of medicine, to spend a longer time over ordinary school subjects, thereby better fitting them for the more stringent examinations it was proposed to require.

Correspondence.

Rambling Notes of a Roving Doctor.

VIENNA, AUSTRIA, May, 1900.

NAPLES—PELLIGRINI HOSPITAL.

To the Editor:—After my arrival in Europe from the far East, I spent several weeks at Naples, and while there, made frequent visits to some of the principal hospitals. The Pelligrini has one hundred and fifty beds, and its service is entirely devoted to the treatment of accidents and emergency cases. While the Englishman usually uses his fists to wreak his vengeance on his enemy, the Italian is prone to use a knife or a revolver, whichever happens to be at hand, and he usually has one of these weapons on his person. These cases are all brought to the Pelligrini for treatment, and I believe that this is the richest field in the world in which to study, in civil practice, gunshot and stab wounds. I made my visits here early in the morning, and never failed to find from two to six fresh cases for examination and treatment. Fresh knife wounds are dressed with moist gauze, wrung out of a 1 to 1000 carbolic acid solution. Wounds about the head and face, if much infected, are usually cleansed with this solution, and then allowed to heal by granulation without being stitched. In the treatment of penetrating wounds of the abdomen, whether made by a knife or pistol ball, one universal rule is followed, that is, to open the peritoneal cavity at once and carefully examine all its contents. It makes no difference whether the patient has any symptoms or not, this rule is most strenuously enforced. If the intestines are uninjured, and the other abdominal organs intact, the operation has been simply of an exploratory character and the patient will have suffered no harm. On the other hand, if it is decided to wait for symptoms of intestinal injury to develop, the delay will have been too great and the case will terminate fatally in spite of interference. In closing wounds of the intestines, two rows of fine silk sutures are used, the first including both the mucous and serous membranes, the second, the serosa alone. I noticed a set of Murphy buttons among the instruments and asked the surgeon, Dr. Jacobelli, if they used this appliance often in their intestinal work. He said that they did not, and that in the few cases in which they had used it, they had experienced trouble and that there had been delay in its passing from the bowels. He thought, however, that the Murphy button was a wonderfully ingenious appliance and had a place in intestinal surgery, but that that place was limited mostly to operations done by men who had little experience in this kind of work.

In cases where an intestine has been wounded, and a portion of its contents has leaked out into the peritoneal cavity, unless this leakage has run over a very large surface, the parts are never irrigated, but are simply sponged out with dry gauze. They claim that the attempt to cleanse a circumscribed contaminated surface by flooding the parts with water, must necessarily infect the whole serous surface of the abdominal cavity.

In operating for hernia, they follow to the letter Bassini's technique, and though they appeared to take great pains in their antisepsis, nearly all the wounds suppurated before they healed.

I saw some very good orthopedic surgery done in Naples. In cases where it is necessary to fracture a long bone to remedy a deformity, they divide the bone for about one-third of its thickness with a chisel, and then break it with the hand, ignoring all the powerful appliances made for that purpose.

VIENNA AS A MEDICAL CENTER.

For the fifth time during the last quarter of a century, I find myself in the Austrian capital, and while I prefer this city as a place of residence to any other in Europe, the chief attraction of Vienna for me has always been her advantages as a medical center. When I first came here, this was the only city in the world where post-graduate instruction was systematically given. At that time I was more ambitious than I am now, and knew less exactly what I ought to study; hence I tackled everything, including the eye, nose, throat, skin, obstetrics, gynecology, general surgery, internal medicine, and, in fact, whenever I saw a private course on any subject whatever bulletined inside of the walls of the *Allgemeines Krankenhaus*, I took that course. During my last two visits here, I have devoted myself mainly to that most important but most neglected branch of our profession, internal medicine, together with such laboratory and dead-house work as would aid me in better comprehending this subject.

I propose in this letter to advise my readers who should come here and who should not. A young physician of moderate means, with little or no knowledge of the German language, who has been graduated four or five years, and can not be absent from his field of labor more than three or four months, unless he is a fraud and is going abroad just for the name of the thing, would better stay at home and do his work at one of our own schools, where he can get much more that will benefit a general practitioner and in a shorter time, than he can anywhere in Europe. On the contrary, if he wishes to study a specialty, like the eye, nose, throat, skin or venereal disease, I know of no place where one can be better taught than in Vienna; but to receive the full benefit of such teaching, he must know German. To do this alone will take him three or four months, during which time he will have learned only a little of his subject, and that by the sense of sight.

On my way from Venice to Vienna, I met a bright young Chicago doctor who was coming to Vienna for surgery. He knew no German. He told me further that he had been an assistant of Professor Senn at the Presbyterian Hospital for one year. I told him he would find himself like the man from Newcastle who had left that city in search of coal. I saw him many times after and he always wore such a downcast, dejected, disappointed look, that I pitied him from the bottom of my heart. Vienna is, and has been for a quarter of a century, one of the most disappointing places in which to see surgery that I have visited. Billroth, although a learned and scientific man in the branch he taught, was a wretched instructor; Gussenbauer, his successor, is very little better. It is the ambition of every student who studies at one of the surgical clinics here to become an assistant. If he gets this position, he prints the fact in large letters on his cards and puts it on his sign when he locates for practice. The result of all this is that Gussenbauer has about twenty-five assistants, and that when a patient is put on the table in the amphitheater for operation, these fellows, dressed in white gowns, hover around the table like vultures around a carcass, and no one else can see anything that is being done. On two successive days Gussenbauer resected the pylorus for cancer. He had twenty assistants around him, and the seventy-five men who sat on the benches of the amphitheater might just as well have been seated in a café across the street, so far as getting any benefit from the operation was concerned. Albert, on the contrary, is a fine teacher, but does not himself operate, leaving all that kind of work to his assistant, Dr. Ewald. The lecture room in which these two men teach and operate, is most crowded, stuffy and uncomfortable, and I avoided it as much as possible. I believe that our surgeons in the United States are better guides than are foreigners, because we are more careful of human life.

For one who is looking after gynecology, the only advantage that Vienna offers over the United States is the number of patients that he can examine with a view of making a correct diagnosis. If, however, he wishes to see gynecological operations, he can see more of such work in the United States, and see it equally well or better done. The only way one can become a welcome visitor to either of the two gynecologic operating-rooms in Vienna, is to take the private courses given by the first assistants to these departments, which are the most expensive of any given in the *Allgemeines Krankenhaus.*

I believe that the only advantage for the study of surgery here is for the young man who wishes to learn this branch by operating on the cadaver. Several of the assistants at the surgical clinics give courses where one can do all important operations on the dead body, under the eye of a competent teacher. In connection with these courses, surgical diagnosis is taught, using the large outdoor material for that purpose. In the matter of obstetrics, I do not believe there is any place in the world where one can find so much material as in Vienna and where it is so thoroughly utilized for teaching purposes. To be benefited by what can be obtained in this line, at least six months' stay is essential, and a considerable sum of money must be paid to assistants. If one attends one of the lying-in clinics for six months, he can see a number of normal labors and be present and assist at as many obstetrical operations as he would be likely to encounter in a lifetime of practice.

In my opinion, however, the teaching of internal medicine in Vienna gives a student better advantages than are to be obtained at any other place. I am glad to see that this opinion is being held and acted upon by a large number of the young American physicians. Twenty years ago I found myself the only English-speaking student among a class of ten men studying this branch of medicine. To-day, over ten out of about eighty American post-graduate students who are in Vienna are studying internal medicine. Two of the best men who teach this subject have classes composed exclusively of Americans, and to get into one of these classes, one has often to apply weeks ahead. The teachers in Vienna are no better than our best men at home, but the material in the hospitals here can be better utilized for teaching purposes than at any place I have ever been on the other side of the Atlantic.

The prime defect in all medical teaching in the United States is the didactic lectures, and as long as this system is kept up, illy-qualified men will be sent out to practice medicine. A strange feature of this subject is that the Anglo-Saxon still persists in this most faulty mode of giving instruction in this important branch of our profession. Some years ago, I gave my card to Dr. Reese, of Guy's Hospital, London, and asked the privilege of attending his lectures for a few weeks. He asked me where I had spent my time while abroad and I told him I had just left Berlin, where I had attended Frerich's clinic at the Charité. He replied, "You would better have stayed there, for as compared with what you get there, you will find anything you will get in London very thin." And thin I found it, for he read his lectures from a manuscript and his class amused themselves by throwing paper balls at each other's heads.

Though the private courses given in Vienna are given by assistants, many of these men are as good teachers as the professors themselves. Nothnagel, Neusser nor Schrotter never appears before a class to deliver a lecture, without a patient to illustrate the subject.

EXPENSE IN VIENNA.

As the matter of expense is a subject of interest to the majority of students who come to Vienna to study medicine, I will close this letter by giving a few items of information on that point. The best way to live is to rent a small furnished apartment and take meals at a café or restaurant. A suitable room for two persons will cost about twelve dollars per month and board one dollar per day. Private courses generally cost forty cents per hour, though some are much more expensive. The laboratory and the dead-house course in internal medicine with many post-mortems, and bedside instruction, all told, will cost $1.25 per day.

W. S. Caldwell, M.D.

Typhoid Fever in the Second Pennsylvania Infantry.

Ann Arbor, Mich., July 2, 1900.

To the Editor:—In your issue of June 30, Dr. Francis R. Packard wishes to know from what source I obtained authority for the statement: "The claim is made by an assistant-surgeon of one of the Pennsylvania regiments that there was not a case of typhoid fever in his command, but the records of the Philadelphia hospitals show that certain cases sent from this regiment proved to be typhoid fever."

My authority for the statement will be found on page 85, Volume xiv, "Transactions of the Association of American Physicians." In the discussion of a paper read by me, Dr. S. Solis-Cohen made the following statement: "It is a matter of record that Col. J. Biddle Porter's regiment, the Second Pennsylvania, had no typhoid fever, and but two cases of illness from any cause." It is true that Dr Packard states in his article concerning the health of this regiment: "Before proceeding further, I would premise by stating that throughout the regiment's stay in camp there was but one death, that of a sergeant, who did not come to the hospital at Penn's Grove until two days before his death, and who was then delirious and in a practically moribund condition with typhoid fever. He had been absent in Philadelphia for some time previous to his illness. There was no other case of typhoid fever in the regiment, nor was there a single other case of really serious illness of any kind."

The statement in my paper should be changed to read as follows: "The claim is made by an assistant-surgeon of one of the Pennsylvania regiments that there was but one case of typhoid fever in his command, but the records show that certain cases sent from this regiment proved to be typhoid fever." I know very little about the medical history of the Second Pennsylvania. In the division of our work among the different members of the board, this regiment fell to Major Shakespeare, and I have no doubt that his part of the report will contain a full and accurate description of the diseases of this regiment. I have a list of deaths from all the regiments, obtained from the office of the Adjutant-General in Washington. This official record credits the Second Pennsylvania Infantry with two deaths from typhoid fever, as follows: "William C. Hagen, Corporal of Company D, died in Philadelphia, November 4, of typhoid fever; David McGlensey, First Sergeant of Company F, died August 15, 1898, at the camp at Penn's Grove, of typhoid fever." This last is undoubtedly the case referred to by Dr. Packard in his paper on the health of the regiment. I have not a complete list of the sick from this regiment, but on a slip of paper sent me some months ago by Major Shakespeare, I find the following record: "Rudolph King, private of Company A, of the Second Pennsylvania, admitted to Jefferson Medical College Hospital, Philadelphia, from quarters, Sept. 19, 1898; discharged Oct. 22, 1898; Austin Halman, private of Company A, Second Pennsylvania, admitted to Samaritan Hospital, Philadelphia, Sept. 17, 1898, from quarters; discharged Oct. 22, 1898." I do not know whether this includes all the cases of typhoid fever reported from this regiment or not.

I am very glad that Dr. Packard has called my attention to the misstatement made in my article, and I will be glad to correct the same. The members of our board have been very anxious to have every statement absolutely correct, and I will thank anyone who will point out errors of fact or statement in any of the papers which I have read on the subject.

Dr. Packard states in his article in The Journal: "Not a single case of illness of any kind whatsoever was sent from our regiment to a Philadelphia hospital during our entire camp life." It will be seen from the names quoted above why I made the statement I did about the sending of patients from the regiment to the Philadelphia hospitals. When an official record states that a patient was admitted "from quarters," it is understood that the patient came from the regiment or company camp. It is easy, however, to explain how it is that Dr. Packard makes his statement. The regiment, as he states, returned to Philadelphia September 15, after which he had no control or even knowledge of the sick, and the above-mentioned cases were admitted to the hospital after that date.

Victor C. Vaughan.

Increase in Venereal Disease in Paris.

PARIS, FRANCE, May 10, 1900.

To the Editor:—An evil almost inseparable from all World's Expositions is the great increase in the number of venereal diseases. Not only are the native contributors to immorality largely increased by the presence of a greater pleasure-seeking population, but a great influx of prostitutes from all parts of the world adds to the enormous number of clandestine debauchees. The statistics of l'Hôpital Ricord show an increase out of all proportion in the number of soft chancres during exposition years. This is explained by Prof. Fournier as due to the large increase in clandestine prostitution, and to the importation of a more uncleanly class during this time. This fact about the soft chancre is so well known that Mauriac, at l'Hôpital Ricord, when requested to send over cases with the Ducret-bacillus, some months ago, replied, "*Eh, bien! Il faut attendre pour l'ouverture de l'Exposition.*"

As syphilis is recognized to be, with alcoholism and tuberculosis, one of the great scourges of France, we consider as very apropos, the lecture of Prof. Alfred Fournier, May 4, in the Amphitheatre of l'Hôpital St.-Louis, on "Sterilization of Syphilis." The audience, composed principally of foreign physicians, showed an interest in the humanitarian aspects of the subject which would put to shame the prudish position taken by many American and English physicians who would consign the whole question to oblivion.

Professor Fournier considered the word "sterilization" to include all means used to prevent the transmission of the disease, by measures applied directly to the individual infected; so that this one case, at least, should not produce another. As illustrating syphilis of the sterile type might be mentioned for example an honest, intelligent, and careful man who might unfortunately contract syphilis, but who in his regard for the welfare of others would follow carefully the hygiene and treatment ordered him and would wait until cured before contemplating matrimony. Such a case would remain sterile as to further transmission. On the other hand, as a type of syphilis fecund in results take a woman, careless of her person, ignorant, lazy, who only follows treatment the shortest time possible; let her develop contagious accidents and she may transmit the disease to three or four persons, not to mention the case of a prostitute, who, in a public house, having three or four sexual "*rapports par jour*," may sow the disease broadcast. The number of men infected by these women may be learned by reading army reports where the military laws compel the soldiers to denounce the woman by whom they were infected. Cases are reported of ten, twenty and thirty men who have been infected with syphilis by the same woman. In a report recently read before the Academy of Medicine of Paris by one of the examining physicians of the service of firemen the case of one woman was reported, who infected thirty-five firemen. In another case, a girl of 17 showed on examination enormous mucous patches of the vulva which had existed for six months, during which entire time, not excepting her menstrual periods, she had had an average of three connections a day, with the patrons of the low wine-room where she was waitress. Allowing that four hundred and fifty men had been exposed to contagion and that only one in three had been infected, we have the enormous total of one hundred and fifty cases of syphilis contracted from one woman. Such appalling facts bring us to consider the conditions which influence the fecundity or sterility of syphilis.

1. The intelligence of the subject. The careless, thoughtless, ignorant prostitute has an amazing fecundity of transmission as compared with an honest mother infected by her husband, in which latter case there is almost no further transmission.

2. Too short or insufficient treatment, which may be due to no lack of conscientiousness on the part of the patient, but to insufficient emphasis by the physician on the necessity of prolonged treatment.

3. Quality of the syphilis, benign or malignant. Often the benign cases are especially dangerous by reason of the insignificance of the primary lesion, and the trifling inconvenience from the mucous patches. Heavy smokers are also liable to a recurrence of mucous patches ten to twenty times.

4. Inability to hospitalize the cases, which, if practicable, would render the disease infecund by sequestration.

5. Social conditions, poverty and crowding in tenements, which by favoring promiscuity in the use of household and toilet articles and eating utensils, favor fecundity of infections.

6. Professional conditions. Glassblowers, whose trade compels the passing of the same tube from mouth to mouth, suffer regular epidemics of syphilis when a man with mucous patches is admitted to their number. In France, women whose profession consists in forming and developing the nipples of young mothers have spread small epidemics of syphilis by inoculation of fissures in the nipples from mucous patches in the mouth. Vaccinators in rural districts, when human lymph was used, infected hundreds of cases. In Russia, professional cuppers have infected as many as two hundred cases by means of infected cupping instruments.

Fournier considered five syphilitic lesions as principal agents of transmission: 1, chancre; 2, erosion or mucous patches (secondary); 3, ulcerations (tertiary); 4, blood in secondary state, and 5, vaccin.

Of the first two, the chancre played a small part, while the mucous patches played an enormous rôle; out of twenty cases caused by the two, the mucous patch would cause eighteen, the chancre two. This is easily explained by the transitory character of the chancre, which disappears after two to three weeks, never to be reproduced, while the mucous patch may recur twenty, thirty or forty times; multiple localization of mucous patches on the lips, mouth, tongue, vagina, vulva, glans penis, and skin; their long period of recurrence after many years, being especially dangerous during the three first years; and the fact that the lesions are regarded as so trivial emphasize the importance of this manifestation. Ninety-nine per cent. of married men who infect their wives do so by mucous patches. The great point in the prophylaxis of syphilis is sterilization of the mucous patch, which must be done again and again as often as it recurs.

What are the means of sterilizing syphilis?

1. Sterilize by thorough, long-continued and completely-carried-out treatment.

2. Instruct patient regarding danger incurred by others in all forms of personal contact, even an innocent kiss on the cheek. Give printed instructions to avoid allowing anyone to use the knife or fork, glass, comb or brush used by patient. Advocate giving a small printed brochure with some elementary facts in regard to the disease, not painted so as to alarm, but so as to impress on the patient the gravity of the disease and the means to be adopted to prevent communication. Fournier favors hospital conferences or lectures especially gotten up for syphilitics, not burdened with pathologic descriptions, but hygienic advice how to get well, and how to prevent others contracting the disease.

3. Relieve excessive crowding of clinics. At St. Louis, out of two or three hundred cases every morning who pass before the consultant, forty or fifty syphilitics would take up too much time to properly instruct. Increase the number of venereal clinics. Make obligatory on all medical students to serve a sufficient length of time in a venereal clinic to become competent in recognizing syphilis.

4. Hospitalization with sequestration of the patient and his disease would render the greatest service. This would be necessarily impossible, inasmuch as the period of disease extends over two or three years and the treatment would be immensely expensive, and as, even if hospital facilities were afforded, patients would not enter for so apparently simple a thing as a mucous patch of the lip.

5. Surveillance and compulsory seclusion of prostitutes known to have syphilis in any form. This method of police surveillance and seclusion has been attacked more violently than ever by the puritanical British Purity League, which would abolish all vigorous measures against prostitution. This league, which, gloating over its victory in suppressing the Contagious Disease Act of England, in 1886, is stretching out its baneful influence toward the continent, should be as vigorously fought by all medical men as the antiquated idea that all epidemics were visitations of Providence. All the cant of

the league about the medical visits of inspection being outrages to their sisters, the prostitutes, is simply ridiculous. The law, while in no way approving or sanctioning prostitution, must exert its rigors of inspection and policing on the women, as they only put themselves on the market. While there are only 5000 prostitutes in Paris under police surveillance, the great danger comes from the infinitely greater number of clandestine prostitutes. To demand the complete abolition of all police control over these women because all cases of syphilis are not detected would be as reasonable as to abolish all the gendarmes because all the thieves are not caught. While heartily in favor of all moral reforms, such as early marriage, asylums for reclaimed fallen women, elevated moral life, etc., medical men must remember that their obligation to society is not to question the morals of the case, but to cure and prevent disease.

Fournier advocated as reforms in the consultations for the poor:

1. Relieve the strain on present clinics by a large increase in venereal dispensaries, which shall be open every day and shall have night séances.
2. Render them easy of access; prevent the long waits as at present; encourage rather than repel their applications for relief.
3. Make the consultations approach as nearly as possible the private city consultations, so that the patient will not be compelled to relate his history before his fellow patients.
4. Make them free, instead of paying as at present, for the loss of time as deducted from the wages of women is fifteen to forty cents, for men, eighty cents to a dollar a day. They should not be compelled to lose this money in order to be treated.
5. Consulting physicians should pass competitive examinations, and should be expert in venereal diseases.

He concludes by saying that the *dernier ressort* was the prophylaxis by treatment to the extermination of the disease.

A. D. Mewborn, M.D.

Alcohol as a Food.

Clarendon, Texas, June 13, 1900.

To the Editor:—I am surprised to see in *The Dallas News*, an editorial which quotes The Journal, and other medical journals, as authority for the statement "that alcohol can not by any scientific evidence be called a food." I supposed that all scientific medical men of this day had long since accepted as a fact established, and no longer *sub judice*, that alcohol up to a certain amount was consumed and utilized as food. I am therefore exceedingly surprised to see a reputable medical journal discuss the subject at all, and, of course, much more so to find it lending its influence to the propagation of false teaching. I have at hand the latest and most authoritative teachings on the subject which agree fully with my observation and experience that, in the language of one of these authorities—Thompson—"In many cases of malnutrition, and malassimilation of food, alcohol is itself a food, and its consumption under proper direction, results in an increase of body-weight and strength and improvement of functional activity," and "there are a number of diseases in which the use of alcohol is a positive service, and in which it becomes a necessity in order to save or prolong life."

H. I. Winn, M.D.

Deaths and Obituaries.

Alexander Johnston Chalmers Skene, M.D., of Brooklyn, N. Y., who died from a cardiac ailment on July 6, at his summer home, at Highmont, in the Catskills, was born in the parish of Fyvie, Aberdeenshire, Scotland, June 17, 1837. His family, one of great antiquity, includes warriors, statesmen and professional men, who were closely identified with the history of Scotland. He came to America at the age of 19 years, with a strong liking for zoölogy and the study of medicine. After a course at the University of Michigan, he proceeded to the Long Island College Hospital, from which he was graduated in 1863. The Civil War was then at its height, and he served as an acting assistant-surgeon, at David's Island, N. Y., and Port Royal, Charleston, S. C. After the war he identified himself with his alma mater as an adjunct professor, and soon became known as a diagnostician of singular acumen. As a gynecologist he had an international reputation, to which a masterwork published in 1883 liberally contributed. He was a purist in style, a careful collator of facts, and an original classifier, besides being a lover of art and an amateur sculptor. His name is on the rolls of many medical and scientific societies.

J. H. Burnett, M.D., Mariposa, Cal., died June 22, from epithelioma of the face. He was graduated from the Louisville National Medical College in 1891, and had since practiced in Mariposa.

George G. Saxe, M.D., formerly of Watertown, S. D., and a graduate of the College of Physicians and Surgeons, New York City, died at his old home, Madison, N. J., June 25, aged 55 years.

Bennett Bussey, M.D., Biggs, Cal., died June 25, aged 93 years. He was graduated from the department of medicine in the University of Maryland, in the class of 1828.

J. T. M. Cardeza, M.D., of the class of 1844, medical department of the University of Pennsylvania, died at his home in Claymont, Del., June 28, aged 79 years.

A. J. Battle, M.D., Wadesboro, N. C., died June 19. He was a graduate of the College of Physicians and Surgeons, Baltimore, Md., in the class of 1881.

Chas. A. Mackin, M.D., Milford, Mass., died June 29, aged 60 years. He was a member of the class of 1866, Harvard University Medical School

John Ashhurst, Jr., M.D. We regret to announce the death of Dr. Ashhurst, at Philadelphia, on July 7. A notice of his life and works will appear in the next issue of The Journal.

Edward S. Reynolds, M.D., Jefferson Medical College, Philadelphia, died at his home in Bellevue, Pa., July 1, aged 46 years.

Louis E. Bonne, M.D., Northwestern University Medical School, Chicago, 1893, died at his home in Chicago, June 25, aged 35 years.

Louis Arcularius, M.D., University of Giessen, Germany, 1867, died in New York City, July 1.

DEATHS ABROAD.

We note the deaths of:

E. Dadet de Gassicourt, professor of pediatrics at Paris, founder of the *Revue Mensuelle des Maladies de l' Enfance*, and secretary of the Académie de Médecine.

Dr. Kuehne, director of the Institute of Physiology at Heidelberg.

Books and Pamphlets.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

Diseases of the Chest, Throat and Nasal Cavities; Including Physical Diagnosis and Diseases of the Lungs, Mediastinum, Heart and Aorta, Laryngology and Diseases of the Larynx, Pharynx, and Nose and Special Diseases of the Thyroid Gland and Esophagus. By E. Fletcher Ingals, A.M., M.D., Professor of Diseases of the Chest, Throat and Nose, Rush Medical College. Fourth Edition. With Two Hundred and Fifty-five Illustrations. Cloth. Pp. 765. Price, $4.50. New York: William Wood & Co. 1900.

Annual and Analytical Cyclopedia of Practical Medicine. By Charles E. de M. Sajous, M.D., and One Hundred Associate Editors, Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Volume v. Cloth. Pp. 662. Price, $5. Philadelphia, New York and Chicago: F. A. Davis Co. 1900.

Tuberculosis: Its Nature, Prevention and Treatment. With Special Reference to Open-Air Treatment of Phthisis.

By Alfred Hillier, B.A., M.D., C.M., Fellow of Royal Medico-Chirurgical Society, London. With Thirty-one Illustrations and Three Colored Plates. Cloth. Pp. 245. Price, $1.25. London, Paris, New York and Melbourne: Cassell & Co. 1900.

A Manual of Obstetrical Technique as Applied to Private Practice. With a Chapter on Abortion, Premature Labor, and Curettage. By Joseph Brown Cooke, M.D., Late Attending Physician St. Mary's Free Hospital for Children, Out-Door Department. Cloth. Pp. 169. Price, $1.25. Philadelphia and London: J. B. Lippincott Co. 1900.

Nettleship on the Eye. New Edition. Diseases of the Eye, by Edward Nettleship, F.R.C.S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London Ophthalmic Hospital, Etc. New (6th) American from the Sixth English Edition, Thoroughly Revised by William Campbell Posey, M.D. With a Supplement on the Detection of Color Blindness by William Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia. Just Ready. In One 12mo Volume of 562 Pages, with 192 Illustrations. Selections from Snellen's Test-Types and Formulæ, and 5 Colored Plates. Cloth, $2.25, net. Philadelphia and New York: Lea Brothers & Co.

Fractures. By Carl Beck, M.D., Visiting Surgeon to St. Mark's Hospital. With an Appendix on the Practical Use of the Röntgen Rays. 178 Illustrations. Cloth. Pp. 335. Price, $3.50. Philadelphia: W. B. Saunders & Co. 1900.

A Manual of Medicine. Edited by W. H. Allchin, M.D., F.R.C.P., F.R.S.E., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. i. General Diseases, Diseases Excited by Atmospheric Influences, the Infections. Cloth. Pp. 442. Price, $2. New York: MacMillan & Co. 1900.

Vivisection. Hearing Before the Senate Committee of the District of Columbia, Feb. 21, 1900, on the Bill (S. 34) for the Further Prevention of Cruelty to Animals in the District of Columbia. Cloth. Pp. 223. Washington. Government Printing Office. 1900.

King's Manual of Obstetrics.—New (8th) Edition. A Manual of Obstetrics. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D.C., and in the University of Vermont, etc. In One 12mo. Volume of 612 Pages, with 264 Illustrations. Cloth, $2.50, net. Philadelphia and New York: Lea Brothers & Co.

Normal Histology. By Edward K. Dunham, M.D., Professor of General Pathology, Bacteriology, and Hygiene, in the University of Bellevue Hospital Medical College, New York. New (2d) Edition. In One Very Handsome Octavo Volume of 319 Pages, with 244 Illustrations. Cloth, $2.50, net. Philadelphia and New York. Lea Brothers & Co.

Progressive Medicine—Volume ii, 1900. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, Handsomely Bound in Cloth, 401 Pages, with 81 Engravings. Philadelphia and New York: Lea Brothers & Co.

The Cell in Development and Inheritance. By Edmund B. Wilson, Ph.D., Professor of Zoology, Columbia University. Second Edition, Revised and Enlarged. Cloth. Pp. 485. Price, $3.50. New York: The MacMillan Co. 1900.

University of Pennyslvania. Contributions from the William Pepper Laboratory of Clinical Medicine. Paper. Pp. 477. Philadelphia: Press of Wm. F. Fell & Co. 1900.

Medical and Surgical Report of Presbyteran Hospital in the City of New York. Volume iv. January, 1900. Edited by Andrew J. McCosh, M.D., and W. Gilman Thompson, M.D. Paper. Pp. 223. New York: Trow Directory Printing and Bookbinding Co. 1900.

Stimson's Operative Surgery. A Manual of Operative Surgery, by Lewis A. Stimson, B.A., M.D., Professor of Surgery in Cornell University Medical College. New (4th) and Thoroughly Revised Edition. In One Royal 12mo. Volume of 581 Pages with 293 Illustrations. Cloth, $3, net. Philadelphia and New York. Lea Brothers & Co.

On Neuro and Neuro-Fibromatosis. By Alexis Thomson, Fellow of Royal College of Surgeons of Edinburgh. Cloth. Pp. 167. Edinburgh: Turnbull & Spears. 1900.

Suggestions to Medical Writers. By George M. Gould, A.M., M.D. Cloth. Pp. 185. Price, $1.25. Philadelphia: Philadelphia Medical Publishing Co. 1900.

Food for the Sick and How to Prepare It. With a Chapter on Food for the Baby. By Edwin Charles French, M.D. Cloth. Pp. 171. Price, $1. Louisville, Ky.: John P. Morton & Co. 1900.

PAMPHLETS.

American Public Health Association. Lomb Prize Essay, 1886. Disinfection and Individual Prophylaxis Against Infectious Diseases. Revised in December, 1899, by the Author. By George M. Sternberg, M.D., L.L.D., Surgeon-General U. S. Army. Paper. Pp. 45. Columbus, Ohio: Berlin Printing Co. 1900.

Annual Report of the Board of Health of the City of Davenport, Iowa, Year Ending March 1, 1900. Paper. Pp. 24.

The Bubonic Plague. By Walter Wyman, Surgeon-General Marine-Hospital Service. Paper. Pp. 50. Washington: Government Printing Office. 1900.

Case of Foreign Body Passing Directly Through the Eye and Lodging in the Fatty Tissue in the Posterior Portion of the Orbit—Dislocation of Lens—Recovery—Case of Foreign Body in the Lens—Cataract—Iridectomy—Removal of Steel with Magnet—Removal of Lens—Intraocular Hemorrhages—Evacuation of Hemorrhages—Good Result. By Frank Allport, M.D., Chicago. Reprinted from Ophthalmic Record.

Criminal Abortion: Its Evils and Sad Consequences. Carcinoma on the Floor of the Pelvis. Microscopical Studies in Pelvic Peritonitis. A Hitherto Undescribed Disease of the Ovary; Endothelioma Changing to Angioma and Hematoma. Another Hitherto Undescribed Disease of the Ovaries; Anomalous Menstrual Bodies. The Third Hitherto Undescribed Disease of Ovary: Myxomatous Degeneration. The Fourth Hitherto Undescribed Disease of Ovary: Colloid Degeneration. Diagnosis and Some of the Clinical Aspects of Gyroma and Endothelioma of Ovary. By Mary A. Dixon Jones, M.D., F.R.M.S. Reprints.

Gastrostomy for Traumatic Stricture of Esophagus—Report of Case—Treatment of Cancer of Cervix of the Uterus Complicated by Pregnancy. By George Ben Johnston, M.D., Richmond, Va. Reprints.

Hemorrhage and Circulatory Disturbances in Complicated Fracture; Management of Large Congenital Exomphalos—Infantile, Radical or Tentative Treatment of Piles, and Therapy of Feminine Hernia in the Adult. By Thomas H. Manley, M.D., New York. Reprints.

A Modern Study of Gouty and Rheumatic Manifestations. Translated from the French. Revised Second Edition by Edmond L. Gros, M.D., of the Faculty of Paris. Paper. Pp. 23.

Medical Legislation in Nebraska. By H. Winnett Orr, M.D., Lincoln, Neb. Reprinted from Western Medical Review.

Nasopharyngeal Adenoids as a Causative Factor in Ear Diseases. Myopia. Operative Treatment in High Degrees. Allen T. Haight, Chicago. Reprinted from The Journal of the A. M. A.

Phototherapy. As Used in Tuberculosis of the Lungs. By J. W. Kime, M.D., Fort Dodge, Iowa. Reprinted from the Iowa Medical Journal.

Pachymeningitis: Report of a Case and Autopsy. By Samuel E. Earp, M.D., and John T. Scott, M.D., Indianapolis, Ind. Reprinted from the Medical and Surgical Monitor.

Proceedings of the Philadelphia County Medical Society. April, 1900. Paper. Pp. 62. Philadelphia: Published by the Society. 1900.

Pure Food Legislation. Speech Upon the Evils Arising from Aulterations in Food, Their Extent, and the Legislation Necessary to Prevent the Use in Food of Alum, Sulphuric Acid, Copper Salts, Zinc, and Other Poisonous Substances, in the Senate, Wednesday, May 2, 1900. By Hon. Wm. E. Mason. Paper. Pp. 32. Washington: Government Printing Office. 1900.

Present Status of Insanity in Virginia. Wm. Francis Drewry, M.D. Reprinted from the Medical Age.

Regeneration of Crystalline Lens. By Robert L. Randolph, M.D, Reprint.

Report of Commission of Medical Officers. Detailed by Authority of the President to Investigate the Causes of Yellow Fever. Paper. Pp. 98. Washington: Government Printing Office. 1899.

Sulphosalt of the Alipathic Creosote-Esters, and Its Therapeutic Usefulness. By Heinrich Stern, Ph.D., M.D., New York City. Reprinted from the Journal A. M. A.

Sixth Annual Report of the Board of Registration in Medicine. January, 1900. Paper. Pp. 72. Boston: Wright & Potter Printing Co. 1900.

Transactions of the Thirtieth Annual Session of the Medical Society of Virginia. Held at Richmond, Va., October 24-26, 1899. Paper. Pp. 90. Richmond: J. W. Ferguson & Son. 1899.

The John Crerar Library. Fifth Annual Report for the Year 1899. Paper. Pp. 37. Chicago: Printed by Order of Board of Directors. 1900.

TRADE PAMPHLETS.

Essentials of Hematology. A Practical Guide to the Clinical Examination of the Blood for Diagnostic Purposes. Illustrated. Paper. Pp. 48. Published by the Palisade Mfg. Co., Yonkers, N. Y.

Mosquitoes and Malaria. McKesson & Robbins, N. Y.

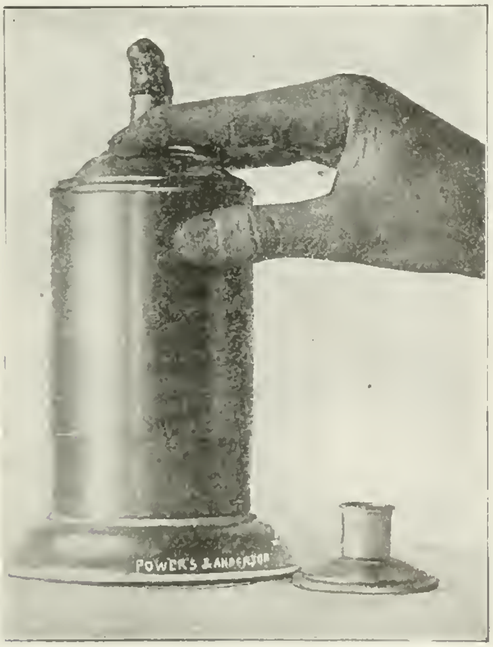
New Instrument.

An Aseptic Soap-Container.

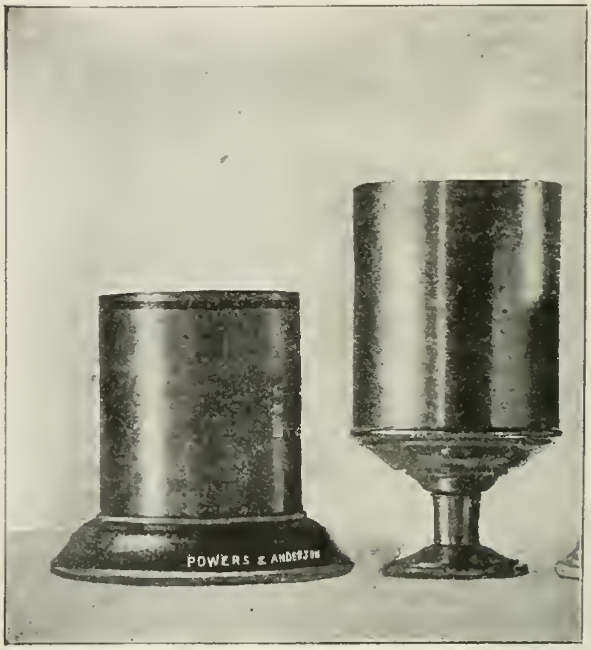
STUART McGUIRE, M.D.

SURGEON IN CHARGE OF ST. LUKE'S HOSPITAL, RICHMOND, VA.

In my personal observation in several leading hospitals, where surgical cleanliness was often carried to the point of sterilizing iodoform and protecting the hands with rubber gloves, I have failed to note a single instance in which an effort was made to eliminate the possibility of infection from the soap-dish; on the contrary, the universal practice was to have an open jar or bowl of green soap on the washstand, into which the operator, assistants and nurses freely inserted hands soiled from routine work or septic from an operation just completed.



Green soap is readily infected with micro-organisms, particularly those of a pyogenic nature, and the practice referred to was so repugnant to the writer's surgical conscience that he has made repeated but unsuccessful efforts to find a soap-container on the market which would correct the evil. With the aid of Powers & Anderson, instrument makers, of Richmond, Va., he has lately perfected a simple device which, after practical use, has proved eminently satisfactory.



It is made of metal, nickel-plated, and consists of a base or piston, a cup or barrel, and a cap or stopper. The method of operation can be seen by a glance at the accompanying cut. After the container has been filled with soap, it is placed in the sterilizer and subjected to germicidal heat for an hour. When required for use the cap is removed and downward pressure causes the soap to protrude through the opening in the top. The apparatus, as at present manufactured, is 6½ inches in extreme height, and 3 inches in diameter. It is clean, economical and durable.

Societies.

Santa Clara County Medical Society.—At the meeting of this Society, held in San Jose, Cal., June 20, the following officers were elected: president, J. F. Burns; first vice-president, G. F. Witter; second vice-president, R. W. Payne; treasurer, A. Jayet; secretary, F. La Spada.

Santa Fe Medical and Surgical Society.—This Society met in Topeka, Kan., June 29. The following officers were elected: president, C. A. McQuire, Topeka, Kan.; first vice-president, W. R. Priest, Concordia, Kan.; second vice-president, J. J. Schuler, Raton, N. M.; third vice-president, H. E. Hastings, Olathe, Kan.; fourth vice-president, G. W. Miel, Denver, Colo.; secretary and treasurer, J. D. Freeman, Topeka, Kan. The next meeting will be held in Denver, Colo., Sept. 26, 1900.

The Mississippi Valley Medical Association will hold its twenty-sixth annual meeting at Asheville, N. C., on October 9, 10 and 11, under the presidency of Dr. H. N. Moyer, of Chicago. The annual address in medicine will be delivered by Dr. I. N. Love, of St. Louis; that in surgery by Dr. C. A. Wheaton, of St. Paul, Minn. A one-fare rate for the round trip is expected. The Secretary, Dr. Henry E. Tuley, 111 W. Kentucky St., Louisville, Ky., requests that titles of all papers be sent to him within thirty days.

California Northern District Medical Society.—At the recent meeting of this Society, held in Woodland, the following officers were elected: president, Wm. Ellery Briggs, Sacramento; first vice-president, C. W. Jones; second vice-president, E. W. Hanlon, Marysville; third vice-president, F. W. Carpenter, Grafton; secretary, Arthur Stone; treasurer, O. Stansbury, Chico.

Tri-State Medical Association.—This Association, the membership of which is taken from Maryland, West Virginia and Western Pennsylvania, met in Frostburg, Md., June 29. The officers elected were as follows: president, J. M. Miller, Romney, W. Va.; vice-presidents, W. O. McLane, Frostburg, Md.; F. H. Gump, Bedford, Pa.; K. Taylor, Slanesville, W. Va.; secretaries, Frederick W. Fochtman, Cumberland, Md.; Percival Lantz, Alaska, W. Va.; treasurer, H. W. Hodgson, Cumberland, Md. Thirty-five members were present.

Oregon State Medical Society.—This Society met in Portland for its twenty-seventh annual meeting, June 27. Dr. A. M. Phelps, of New York City, was present, read a paper and performed several operations before the society. The following officers were elected: president, W. E. Carll, Oregon City; vice-president, C. J. Smith, Pendleton; secretary, W. F. Amos, Portland; treasurer, Mae H. Cardwell, Portland. A resolution was passed requesting the legislature to create a State Board of Health. Twenty-six new members were added to the Society.

Omaha Medical Society.

Omaha, Neb., May 22, 1900.

STONE IN THE BLADDER.

Dr. B. B. Davis read a paper on this subject, in which he said that it has been held that an alkaline water-supply and climatic conditions are the chief causes of this condition; but, in his opinion, infection plays the same rôle as it does in the formation of gall-stone. As regards vesical calculi, it is more and more clear that the solid constituents of the urine can not form the nucleous unless preceded by germ action. The chief early symptom is sharp pain at the close of urination. The later symptoms are the occasional presence of blood in the urine, though blood-cells are found with the microscope when there is no gross evidence of blood; cystitis, often with pus in the urine; occasionally, small calculi; cutting pain is referred to a point one inch back of the meatus; the patient often thinks he has a stricture or an ulcer, this opinion being due to the location of the pain; fever, due to infection. The larger the stone the less the pain; and the more stones, the greater the pain; the presence of a large stone causes very frequent urination and exhausts the patient. One point, too often omitted, is the necessity of bimanual examination; in women through the vagina, and in men through the rectum. Theoretically, Bigelow's is the only operation for stone; but practically, the results of a large number of such operations have proved disappointing, for the reason that the operation requires special skill and dexterity. Surgeons in British India, where vesical calculus is very prevalent, use the Bigelow method for soft stone, and perineal or suprapubic cystotomy on those known to be hard.

The first case reported by the author, in 1887, was that of a girl 18 months old. Tenesmus had been noticed for 9 months. The early treatment had been directed toward the rectum, and she had been treated for prolapse and ulceration of the rectum. Dr. Davis dilated the urethra and removed a stone composed of urates, 2⅛ inches in circumference, weighing 75 grains. He was afraid that permanent incontinence would result, but it did not. The second case was that of a man 51 years of age, who, it was thought, had one large and a few small stones, but on operation, sixteen small uric-acid calculi were found, weighing ½ ounce. The third was that of a man of 74, who urinated every five to ten minutes, day and night; pus was present in abundance. A suprapubic operation was performed and the bladder drained through the perineum by a button-hole incision. After removing a phosphatic stone seven inches in circumference, weighing 3¼ ounces, the incision was closed. In the fourth case, that of a man 52 years of age, the same method was used, and a large, rough, jagged stone, composed of lime and mixed salts, 6½ inches in circumference and weighing 2¾ ounces was found in a diverticulum above the prostate. Although the surface of the stone was very rough, blood had been noticed in the urine only twice. He said that the operation is better done by the suprapubic method, especially if there is much infection and pus, with a thickened bladder wall. He has been much pleased with his results in closing the upper incision at once and draining through the perineum; the drainage is perfect and is continued until all cystitis had disappeared. Unless this is done, more calculi will be formed. Frequent irrigation through the drain is practiced. He uses urotropin in 10-gr. doses in a glass of water before meals, in all cases with infected urine, prior to any soundings or operation.

Dr. J. P. Lord said that median lithotomy needs more attention than has been given it, and that the suprapubic operation is very formidable for an old patient in bad condition. He is very much inclined to drain as suggested, and is pleased with Halsted's method of doing a suprapubic operation and then submerging the patient in a continuous bath till recovery.

Dr. J. E. Summers, Jr., was much impressed with the case of the baby, as such cases often mislead because the symptoms do not point in the right direction. He believed that Dr. Davis did the only feasible operation for the patient with the oxalate stone. When he began his surgical work, all the suprapubic patients died. He has done many lateral lithotomies as taught by Little, and heartily approves the closure of the suprapubic incision, and drainage through the perineum.

Dr. W. O. Bridges said that Dr. Davis was right in urging attention to greater care in diagnosis, as the symptoms are variable and many cases of stone are missed. He had seen many in which neither pain nor blood was present; one seen recently was that of a young man, a masturbator, who had dribbling of urine and wore a urinal. Previous diagnosis had been made of irritability due to masturbation, but he suspected stone and referred the patient to another physician, who found and removed one. Women often have stone without a single symptom except irritability of the bladder. In patients over 50 years of age, examination for stone should never be omitted.

Dr. W. O. Henry thoroughly approved the suprapubic operation with perineal gauze-wick drainage. He called attention to one symptom not mentioned, but important—the sudden arrest of the stream of urine when stone is present.

Dr. A. B. Somers spoke on the medical aspect of stone. He said that he knew of no drug that would dissolve stone in the bladder. He believed that bacteria are the cause, and that infection starts with the formation of the nucleus. There are few urinary antiseptics; boracic and benzoic acids are useful, but must be taken in large doses, at least 30 gr. in the twenty-four hours; the urine can thus be made acid, and pus kept down, as it thrives in alkaline urine only. Of late he has used urotropin in large doses with very good results.

Dr. B. B. Davis said, in answer to a question, that precipitation may occur in normal urine, but in aseptic urine it will be so slight that the precipitate will pass out; while it will become entangled in septic urine and cohere into a mass. He has never known of a suprapubic operation on a woman and can see no reason for it, except in case of encysted stone. He does not believe in catheter-drainage through the urethra, as it is too painful, neither does he approve of through-and-through drainage.

COMPLEX MALIGNANCY.

Dr. J. E. Summers, Jr., and **Dr. Harold Gifford** presented a patient on whom Dr. Summers had operated ten years ago, removing a sarcoma, lying over the parotid and adherent to the capsule, together with all the glands possible. There had been no recurrence. The dissection was very ample; the facial nerve had been cut, and the parotid tied. Recently Dr. Gifford had found a carcinoma of the limbus of the cornea, which he removed, making thorough cauterization. Still later, he had eviscerated the eye. The patient also had pulmonary tuberculosis.

Dr. B. B. Davis said that he was very glad to see such a case, as it was useful to counteract the feeling of depression which comes so often when we think of the results in operating on malignant cases.

Dr. **Harold Gifford** related the case of a patient with deep cancer of the face, on which he operated ten years ago. He knew he was compelled to leave some cells, but there had been no return. He also recalled a case of glioma of the retina, which he enucleated several years ago, and left large cells. He asked for permission to eviscerate, but was not allowed to do so. The child is still alive and well.

Dr. **W. R. Lavender** called attention to the fact that sarcoma spreads through the vessels; when the tumor is removed and the vessels are tied, there is no recurrence. Carcinoma spreads by the lymphatics, and infection easily takes place.

Kings County Medical Association.

New York City, June 12, 1900.

H. Arrowsmith, M.D., President.

POSTERIOR HYPERTROPHY OF THE MIDDLE TURBINATE.

Dr. **W. H. Steers** presented a specimen of this rather infrequent condition. The patient was 38 years of age, and of good personal history and habits. He had suffered for some time from nasal obstruction. Last January, while under treatment at an institute, a snare was broken off in his nose, and after this several severe hemorrhages occurred. On coming under observation, posterior rhinoscopy showed a round black mass projecting into the rhino-pharynx. After the free use of suprarenal extract, the tissues contracted sufficiently to show a piece of wire, and also some ulcerated spots. Considerable difficulty was experienced in removing the wire from the tissues in which it was imbedded, and when this was finally accomplished, there was such a severe hemorrhage that it was necessary to plug the nose. The hemorrhage recurred twice afterward, and it was not until the tenth day that the tampon could be permanently removed. Notwithstanding this, there was no sepsis, and the only untoward result was a small perforation of the cartilaginous septum. Five days later, there was a sudden recurrence of the bleeding, which terminated fatally. There was no history indicating that the man was a "bleeder."

MERCURIAL PYTALISM FROM INTRAUTERINE DOUCHING.

Dr. **T. R. Mansfield** reported the case of a woman who was confined March 18. When he saw her first—about ten days later—there was evidence of septicemia, and she was accordingly given a douche consisting of one gallon of a 1 to 4000 solution of mercury bichlorid. When seen two or three days later, there was excessive pytalism, with swelling of the gums. Mercury had not been used in any other form, and there had been perfect drainage.

Dr. **T. G. Baldwin** recalled a case in which he had seen pronounced mercurial poisoning, from irrigation with mercury bichlorid, in an operation for ovarian cyst. It was the only case that had come under his observation, but many others had been reported.

Dr. **E. H. Squibb** remarked that it was very easy for such tablets to become mixed, so that one might be unconsciously employing tablets of much greater strength than indicated by the label.

Dr. **Victor A. Robertson** recalled a fatal case of probable mercurial poisoning occurring in a case of abdominal section at the New York Hospital. It was in the days of the Lister spray and dressings, and bichlorid had been used very freely during the operation for the purpose of irrigating the uterus. The day following the operation the patient developed ptyalism and severe and uncontrollable diarrhea.

BRAIN DISEASE FOLLOWING MASTOIDITIS.

Dr. **W. S. Shattuck** reported two fatal cases. The first patient was 4 years of age, and had had chronic suppurative otitis media for two years. On January 15, a fluctuating tumor appeared over the mastoid on the affected side, having been preceded for six or eight weeks by severe and almost constant pain over the mastoid process and along the neighboring muscles. When seen by him, January 19, the canal was filled with thick and offensive pus, the tympanic membrane was nearly destroyed, and there was a large tumor over the mastoid. Operation was resorted to immediately, and revealed necrosis of the bone and an epidural abscess. As nothing pointed to the necessity for further exploration, the wound was packed. For three days, improvement was marked, but on the next day, the temperature began to rise again, and the child became irritable and suffered pain. On January 25, the patient became comatose, and died in a few hours. No autopsy was permitted. The second patient was a man 19 years of age, who was seen on Jan. 4, 1900. He had had for the past ten years a chronic middle-ear disease. On January 8, the temperature rose to 102 F., and there was a fulness in the ear. The man refused operation. He was not seen again until January 12, at which time mastoid tenderness, rapid pulse and elevation of temperature were present. An exploratory operation was done, but no epidural abscess was found. The temperature remained at about 102 F., and he died two or three days later. No autopsy was allowed.

Dr. **J. Scott Wood** said that both of these cases emphasized the desperate nature of this affection and the necessity for early and thorough operation. The second case showed how even a chronic case of very long standing might end fatally. If the patient had consented to the operation when it was first advised his life might have been saved. The mastoid operation is comparatively simple and can be done with but little risk. The fatalities following it are not usually attributable to the operation itself but to the fact that consent has been withheld too long.

Dr. **A. C. Brush** said it was peculiar how suddenly the symptoms would make their appearance in many cases of cerebral abscess which had been relatively slow in forming. This report reminded him of three cases of this kind, all of which terminated fatally. He had not met with a single case of this class in which recovery had taken place. This emphasizes the danger of these chronic suppurative processes of the middle ear. If operative treatment is not instituted until the abscess has formed, the prognosis is hopeless.

ANTITOXIN POISONING.

Dr. **George A. Treadwell** gave his personal experience as a patient. While attending a case of diphtheria, four years ago, he suddenly developed a severe angina, with membranous exudation. A culture was taken, but without waiting for the result, 1000 units of antitoxin were injected into the abdominal wall, and the next day another dose of the same amount. At the end of thirty-six hours there was temporary improvement, but by the eleventh day, he began to feel weak, and the heart's action was irregular. On the fourteenth day, an urticarial eruption developed all over the body, and pains were felt in the joints. To relieve the eruption, he took ten minims of Fowler's solution in two doses. The result of this was that the symptoms of arsenic poisoning were added to the others, one of the earliest being tetanic contraction of the muscles of mastication. The temperature at this time was 104 F., and movement difficult and extremely painful. There was a sudden fall of temperature, whereupon the pains in the lower extremities were relieved. Then severe diarrhea supervened, characterized by loose, black stools, although no medicine had been taken which should cause such darkening. At the time of the second injection his wife was given an immunizing dose of antitoxin. This was promptly followed by pains in the muscles and joints, and by an urticarial eruption. No diphtheria bacilli were found in her throat and her heart was not affected. It would seem therefore, that the symptoms in both cases were fairly attributable to the antitoxin. He referred to several other cases of antitoxin poisoning that had been reported, but added that in spite of this, his faith in antitoxin remained unshaken. That used in his case was furnished by the Brooklyn Board of Health, at a time when the manufacture of antitoxin was in a comparatively crude state.

Dr. **Louis C. Ager** emphasized the fact that great improvement has taken place in the manufacture of antitoxin in the past four years. He said it is quite generally conceded that the heart symptoms in these cases are due to the diphtheria rather than to the antitoxin, and that the cutaneous manifestations are due to the antitoxin, or to some accidental ingredient.

NERVE AND MUSCLE DEGENERATION DUE TO HIGH TENSION ELECTRIC CURRENTS.

Dr. A. C. Brush reported two cases. The first was that of a woman, who, while attempting to get on a trolley-car on a rainy day, received a severe shock, and was unable to let go her hold on the brass rail. She remembered nothing more until she had recovered, but it was learned that she could not be released until the current was turned off. Following this, she suffered from headache, vertigo, pains in the limbs, and screaming attacks. Her circulation was poor, and there were ulcers on the right ankle. When examined Nov. 22, 1899, there was a decided loss of power in the right arm, and slight loss of power in the left leg. The faradic current produced no contraction in the right arm, and the response to the galvanic current was slow and very painful. The second case was that of a male, 50 years of age, who previous to Feb. 17, 1899, had been in good health, and accustomed to heavy work. On that day, the weather being wet, he received a shock while stepping on a trolley-car, and was unable to release himself until the current was turned off. Since that time, he has had loss of sensation in the lower limbs. The muscles are flaccid and show an absence of faradic response. Microscopic examination of the muscles from both of these cases showed swelling of the muscular fibers, dimness of the striæ, and the presence of fat granules and enlarged nuclei. These patients also presented hysterical manifestations due to the mental shock and fright associated with the accident, but it is evident that there was something more than hysteria, because of the occurrence of atrophy, the abnormal response to the electric current, and the results of microscopic study of the affected muscles. Without a history these cases would have been considered examples of multiple neuritis. Very high tension currents produce coagulation of cell constituents, and even though such a current is not employed on the trolley-wires, the prolonged application might more than counterbalance the moderate degree of tension.

REVISION OF THE UNITED STATES PHARMACOPEIA.

Dr. E. H. Squibb presented an outline of the work accomplished at the convention of 1900 for the revision of the United States Pharmacopeia. He said that, taking into consideration the distance covered by the representation, the attendance of delegates was remarkably good, but the presence of so few medical men was very striking and deplorable. He reported in full the recommendations of the president, Dr. Horatio C. Wood, who made the following suggestions, which were adopted: 1. That the business interests of the convention be divorced from the strictly scientific part of revision by the creation of a board of five trustees, the president of the convention and the chairman of the committee of revision being members *ex officio*. 2. That a constitution and by-laws be adopted, and the convention be made perpetual by incorporation. Dr. Wood was re-elected president, and a revision committee of twenty-five was elected. While it was not surprising that the business body should be made up wholly of well-known pharmacists, it was a matter of both surprise and regret that only six physicians were elected members of the revision committee. The convention adopted a complete constitution and set of by-laws, and directed that the organization shall be known and incorporated under the name of the United States Pharmacopeial Convention. The trustees are not to receive any compensation for their services, but such expenses as are incurred by their attendance at the meetings are to be paid from the funds of the convention. The chairman of the revision committee will be paid a proper salary for his services, and the members of the revision committee and outside experts employed are to be recompensed in accordance with the work accomplished.

A balance of $12,000 was turned over to the new Board of Trustees by the outgoing revision committee after all expenses had been paid. The funds accummulated during the past decade have come almost entirely from the sale of the Pharmacopeia, the publication of which was wisely retained in the hands of the committee.

As the convention was becoming unwieldly, it was resolved that the delegates in future should be selected only from the following organizations: Incorporative from medical colleges and medical schools connected with incorporated colleges and universities; colleges of pharmacy and pharmaceutical schools conected with incorporated universities; incorporated state medical associations; incorporated state pharmaceutical associations; the American Medical Association; the American Pharmaceutical Association, and the American Chemical Society, provided that each organization entitled to representation shall have been incorporated within, and in continuous operation in, the United States for at least five years before the time fixed for the decennial meeting of this convention. Further, it shall consist of delegates appointed by the surgeons-general of the United States Army, United States Navy, and United States Marine-Hospital Service.

The actual work of revision is to be largely conducted through circular correspondence—a plan which has been so effectively carried on for the past ten years by Charles Rice, Ph.D., who was re-elected chairman of the revision committee. It took two years to accomplish the last revision, but owing to the chairman's familiarity with the work to be done, this time may be shortened somewhat for the forthcoming book. He urged on the medical profession in general to take a greater interest in this standard book, and said he was confident that he voiced the wishes of the whole committee in stating that any recommendations would be gladly received and given due consideration.

For more detailed reference to the work of the committee on revision, see The Journal, vol. xxxiv, p. 1506.

Minnesota State Medical Society.

Thirty-second annual meeting, Duluth, June 27-29.

President Dr. Walter Courtney, Brainerd, in the chair.

VALUE OF THE NEWER SIGNS AS AIDS IN DIAGNOSIS.

Dr. Geo. H. Head read a paper on the value of the newer signs and procedures as aids in diagnosis. He spoke more particularly of: 1. Koplik's spots in early diagnosis in measles; 2. Quincke's puncture in cerebrospinal meningitis; 3. Justus test in syphilis. In three hundred cases, 50 per cent. verified the test, there being a sudden fall in hemoglobin to 10 to 20 per cent. after giving mercury. In the primary stage the test was not definite, in the tertiary stage there was some reaction, but it was most definite in the secondary stage. It is not present in normal individuals. 4. Kernig's sign in cerebrospinal meningitis. In an analysis of 156 cases this test was positive in 84 per cent. It was not present in healthy individuals, but present in some brain lesions other than pure meningitis. 5. Litton's diaphragmatic phenonoma, which were present in a large percentage of healthy individuals, but absent in pleural effusions more especially. 6. Baginski's reflex in disease of the pyramidal tract; this reflex is the earliest to appear. He also spoke of the Widal reaction in typhoid fever; the leucocyte-count in all cases; the tuberculin reaction; eosinophilia in trichiniasis and the bacteriology of the blood and blood examinations. He urged greater care and more rigid examination of patients and that particular attention be paid to these new signs in diagnosis—for only in this way can the symptomatology of disease be verified.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

Dr. Jno. W. Bell, Minneapolis, read a paper on this subject, in which he laid particular stress on the sum total of the symptoms, as no one symptom in itself was sufficient for a diagnosis; the tubercle bacilli being found often too late, and in some cases not at all. He spoke of the tuberculin reaction emphasizing the danger as routine.

Dr. C. L. Greene, St. Paul, spoke of the X-ray in incipient tuberculosis, saying that he used it as a routine measure in every suspicious case, and it had proved to be most satisfactory.

Dr. Charles Hunter, Minneapolis, said that the tuberculin reaction was most necessary in the early diagnosis of tuberculosis and was not dangerous.

ANTISTREPTOCOCCIC SERUM.

Dr. Charles Hunter, Minneapolis, in a paper on this subject reported that his cases had not proved favorable to the antistreptococcic serum, but that as all cocci have their own toxins, this may account for the negative results. The success attending the use of diphtheria antitoxin has demonstrated that serumtherapy is on the right track.

CARDIAC DILATATION.

Dr. A. N. Stinchfield, Rochester, read a paper in which he discussed the etiology, pathological changes, prognosis, diagnosis, and treatment, particular emphasis being laid on hard work, syphilis and alcohol as causal factors.

BACK TO MEDICINE.

Dr. A. F. Conley, Cannon Falls, in the above-mentioned paper, spoke of how internal medicine had been at a standpoint during the last ten years, great advances having been along surgical lines and in the specialties, and claimed that the profession at large was losing sight of the great field of internal medicine.

Dr. Charles Greene, St. Paul, said he disagreed with the author; that medicine had made and was making great advances, and cited the diphtheria antitoxin as an example.

Dr. Burnside Foster, St. Paul, reported cases of pemphigus which had come under his observation.

RABIES IN MINNESOTA.

Dr. F. F. Westbrook read a paper on this subject in the section on pathology, in which, after tracing the origin, causes and methods in arriving at a diagnosis, he said he had collected forty-six cases of rabies in the state, as follows: St. Paul, 13 cases, 8 positive; Minneapolis, 8 cases, 5 positive; Montevideo, 5 cases, 3 positive; etc. Four cases were observed in human beings, and 1 case each in a horse, sheep, pig and wolf. He concludes that rabies exists in the State of Minnesota, but that it is very widely distributed and not dangerous, and that there have been enough cases reported, that it should be recognized early.

PROPHYLAXIS OF OPHTHALMIA NEONATORUM.

Dr. Frank C. Todd, Minneapolis, read a paper in the section of diseases of children, on this subject, and said that with the single exception of atrophy of optic nerve this was the most frequent cause of blindness. He urged as a routine practice the use of the 2 per cent. silver nitrate solution as used originally by Credé. In conclusion he suggested the following rules: 1. Whenever possible and practicable the head should be delivered without puncturing the membrane. 2. In all suspicious cases born in public hospitals the Credé method, including the use of 2 per cent. silver nitrate solution, should be practiced. 3. In all cases, when the Credé method is not practiced, the eyelids and face should be mechanically cleansed with an aseptic solution, and one or two drops of a 5 per cent. protargol solution be dropped between the open lids. 4. When the disease appears in one eye, the other should be immediately protected by a shield, or, if this can not be procured at once, by any kind of a clean covering that will prevent infection of the well eye.

CHRONIC INDIGESTION.

Dr. C. A. Kelsey, Minneapolis, read a paper in which he dealt particularly with the causal factors, diagnosis and treatment of chronic indigestion. In the treatment, he laid special stress on nux vomica as a curative agent. In the discussion nearly every drug, together with lavage, was suggested as a remedy, but no definite conclusions were reached.

TREATMENT OF PENETRATING WOUNDS OF THE CHEST.

Dr. J. H. Dunn, Minneapolis, read a paper in the surgical section, on this subject, in which he considered stab and bullet wounds more especially. He said the great point in treatment was to know when to go ahead. In the vast majority of cases, after investigation, no treatment was required except fixing the side with adhesive plaster, absolute rest, and watchful expectancy. He deprecated most strongly the indiscriminate use of the probe, and mentioned how seldom foreign material, such as parts of the clothing, are found in such wounds.

Dr. Charles A. Wheaton, St. Paul, stated that the reason why foreign material was not found in the wound was because of the velocity of the bullet in case of gunshot wounds.

SIGNIFICANCE OF BLOOD-COUNT IN SURGICAL DIAGNOSIS.

Dr. A. J. Coey, Chicago, pointed out the great value of the blood-count as an aid in the diagnosis of surgical diseases and urged its more extensive employment. Blood examinations, when properly and systematically made, are of inestimable importance to the surgeon as an aid in differential diagnosis. Leucocytosis is as certain to be found in cases of inflammation and suppuration as are rapid pulse and high temperature in pneumonia. It has been stated that the uselessness of blood examinations is definitely proved, because occasionally an inflammatory condition exists without leucocytosis. Similarly, the practitioner might be expected to disregard the physical signs of pneumonia if the patient had a pulse of 80, a temperature of 98.4 F., and did not have rusty sputum. In cases of suppuration, the increase of white blood-corpuscles is proportionate to the intensity of the inflammation. As the inflammation disappears, there is a gradual diminution of the leucocytes which may be present in subnormal amount at the time of convalescence. In obscure suppuration and especially in pus collections in the peritoneal cavity, blood examination is of the greatest diagnostic value. In malignant disease, leucocytosis is usually observed. The absence of leucocytosis in uncomplicated cases is, therefore, indicative of typhoid fever, tubercular peritonitis, gall-stone or renal colic, intestinal obstruction, fecal impaction, neuralgia, etc. Appendicitis furnishes the most marked example of the value of the blood-count as regards the decision to operate or not to operate. Cases of purely catarrhal appendicitis rarely present a leucocytosis. Given a case of a patient with pain in the region of McBurney's point and a stationary or increasing leucocytosis, that case is one for imperative, immediate surgical interference, whether other symptoms and signs be present or absent. A steadily increasing leucocytosis must always be considered as a bad sign and as demanding prompt operation. In septicemia and pyemia the leucocyte count is about on a par with the count in appendicitis. Streptococci and staphyloocci may frequently be found in blood cultures in many forms of infection. In surgical diseases leucocytosis with a rise in temperature would exclude hysteria and mental worry. In osteomyelitis and all abscess formations, pure cold abscess alone excepted, there is always a high leucocytosis.

COMMISSION BUSINESS IN MEDICINE.

Dr. C. L. Greene, St. Paul, read a paper entitled "A Problem in Ethics," in which he spoke of the commercial spirit of the profession as progressing. He dealt more particularly with the "commission business" that exists between doctors, cited cases, and said he had numerous proofs in his possession of this condition which would involve some of the best known men in the profession. He then presented resolutions to the effect that a committee of five should be appointed from the state medical society to investigate this matter; that every case should be reported to this committee, the proof obtained, and that upon conviction such members should be expelled from all societies, local and state, and should be reported to the American Medical Association. In the discussion that followed everyone was most enthusiastic over the resolutions, but only one side was represented.

THE LYMPH NODE AS A FACTOR IN DIAGNOSIS.

Dr. Charles A. Wheaton, St. Paul, spoke of the lymphatic system as the custodian of the system in a great many diseases, comparing the lymphatic glands to the policeman. He dealt more especially with tubercular glands of the neck, deprecating their wholesale enucleation. He said in the past he had operated on a great many tubercular glands of the neck, but in the future such operations would be far less frequent. When it is decided to operate on a selected case, complete enucleation is the only surgical procedure. He also spoke of the glands of the axilla and neck in carcinoma of the breast and cited a case in which he had removed the breast and the glands of the axilla on one side, but four months later a recurrence of the tumor in the other breast took place with enlargement of the axillary glands and the glands on both sides of the neck. He decided that in this case, the breast and glands should not be removed, as the involvement was too extensive.

Dr. C. H. Mayo, Rochester, differed from Dr. Wheaton in his conservative operation for tubercular glands of the neck, saying he had operated on about 360 cases and that the results justified the procedure.

Dr. F. A. Dunsmoor, Minneapolis, also urged operative procedure, because of the liability of the glands to break down and also because of the unsightly appearance.

DR. F. C. DAVIS, Minneapolis, spoke of the microscopical findings in the glands of axilla and neck in cancer of the breast.

DR. WALTER COURTNEY, Brainerd, read a paper on "The Value of the Two-Stage Method of Suprapubic Cystotomy in Selected Cases."

DR. C. H. MAYO, Rochester, presented an article on "Varicose Veins of the Leg." He spoke of the causes, prophylaxis and surgical treatment in these cases, and reported the results of operations made by him.

At the business meeting the number of sections was reduced to three: 1, Surgical, J. W. Andrews, Mankato, chairman, 2, Practice of Medicine, T. A. Nippert, Minneapolis, chairman; and 3, State Medicine, Hygiene and Medical Jurisprudence, H. S. Fullerton, Minnesota Lake, chairman. Fifty-six new members were elected. St. Paul was selected as the next meeting place, in June, 1901, a few days before the meeting of the AMERICAN MEDICAL ASSOCIATION. Resolutions were presented by Dr. Taylor, of St. Paul, and adopted, recommending that tubercular patients be isolated and taken care of by the state, like those suffering from other contagious diseases.

The following officers were elected: president, Wm. Davis, St. Paul; first vice-president, H. B. Pritchard, Winona; second vice-president, Mary Whetstone, St. Paul; third vice-president, H. B. Allen, Cloquet; secretary, Thomas McDavitt, St. Paul; treasurer, R. J. Hill, Minneapolis; censors, F. A. Dunsmoor, Minneapolis, and Walter Courtney, Brainerd; delegate to Washington, to meeting of Commission on National Legislation of the AMERICAN MEDICAL ASSOCIATION, Arthur Sweeney, St. Paul, Minn.

Philadelphia Pathological Society.

June 28, 1900.

President Dr. F. A. Packard in the chair.

CIRRHOSIS OF LIVER.

THE PRESIDENT presented a specimen of extreme cirrhosis of the liver. The patient was a man aged 86 years, who gave a history of having been addicted to the use of enormous quantities of bitters, largely composed of alcohol. The abdomen had been swollen, with edema of the lower extremities. The urine contained blood and casts and the lungs showed congestion. At the autopsy, the visceral layer of pleura contained white pearly bodies showing evidences of new adhesions, the stomach and duodenum were much congested. The liver was of the typical hob-nailed variety. Irregular bands of fibers were seen by the microscope. The blood-vessels were dilated; the gall-bladder was small and contained 15 gall-stones; the pancreas was fibrinous, one kidney was cystic; there were no changes in the pericardium.

DR. DAVID RIESMAN spoke of a patient with cirrhosis of the liver who had suffered from gastric hemorrhages. There had been no edema, and death ensued from pneumonia. In this case the pericardium was adherent.

DR. ALBERT WOLDERT referred to a case seen at the Howard Hospital, in which all the classical symptoms of gall-stones had been present, with deep jaundice, pain in the right hypochondrium, gall-stone colic, etc. The patient went to another hospital and her ailment was thought to be gall-stone. She became steadily worse and an exploratory incision was made. The gall-bladder was normal in size and contained no gall-stone. It was found that she was suffering from Charcot's liver. The wound was closed. Her condition was believed hopeless, and she left the hospital, six weeks later, as she thought, to die. She commenced to improve, however; all jaundice disappeared, and two months later she was as well as ever.

THE PRESIDENT said that he had seen the case. He could not help believing that there had been a small gall-stone or plug of mucus which had occluded the mouth of the common duct, and which possibly had been removed by increased peristalsis following the operation. He offered this as an explanation of the benefit which is sometimes seen to follow exploratory operations in such cases.

ENDOTHELIOMA OF LUNG.

DRS. W. E. HUGHES AND J. D. STEELE presented a specimen of endothelioma of lung and retroperitoneal lymphatic glands. The patient, a woman 69 years of age, began to fail six months ago, and later edema of the lower extremities occurred. At times there was marked cyanosis. Dulness was present on the left side of the chest with crackling râles. On the right side evidences of tuberculosis were noticed. At the autopsy, the right lung was found to be studded with grey nodules with areas of caseation, and at the base of the left lung three nodules were found. An aneurysm of the thoracic aorta was discovered which during life had given rise to the dulness in this region. At the bifurcation of the abdominal aorta enlarged lymph-glands were found, which he did not believe were tuberculous. On microscopic examination, it was found that the growths were endotheliomatous. In his opinion, the primary seat of the disease had been in the apex of the right lung. The growths in the lungs were typically those of tuberculosis.

DR. DAVID RIESMAN spoke of a case in which there had been gradual emaciation with scattered areas of dulness over the chest. At the autopsy, carcinoma of the lung was found, certain areas of which had undergone caseation, and were tuberculous.

ABSCESS OF THE LIVER.

DR. DAVID RIESMAN reported the case of a Belgian, 52 years of age, who had been operated upon two years ago for an abdominal affection—probably appendicitis. In March of the present year he suffered from diarrhea with hemorrhages, but had not tenesmus. In April he had another attack, and was later admitted to the Philadelphia Hospital. The abdomen was enlarged and presented the shape of a flattened cylinder. Liver dulness began anteriorly in the fourth, and posteriorly in the ninth, interspace, and extended to the umbilicus and even to the left of this region. The diagnosis was made of abscess of liver or pyothorax. An aspirating needle was inserted in the seventh interspace and five pints of reddish-brown or chocolate-colored fluid withdrawn. The specific gravity of the fluid was 1037; it was sterile and had a neutral seaction, and contained crystals of hematoidin. No ferment seemed to be present, and the ameba coli could not be found. Through the kindness of Dr. Simon Flexner, he presented specimens of ameba coli obtained from a case of dysentery seen in the Philippine Islands. It was stained in the liver tissues by Mallory's latest stain of thionin.

DR. F. A. PACKARD stated that there were no physical signs pathognomonic of abscess of liver. One which he regarded as very comman was the appearance of the abdomen, which usually was that of a flattened cylinder. He referred to a case of abscess of liver which he had seen several years ago, in which he had found in the pus certain reniform bodies with pale protoplasm and deeply staining nuclei. These bodies resembled protozoa, but he had never been able to determine their exact nature.

CARCINOMA OF PANCREAS.

DR. W. E. HUGHES presented two specimens of the liver and adjacent viscera. One was a carcinoma of the pancreas which caused occlusion of the biliary duct, the other was a carcinomatous change occurring in the duodenum, probably resulting from a duodenal ulcer. In both cases it was found on autopsy that very gentle pressure would cause the bile to flow from the common duct. Both patients had been deeply jaundiced. A gall-stone was present in one case. In the carcinomatous pancreas there had been no metastasis.

DR. GIDDINGS presented sections from the head and tail of the pancreas. The absolute condition was not quite clear.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), June 30.

1 *Concerning the Peritoneum and Treatment of Exudative Peritonitis. Albert A. Berg.
2 *Treatment of Typhoid Fever. D. E. English.
3 *Uselessness of Pituitary Body as a Therapeutic Agent. William M. Leszynsky.
4 Preliminary Note on a Simple and New Method of Repeatedly Sterilizing Sponges by Boiling. Charles A. Elsberg.
5. Reminder for the Care of Children During the Summer. S. Henry Dessan.

Philadelphia Medical Journal, June 30.

6 *Questions of the Day in Medicine. J. M. DaCosta.
7 Angina Pectoris. (Concluded.) Clifford Allbutt.
8 *Especial Hospitals for Consumption Among the Poor in Our Cities. Edward O. Otis.
9 *A New Pathogenic Mould. W. Ophüls and Herbert C. Moffit.

Boston Medical and Surgical Journal, June 28.

10 *Study of Twenty-four Cases of Typhoid Fever with Symptoms of Peritoneal Infection; Laparotomy. George B. Shattuck, J. Collins Warren and Farrar Cobb.
11 *Separation of Epiphysis of Olecranon. F. J. Cotton.

New York Medical Journal, June 30.

12 *Influenza in Children. Herman B. Sheffield.
13 *Are There Veritable Valves in the Rectum? Wm. Bodenhamer.
14 Treatment of Puerperal Infection. J. B. Killebrew.
15 *Formalin as an Antiseptic in General Surgery, Gynecology, and Obstetrics. G. E. Crawford.
16 Closure of Cleft Palate by Lingual Implantation; A Preliminary Report. Carl Beck.
17 *Laryngeal Manifestations of Typhoid Fever. Lorenzo B. Lockard.
18 *Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis. Richmond McKinney.

Medical News (N. Y.), June 30.

19 *Prevention of Dystocia Due to Fetal and Pelvic Disproportion. Edward A. Ayers.
20 *Treatment of Tumors Complicating Pregnancy. Brooks H. Wells.
21 *Indications for Premature Delivery, with Special Reference to Eclampsia and the Pre-eclamptic State. S. Marx.
22 *When is it Proper to Interfere in Apparently Difficult or Delayed Cases of Labor, Especially in Primiparæ. Malcolm McLean.

Cincinnati Lancet-Clinic, June 30.

23 *The Frenkel Treatment of Locomotor Ataxia. David I. Wolfstein.
24 *Treatment of Hemorrhoids. George J. Monroe.
25. Walker-Gordon Method of Feeding. W. H. De Witt.

American Gynecological and Obstetrical Journal (N.Y.), June.

26 *Management of Pregnancy Occurring in Connection with Myofibromata of the Uterus. A. J. C. Skene.
27 *Intestinal Anastomosis: Clamp and Enterotome: A Modification of Grant's Enterotome: an Aid in Suturing. Alexander H. Ferguson.
28 Cancer of Uterus. Willis E. Ford.
29 *Placental Transmission. W. A. N. Dorland.
30 Principles and Most Rational, Innocent and Effective Methods in Treatment of Pathologic Retroversions and Retroversio-Flexions of the Uterus. A. Goldspohn.
31 Personal Reminiscences Associated with Progress of Gynecology. (Continued.) Thos. A. Emmet.

Western Medical Review (Lincoln, Neb.), June 15.

32 President's Address Before Nebraska State Medical Society. Robert McConaughy.
33 *Leucocytes as a Factor in Surgical Diagnosis. John P. Lord.
34 *Medical Legislation in Nebraska. H. Winnett Orr.
35 Pelvic Abscess. P. Hyrup-Pedersen.
36 Contribution to Surgery of the Common Bile Duct: Report of Case of Choledochenterostomy. John E. Summers, Jr.
37 Modern Business Methods for the Medical Profession. W. A. Jolley.

International Medical Magazine, (N.Y.), June.

38 Abdominal Operation for Multiple Uterine Fibroid; Tubal Disease and Pregnancy. (Concluded.) E. E. Montgomery.
39 *Co-operation of Physician and Surgeon in Abdominal Practice. A. L. Benedict.
40 *Hay-Fever—Its Preventive Treatment. W. C. Hollopeter.
41 Eclampsia. John C. Hirst.
42 Uranalyses and Their Value in Autointoxication. H. Brooker Mills.
43 Obstructive Disease of Urethra. (Concluded.) J. D. Thomas.
44 Varieties, Localization and Symptoms of Cancer of Stomach. Boardman Reed.
45 Remarks on Fistula and New Angular Grooved Director. Samuel G. Gant.
46 Some Diseases of Ear in Children. (Concluded.) George C. Stout.

Medical Sentinel (Portland, Ore.), June.

47 Psycho-Therapy: or the Medical Aspect of Hypnotism. H. A. Castle.
48 Notes on Case of Extra-Uterine Pregnancy. E. P. Geary.
49 An Interesting and Uncommon Case. L. P. McCalla.
50 Hypertrophy of Prostate Gland. Wm. O. Spencer.
51 Case of Suppurative Otitis Media Treated by Fumes of Iodoform. F. C.Lewis.

American Medical Quarterly (N. Y.), April.

52 *Nature of the Cancerous Process and the Cancerous Cachexia and the Relation of Local Irritation to Each. Roswell Park.
53 Treatment of Cancer of Cervix of the Uterus Complicated by Pregnancy. George Ben Johnston.
54 *Indication for and Election of Operation for Uterine Myomata. Edward J. Ill.
55 *Relation of Pregnancy to Nervous Diseases. James W. Putnam.
56 *Notes on Prostatectomy. Paul Thorndyke.
57 Treatment of Epilepsy in its Incipiency. Wm. P. Spratling.
58 Limitation of Operative Gynecology. John Blair Deaver.
59 Superstition and Science in Medicine. Charles A. L. Reed.

Kansas City Medical Record, June.

60 Urinary Disturbances. H. C. Crowell.
61 Case of Charcot's Disease. S. Grover Burnett.
62 Variola. J. L. Harrington.

Medical Age (Detroit), June 10.

63 *Impetigo Adenosa. N. E. Aronstam.
64 Therapeutic Suggestion. James B. Bullitt.
65 Treatment of Squint. Edward J. Brown.

Fort Wayne Medical Journal-Magazine, May.

66 Indications for Enucleation of Eyeball. Albert E. Bulson, Jr.
67 Stricture of an Anterior Urethra and Its Treatment. Henry A. Klussman.

Western Clinical Recorder (Chicago) May.

68 *Chronic Deforming Polyarthritis. Frank X. Walls.
69 Remarks on Differential Diagnosis of Acute Diseases of the Lungs. Everett J. Brown.
70 Examination of Stomach Contents as a Guide to Treatment. J. H. Salisbury.
71 Interstitial Pancreatitis in Congenital Syphilis. A. P. Condon.
72 Notes on the Indications for Operation in Old Lacerations of the Peritoneum. Thomas J. Watkins.

Oklahoma Medical Journal, June.

73 Anti-Antitoxin. W. M. Hatfield.

Therapeutic Gazette (Detroit, Mich.), June 15.

74 Progress in Therapeutics. Solomon Solis-Cohen.
75 Galvanism in Treatment of Sciatica. Frank H. Allen.
76 Report of Interesting Cases with Remarks—1. Sclerous Infiltration of the Corpora Cavernosa. 2. Marked Atrophy of Testis Following Gonorrheal Epididymitis. Abraham L. Wolbarst.
77 Experience with Tannigen. Charles M. Clark.
78 Treatment of Croupous Pneumonia. J. B. Norman.
79 Copy Formula on Label. B. Franklin Stahl.
80 Case of Tetanus Treated with Antitoxin. H. L. Van Natta.

Alabama Medical Journal, June.

81 *Venereal Hygiene of the Future. E. H. Sholl.
82 Inversion of the Uterus, with Report of a Case. J. M. Mason.
83 Chronic Interstitial Nephritis; Etiology, Pathology, Symptoms, and Diagnosis. Edgar A. Jones.
84 *Malarial Phenomena without the Agency of Mosquitoes. H. A. Moody.

Medical Fortnightly (St. Louis), June 11.

85 Malaria—Sequelæ and Complications. Charles D. Center.

Journal of Medicine and Science (Portland, Me.), June.

86 Clinical Examination of Stomach Contents as Means of Diagnosis. Bertman L. Bryant.
87 Reminiscences of Old-time Portland Surgeon. C. W. Stockman.
88 Report of Case of Placenta Previa Complicated by a Transverse Presentation. Erving A. Libbey.

Canadian Practitioner and Review (Toronto), June.

89 *Gasoline as Surgical Detergent. Bruce L. Riordan.
90 Posterior Positions of Occiput. K. C. McIlwraith.
91 *Use of Ergot in Obstetric Practice. Chas. J. C. O. Hastings.
92 *Notes on Chloretone. R. D. Rudolf.

Pediatrics (N.Y.), June 1 and 15.

93 Addresses Delivered at Banquet Tendered Dr. Abraham Jacobi on His Seventieth Birthday. Joseph D. Bryant, R. U. Johnson, Wm. H. Thomson, William Osler, Seth Low, Carl Schurz, Arpad G. Gerster.
94 Abraham Jacobi, Medicus, Magister, Amicus. S. Weir Mitchell.
95 Address. A. Jacobi.
96 *Dangerous Communicable Diseases, How Spread, Together with Some Suggestions as to their Restriction. M. K. Allen.
97 *Some Remarks on Three Symptoms of Rickets. W. N. Berkeley.
98 Foreign Bodies in the Air-Passages. J. Morrison Ray.
99. Case of Pneumonia in Baby Six Weeks Old. Abraham Goltman.

Atlanta Journal-Record of Medicine, June.

100 *Brain Traumatisms. Howard J. Williams.
101 Management of Acute Diarrheas of Infancy. Gilman P. Robinson.
102 Hemorrhage Occurring After the Menopause. E. C. Davis.
103 *Typhoid Fever, with Report of Cases. W. B. Hardman.

Denver Medical Times, June.

104 *Effects of the Climate of Colorado on Sleep. J. T. Eskridge.
105 Gastroenterostomy for Dilatation of the Stomach—With Report of Case. G. E. Tyler.
106 Preventive Therapeutics. Julia S. Kapp.

Pacific Medical Journal (San Francisco), June.

107 Some Observations on Causes and Nature of Dipsomanianism. P. C. Remondino.
108 The Genesis, Structure and Function of the Nervous System. L. W. Stidham.
109 High Degrees of Astigmatism. W. S. Fowler.
110 Errors and Accidents. Henry J. Kreutzmann.
111 Holocain: Its Preparation, Action, and Uses. Louis C. Deane.

Texas Medical Journal, June.

112 *Stone in the Bladder in Lithotomy. F. Paschal.
113 Traumatic Surgical Conditions of the Bladder and Treatment. W. A. Duringer.

St. Louis Medical and Surgical Journal, June

114 An Epidemic of Impetigo Contagiosa. A. H. Ohman-Dumesnil.
115 Relation of the Anesthetizer, Patient and Operator. D. C. Moriarta.
116. Diabetes Mellitus. Wm. Henry.

Medical Mirror (St. Louis, Mo.), June.

117 Car Sanitation and Railway Surgery. W. W. Grant.
118 *Tuberculosis in Children. W. E. Risinger.
119 *Appendicitis from a Medical Standpoint. I. N. Love.
120 Dr. W. W. Keen, President of the AMERICAN MEDICAL ASSOCIATION for 1900. I. N. Love.
121 Dr. J. M. Allen, Vice-President of the AMERICAN MEDICAL ASSOCIATION. I. N. Love.

Columbus Medical Journal, June.

122 Practice of Medicine and Surgery in the Higher Altitudes. R. Harvey Reed.
123 Bubonic Plague. George M. Clouse.
124 Professional Ideals. W. O. Thompson.

Annals of Gynecology and Pediatry (Boston), June.

125 *Surgical Treatment of Primary Renal Tuberculosis, with a Consideration of Results Obtained by Operation. Otto G. Ramsay.
126 Progress in Surgery, 1899-1900. B. F. Kingsley.
127 *A Discussion of Walcher Posture. R. E. Cutts.

Bulletin of the Johns Hopkins Hospital (Baltimore), June.

128 *Notes on the Plague in China and India. Joseph Marshall Flint.
129 *A Study of "Christian Science." Harry T. Marshall.

Merck's Archives (N. Y.), June.

130 *Aqueous Extract of the Suprarenal Gland. Lewis S. Somers.
131 *Hypnotic Action of Apomorphin without Nausea. Charles J. Douglas.
132 *Dionin in the Treatment of Coughs. J. W. P. Smithwick.
133 Therapeutic Study of Iodin. (To be Continued.) A. G. Minshall.
134 Treatment of Bronchopneumonia. William F. Cheney.
135 Suggestions Regarding Management of Cases of Intraperitoneal Surgery. Clinton Cushing.
136 Modern Methods of Recognizing the Presence of Foreign Bodies in and Around the Eye with Demonstration of Apparatus and Specimens. A. Barkan.

Medical Summary, June.

137 Uricacidemia, Hay-Fever and Asthma. Wm. R. Lowman.
138 Points of Observation. J. N. Lee.
139 What Should We Think Out for the Benefit of Our Patients? A. B. Woodward.
140 Treatment of Incontinence of the Urine—Clinical Reports. Robert C. Kenner.
141 Does Quinin Produce Hematuria? Ben H. Brodnax.
142 Bronchial Asthma. C. A. Harding.
143 What Hypnotic Shall We Use? J. J. Caldwell.
144 Biochemistry. C. C. Edson.
145 *Vaccination—A Correction.

AMERICAN.

1. **Exudative Peritonitis.**—Berg concludes from the data which he has at his command that bacilli alone, except when in very large quantities, are not sufficient to produce exudative peritonitis. This immunity of the healthy peritoneum to the deleterious action of bacteria is due to its very rapid resorptive power, and this resorption, under normal conditions, is mainly by way of the blood-vessels, and is an active, and not a passive cellular process. It is manifested in the diseased as well as the healthy condition, but in somewhat lessened degree. The more marked the disease, the greater the interference with this activity; it is least when the peritoneal epithelium has been considerably altered, and ceases altogether with the destruction of these cells. These conclusions are of importance in connection with the question of drainage of the peritoneal cavity. By virtue of its rapid resorptive power, primary bacterial peritonitis is not a possibility unless the bacteria are present in such numbers as to paralyze the peritoneal cells and hinder resorption. There must be some factor interfering with the cellular activity ,of the cells favoring a sedimentation of the bacteria with their consequent further growth and development. These factors may be mechanical, such as gauze packing or drainage-tubes, etc., or chemical, either organic or inorganic in character. He gives his theory as to the character of peritonitis and the element of toxemia or absorption of bacterial toxins on which the severity of the case depends. These toxins should be treated by neutralization, using the chief excretory channels—the kidneys. This is accomplished best by frequent infusions of saline material into the circulation. If bacteriemia as well as toxemia exists, therapeutic procedures are of little value, and he has had but little good from bactericidal sera in these cases. In the treatment of exudative peritonitis *per se*, the chief aim should be to injure the organs as little as possible, but when the trouble is the direct result of a local disease, like appendicitis, an operation must be made to remove the cause. He thinks the use of soft mops for removing the exudate is the best method, except when large masses of fibrin are present, which can be washed out, or when the exudate is of a thick, creamy consistency and spread out among the intestinal coils in all directions. In these cases, irrigation is better than mopping. As long as the peritoneum is functionally active, drainage is superfluous and objectionable. When, however, the resorptive powers of a region are lost, then this part of the area must be drained. He believes that there is less danger from early catharsis than there is from absorption of toxins due to stagnation, and that when the indications of intestinal distension are manifested, catharsis should be employed as soon as possible. He recapitulates the plan of treatment that has given him the best results as follows: Celiotomy, the site of the incision depending on the cause of the peritonitis; removal of the acting cause; if the intestine is very much distended, incision of one of the most distended coils and evacuation of its contents; suture of the bowel if its muscular wall is not paralyzed, otherwise drainage of the proximal end of the bowel; removal of the exudate from the free peritoneal cavity by moist sponges; protection of all raw spaces or modified peritoneal surfaces by gauze; closure of the rest of the abdominal wound; in addition the general systemic treatment for the toxemia and bacteriemia, as outlined in the paper.

2. **Treatment of Typhoid.**—The indications for treatment given by English are: 1. To empty the gut of all infected matters as soon as possible; for this, he prefers calomel. 2. To render it as nearly as possible uninhabitable by microbes. While intestinal rest is highly desirable, the bowels may be moved once or twice every twenty-four hours, and for this he uses podophyllin, which increases the flow of bile and thus promotes intestinal antisepsis, the bile being the natural antiseptic. 3. To keep the intestines as aseptic as possible, his favorite drug for this being carbolated camphor. He takes 1 ounce of carbolic acid and 3 ounces of camphor gum, allows it to stand for a short time, and keeps it in an air-tight vessel, adding a little camphor to keep it from evaporating. He gives this in 10 and 12 drop doses every two hours for forty-eight hours, until there is some change in the color of the urine, and then diminishes the dose, but does not entirely discontinue it until advanced convalescence. 4. To neutralize the absorbed poison and to expel it from the body, water is the best agent, as large and frequent draughts of sterile water have a diluent, a diuretic and a diaphoretic effect. 5. To keep the temperature down, he has employed the following formula, given every one or two hours for five or six doses:

R. Acetanilid ....gr. iii
Camphoræ monobrom.
Caffeinæ citratis, āā.................... gr. ss
M. Sig. At a dose.

In order to prevent over-action of the intestines and the heart and promote physiologic rest, he keeps the patient quiet and gives turpentin, if another remedy than carbolated camphor seems indicated. If it becomes necessary to check the bowels, which is seldom the case, he uses small doses of Dover's powder. When the pulse is rapid and soft, small doses of tincture of digitalis, about 5 minims in a dram of whisky, may be given every twenty-four hours. This should be used with care, however, in the early stages. The patient should use a bed-pan and urinal and be cautious about moving a muscle unnecessarily. 7. To support the strength of the patient, he thinks dissolved beef made after the Weir Mitchell formula is valuable.

R. Acidi hydroclor., c. p..........................ʒi
Aquæ dest., ad...............................℥i
M. Sig. One teaspoonful to a pint of water for making beef tea.

To prepare the beef for the patient, put one pint of boiled water, a good pinch of salt, and a teaspoonful of the above prescription in a one-quart glass fruit-jar, and shake well. Then add one pound of finely chopped beef, and shake again. Close the jar air-tight and set it in a cool place like the cellar floor, but not on ice, for twelve hours. Then put the jar into water and keep it warm, about 110 F. to 120 F., for four or five hours. Be careful not to let it get too hot. The contents of the jar should be strained through a cloth, and all the liquid squeezed out; the residue will be about the size of a hen's egg and nearly white. This essence may be seasoned with pepper and salt and given warm in ounce doses every hour or two during the second week. If the essence is properly made, the residue will be found to consist almost entirely of white fibrous matter, the red muscular fibers having dissolved out. During the third week, he adds milk by the pint every twenty-four hours in divided doses, largely diluted with sterile water and with as much salt as is palatable. He also gives the white of an egg in water with the juice of a lemon every twenty-four hours, and carbolated camphor in 6-minim doses four times a day, until the patient is entirely well.

3.—See abstract in The Journal of June 23, p. 1627.

6. **Questions of the Day in Medicine.**—The chief questions referred to in Da Costa's address are the numerous ones that come up in connection with the science of bacteriology, the possibilities of serumtherapy, etc. The active, general practitioner of medicine can not be a thorough bacteriologist, hence the importance of accessible laboratories. These he thinks will be useful if they can be attached to the colleges and hospitals, and besides giving instruction, can aid the profession in the necessary bacterial and chemical examinations required in the daily work. Another point is that of the transmission of malaria, and still another, the eradication of consumption, in which he pleads for the founding of sanatoria for the consumptive poor. The last subject which he discusses is that of medical education, and he shows how some of the needs are being met by changing the educational courses of our institutions.

8. **Hospitals for Consumptive Poor.**—According to Otis, the consumptive hospital should not be merely a place where those afflicted with the disease can die comfortably, but where they can receive treatment. He calls attention to the danger of contagion, and thinks that we must convince the public of the following facts: "1. That consumption is the most prevalent and destructive disease existing to-day, causing one-seventh of all the deaths, and is worst where human beings are crowded together—i. e., in the cities. 2. That it is communicable by the dried sputum, and hence, if this is not properly disposed of, there is danger to those constantly with the sick, and to the public. 3. That it is very curable in the early stages and may be arrested in any stage, hence the importance of proper treatment, and the need of special hospitals and sanatoriums where such treatment can best be instituted. 4. A certain proportion of consumptives will not safely dispose of the sputum, and should be transferred to a consumptive hospital for their own protection and that of the public. 5. Many cases of consumption appointed to die—the hopeless ones among the poor—have no decent place or care, and must either die in abject neglect or go to the almshouse. For this large class, consumptive hospitals are most urgently needed. The condition in which some of these dying consumptives are found is pitiable in the extreme." When the public fully realizes the truth of these facts, it will demand municipal and state aid for the care of the consumptive. In addition to the consumptive hospitals in cities, he thinks there should be state sanatoriums for open-air treatment, where the more hopeful cases may receive care. He believes that the expense of establishing these hospitals would be more than paid for by the preservation of many lives with their future of work still before them.

9. **New Pathogenic Mould.**—Ophüls and Moffitt describe a case in which there was chill; pleuritic effusion; fever to 104 F. and above; diazo but no Widal reaction; joint disorders; gland inflammation; cough; mucopurulent, occasionally blood-stained sputum; irregular consolidation of the lungs; no tubercle bacilli; sweating, etc. The diagnosis was septico-pyemia, and the patient died. The autopsy showed nodular consolidation and necrosis of the right lung; acute bronchopneumonia and chronic interstitial pneumonia with an abscess in the other lung; pus infiltration of the pillars of the diaphragm; necrosis and abscess in the retroperitoneal lymph-glands; empyema of the left pleura; enlarged and softened spleen; cloudy swelling and fatty infiltration of the liver; purulent osteitis and periostitis in the frontal bone over the left eye and in the upper part of the left tibia, and suppuration of joints. Microscopic sections showed nodules with necrotic centers in the liver. In all the diseased parts, peculiar parasitic organisms were found, which, in a few similar cases on record, have been described as protozoa. They seem to be a protozoan-like form of fungus, showing small spherical lumps of protoplasm enveloped in a highly refractile capsulating membrane which grows to 30 microns in diameter, and after reaching this stage breaks up into hundreds or more spore-like bodies which are highly refractile and stain well with anilin dyes. The capsule may burst and discharge these spores into the surrounding area, forming new parasites, or they may develop inside the capsule, which bursts later and sets them free. No locomotion has been observed, but on account of the very close resemblance to coccidia these organisms have been conconsidered protozoans. They report experiments in which they were able to develop mold by cultures and from which they made inoculation experiments, showing the identity of the mold with the above organisms, which appear to be a form of its fructification. The mycelia forms develop only when free in the culture medium, and the protozoan-like bodies did not there develop.

10. **Typhoid Fever.**—The study of twenty-four cases, including 17 of perforation, 2 of pre-perforative necrotic areas, 1 of rupture of the mesenteric glands, and 3 with cause of symptoms undetermined is, for its extent, very thorough and elaborate. The conclusions given somewhat briefly are, that in many who are very sick, typhoid perforation or peritoneal infection can not be diagnosed until the results are wide-spread and fatal; and the chances for relief by operation are practically hopeless. In mild typhoids of fair general condition, an abdominal operation is readily borne, provided no peritoneal infection exists. A small number of typhoidal cases may have sudden perforation with free extravasation and fulminant, but largely localized symptoms; and in these operations must be done in from one to five hours before general infection has become past relief. Walling off of the perforation by adhesions is so rare that it is not to be counted upon. In mild cases, beginning infection, whether from perforation or otherwise, is accompanied with apparently slight symptoms—pains, tenderness, spasm and leucocytosis. The severe following symptoms mean general peritonitis, and call for serious consideration and study, but in most cases are either not rightly understood or not acted upon. Complaint of abdominal pain in case of typhoid should always arouse suspicion of peritoneal infection. Frequent leucocytosis counts are needed in every case, and an hourly count when abdominal pain is present. Pain, with local tenderness, muscular spasm and rising white-blood count point to operation in most cases, and always to surgical consultation. In this series of cases, operation was imperative for hours before it was done.

11. **Separation of Epiphysis of Olecranon.**—Cotton reports two cases of this alleged rare condition, in both of which it occurred apparently from muscular action alone, and union took place within a reasonable time under treatment. Skiagraphic diagnosis in both cases was employed, and the findings point to the fact that there is more than one form of this epiphysis, a thin scale-like form, and another thicker one of the ordinary type.

12. **Influenza in Children.**—Sheffield has treated quite a number of cases of epidemic and sporadic influenza in young children, and he finds that differentiation between the respiratory disturbances of la grippe and ordinary pneumonia is hardly possible at the outset of the attack. In young infants, dyspnea and cyanosis are not uncommon; the digestive organs are almost invariably implicated, anorexia and vomiting being pronounced. The early nervous symptoms are due largely to involvement of the Eustachian canal and frontal sinus, causing headache and earache, while extension of trouble toward the brain may produce serious complications like meningitis. The characteristic nervous symptoms in the order of their frequency, are hyperesthesia, somnolence, insomnia, and vertigo; the latter mostly escapes notice in very young children, though it shows itself by their drooping and swaying the head in various directions. The disease begins with an abrupt rise in temperature of three to five degrees and declines after a few days by lysis or crisis. Prostration is invariably present, even when other symptoms are masked, and of the other numerous complications, he mentions as especially common, pneumonia and meningitis. He also remarks in regard to nephritis and mentions a case. He finds no reference elsewhere to cardiac neuroses of la grippe in children, but reports a case of bradycardia as being of interest. Other complications are rheumatism, which is rare, adenitis, cutaneous eruptions, otitis, rhinitis, conjunctivitis, and periostitis. The diagnosis is easy during an epidemic, but for sporadic cases he relies chiefly on the presence of the Pfeiffer bacillus in the expectoration, the simultaneous development of respiratory, digestive and, at

times, nervous phenomena and excessive and early prostration. He has lost but 2 children out of 119, and says that the death-rate is often overestimated, the mortality being at least lower in children than in adults. As regards treatment, he insists on isolation and hygienic rules. The active treatment is chiefly symptomatic; and among the drugs, he especially mentions sodium benzoate as having a stimulating effect and being a remedial agent capable of meeting most if not all the indications. When called on to treat a case of la grippe of moderate severity he orders:

R. Sodii benzoat.
Salol
Acetanilid, āā .... gr. iss
Caffein .... gr. ¼

M. Make one powder. Sig. One powder every three hours to a child 6 years old. If the pain is severe, and the child is kept awake, add one-twelfth grain of codein sulphate to each powder.

In cases where children refuse to take powders, he prescribes the following mixture, again adding codein, if necessary.

R. Sodii benzoat.
Antipyrin, āā .... ʒss
Liq. ammon. anisat.
Syr. scillæ comp., āā .... ʒii
Syr. altheæ .... ℥iss
Aquæ anisi, q. s. ad .... ℥ii

M. Sig. One dram every three hours to a child 6 years old.

Along with this he always directs the inhalation of vapor of compound tincture of benzoin, one tablespoonful of tincture to a quart of boiling water to be kept constantly over a gas or alcohol stove during the entire sickness. For prostration, he thinks small doses of strychnin sulphate and diverse ammonia preparations are most useful. He attributes his success to the use of sodium benzoate and the observance of these other points.

13. **Rectal Valves.**—Bodenhamer's paper is an argumentative one, in which he endeavors to show that the so-called rectal valves do not exist and that the only thing resembling them are the normal lacunæ or sacculi, which have long been known. The alleged valves can have no necessary function, and he doubts that they exist.

15. **Formalin.**—Crawford advocates the use of formalin as an antiseptic in general surgery, but thinks that it has sometimes been used too strong. He gives tables showing the formalin percentage in antiseptic solutions of various strengths He prefers the use of a 4 per cent. solution as convenient for dilution.

17. **Laryngeal Manifestations of Typhoid Fever.**—The different laryngeal lesions mentioned by Lockard are specific typhoid ulcers, non-specific ones, necrotic lesions, submucous laryngitis, purulent perichondritis, diphtheria, and paralysis and spasms of the cords. He thinks we should make careful examinations for these complications in every case of typhoid, not only during the active stage but also during the entire period of convalescence.

18. **Atrophic Rhinitis.**—McKinney reports two cases which he thinks illustrate and confirm very decidedly the view of Bosworth, that atrophic rhinitis is a sequel to chronic purulent rhinitis of childhood. The patients were boys, 9 and 7 years of age, in whom there was evidence remaining of a purulent discharge, together with an existing advanced atrophy of the turbinated bone. There are other cases where he has had the atrophy but has never before witnessed the transformation stage in this form.

19.—See abstract in The Journal of May 19, p. 1261.

20.—Ibid.

21.—Ibid.

22.—Ibid.

23. **Frenkel Treatment of Tabes.**—Wolfstein describes the general principles of Frenkel's treatment, which has been noticed in detail in earlier articles in The Journal. The object of this paper is to popularize the method, which he thinks is a valuable one.

24. **Hemorrhoids.**—Monroe describes the different methods of treatment of hemorrhoids and apparently favors the clamp, though he does not think it will be as generally and universally used as the ligature.

26. **Management of Pregnancy and Myoma.**—From a study of his cases, some of which are reported here, Skene classifies myofibromata in the uterus in relation with childbearing as follows: 1. Subcutaneous tumors, large or small, cause sterility as a rule. 2. Small subperitoneal myofibromata do not always cause sterility or dangerous complications. 3. Interstitial tumors, unless so small that they can not be detected, and large superitoneal tumors closely connected with the muscular tissues of the uterus, do not always cause sterility, but are most dangerous complications of gestation because they predispose to miscarriage and render delivery always difficult and dangerous, and often impossible. The first class may be left out of the account. The second requires attention in the first months to keep the uterus in position and aid in its rising from the pelvis. Help may be required in delivery and special protection from post-partum hemorrhage. The third demands hysterectomy as the surest means of safety. The time of operation is discussed, and he thinks that it should be undertaken only when there is evidence that the product of conception is no longer living.

27. **Intestinal Anastomosis.**—Ferguson describes a new form of enterotome as an aid in suturing the intestines, and gives a tabulated statement of a number of experimental operations showing its advantages for intestinal anastomosis.

29. **Placental Transmission.**—The author reviews the literature of placental transmission of drugs and specific disease, and finds that, while many drugs have no noticeable effect on the fetus, there are certain ones which have a special tendency to transverse the placenta and others that have a decided influence for good or evil. Maternal medication is therefore indicated in certain conditions, either to prevent the development of a similar condition in the fetus or to counteract the effect of germs or toxins already introduced. The drugs that have been found to affect the fetus *in utero* are notably opium, mercury, copper, lead, arsenic, and the iodids. Any morbific influence on the mother will react deleteriously on the product of conception, and either destroy it or render it feeble and less resistant to subsequent and post-natal invasion, or the disease will run an atypical course *in utero* with or without apparent vestiges at birth. The entrance into the fetal structure is accomplished through the fetoplacental circulation. Bacterial action probably renders the placental villi less resistant. As a rule, the infectious diseases do not manifest their characteristic visceral lesions in the fetus, probably because of the passivity of these organs during antenatal existence. The germs, however, may often be detected.

33.—See abstract in The Journal of June 9, p. 1489.

34.—Ibid.

39. **The Physician and Surgeon in Abdominal Practice.**—Benedict argues for the importance of the physician and the presurgical diagnosis in surgical diseases of the abdomen. The surgeon should not pretend to possess double skill and act as diagnosing physician as well as the operator.

40. **Hay-fever.**—Hollopeter believes the important thing in hay-fever is to carefully study the nasopharynx. If no extensive lesions exist, he thoroughly sprays the pharynx with warm 2 per cent. Dobell's solution and follows this with a small applicator, armed with absorbent cotton dipped in a saturated solution of boric acid, with which he thoroughly touches all parts. He gives the following prescription as efficacious and having excellent keeping qualities:

R. Adrenals (Armour's) desiccated .... ʒi
Acidi borici .... gr. xvi
Cinnamon water .... ʒiv
Camphor water (hot) .... ℥i
Aquæ destil (hot) q. s. ad .... ℥ii

M. Macerate for four hours, then filter.

The surgeon will find this extract a great aid in all minor operations, and to insure results, a pure suprarenal substance should be used. After the use of the spray and atomizer in the anterior nares, he uses an oily application for a protective covering, containing as its base liquid petroleum, with camphor, menthol, and an oil of palmetto in solution, and carefully applies it to the whole membrane previously treated. As a rule, he begins this treatment at least one week before the expected onset and continues it daily, sometimes twice daily, until ten days after the attack.

52. **Nature of Cancerous Processes.**—Park's paper discusses the nature of cancerous growth, with special reference to its infective and inoculative transmission and the malignant transformation of simple lesions like cicatrices, ulcerations and non-malignant ulcers. Cancerous cachexia is principally a complex product of numerous factors, including degenerative products, both from neoplastic cells and disturbed action of normal cells, the anemia from hemorrhage, secondary septic infections and renal lesions.

54. **Uterine Myomata.**—The indications for operation for uterine myomata are divided into three groups by Ill. In the first class are those in whom life may be endangered directly or indirectly by the growth, including bleeding myomata, septic and sphacelated myoma and the tumors producing extreme pressure, those growths which become strangulated by torsion or impaction, those accompanied with extensive and recurrent inflammatory diseases of the appendages, those occurring during pregnancy and in young women under 30 years, those associated with attacks of peritonitis, or inflammation of the tumor itself, cases of doubtful diagnosis, those of special location producing serious symptoms of hemorrhage, cases where there is a suspicion of malignancy, where there is excessive serous mucus or mucopurulent discharge, severe uterine contraction causing presentation of the tumor at the os, and those favoring a septic inflammation, and tumors occurring after the menopause which are suggestive of malignant disease, or where inversion of the uterus has been produced. The second group includes those cases where health is so seriously impaired that life becomes a burden, though it may not be in danger, and includes cases of enlarged size, excessive mobility, adherence of pedunculated tumor to the bowels, mesentery or bladder, mild inflammatory disease of the appendages, excessive menstrual pain and pain in general. Under the third class are included those in whom the mental condition suffers from the fact that they have a tumor, those sensitive, usually unmarried, women with large growths, those who "harp" on their condition, and those who can not separate in their minds a tumor from a cancer. Any of these are likely to demand an operation. The contraindications to operation are when the patient is unaware of the trouble, or has discovered it, but suffers neither mentally nor physically, when the symptoms are slight, in women who can nurse themselves, those near the menopause who can be relieved by clothing, abdominal supporters, food, etc., women suffering with other more serious diseases likely to be fatal, such as phthisis or Bright's disease, which is not connected with the growth. As regards the operation, he rather favors the abdominal route, but the operator should take his choice of the vaginal route when the tumor is freely movable and can be easily pushed into the cavity of the pelvis and the vagina is wide enough for easy and comfortable operation, and also when there is complete chronic inversion of the uterus. He is not partial to total extirpation of the uterus by the supravaginal method and believes rather in supravaginal amputation.

55. **Relation of Pregnancy to Nervous Diseases.**—According to Putnam, we must consider the relation of pregnancy to nervous disorder in two ways, i. e., the effects of pregnancy on the already existing disorder and pregnancy as its cause. It has never been found that pregnancy has any effect on epilepsy, for as as rule patients are neither better nor worse. No one should delude himself that marriage with an epileptic is safe or wise. Pregnancy has been observed as a cause of epilepsy several times. The chorea of pregnancy is, in his opinion, not so very serious a condition, or at least not the fatal disease which many writers would have us believe. The necessity for producing abortion in this case seldom arises. Diabetes may occur during pregnancy and at no other time; and it is noteworthy that in these cases coma has seldom developed. In twenty-two cases studied by Matthews Duncan, four were fatal, but they died in collapse, not in coma. There is no ground for holding that diabetes mellitus appears more frequently in pregnant than in non-gravid women. Tetany has been observed many times in Europe in connection with pregnancy, though it is less common in this country, and is more liable to occur in those who have had the disease before marriage. Nervous diarrhea has been observed in about 1 per cent. of several thousand cases in the Turin Maternity. The relation of exophthalmic goiter with pregnancy has been but indifferently studied. Dreschfield and Charcot have observed cases that improved markedly, if allowed to go full term; sometimes improvement has been observed and again it has appeared to make it worse. Further investigations of the effect of pregnancy on pre-existing exophthalmic goiter, and on pregnancy as a direct cause of the disease, are needed. Hysteria has been caused by pregnancy and is liable to be aggravated by it if existing before. There is, however, no tendency in the hysterical to premature labor. Myelitis has been observed in several cases as a result of septic infection. The insanity of pregnancy is well known, the insanity of childbirth is, according to Putnam, in many cases septic in its origin, and generally takes the maniacal form, in contrast with the disease when it occurs during pregnancy, which is usually melancholic, according to his experience.

56. **Prostatectomy.**—Thorndike advocates Alexander's operation as the best fitted for the relief of prostatic trouble. He believes that the entire prostate is thoroughly and entirely removed by enucleation; and that it is a comparatively bloodless operation. Its range of usefulness will be much widened when its value is fully recognized by surgeons.

63. **Impetigo Adenosa.**—The observation of ten cases of a peculiar type of skin trouble has led Aronstam to describe it under the above name. It is an acute, contagious, febrile affection characterized by an eruption of pustules, accompanied by enlargement of the lymphatic glands in their various situations. The disease is no doubt contagious, but bacteriologic data are wanting. It is usually ushered in with vomiting of a protracted type and a decided chill of short duration, followed by a fever, the temperature ranging from 101 to 104 F., the pulse ranging from 120 to 140 per minute, and the breath heavy and offensive. Small moist râles could be heard all over the anterior surface of the thorax, and pain was present in the joints, and especially in the posterior tibial muscles. The children were prostrated and apathetic. The trouble lasted from two to three days, after which pustules began to appear on the more exposed portions of the body, they were glistening and contained a yellow, translucent fluid, and were surrounded by a vivid scarlet-colored zone. They appeared simultaneously with the swelling of the lymphatic glands of the groin and neck, some of these even attaining the size of a small hen's egg, and being very painful and tender on pressure. After a day or two, the pustules increased in size and finally ruptured, after which the symptoms began to decline, and the appetite to return. The contents of the pustules dried up and changed into crusts of a yellowish hue, surrounded by a raised border of mahogany color, and this by a deep red area. After three or four days the crusts fell off, the color disappeared, the normal healthy integument returned, the tongue cleared up, and the patients were quite comfortable, but the glands remained more or less painful for a week or ten days, and in all the cases, there was a burning, itching, and smarting, the former being quite excessive, and these coincided with the lesions. Every case recovered completely, with no after-effects or complications, except alopecia in one case. Nothing seemed to affect the disease, although the treatment was symptomatic, calomel being given to relieve constipation, which was invariably present; and bismuth and lime-water for the vomiting. The ice-bag to the head relieved the cerebral symptoms, and iced lemonade was given freely. The itching and burning were relieved by an ointment of zinc dioxid, ichthyol, and menthol—the latter of 1 per cent. strength—aplied twice a day. The swollen glands were completely covered with gauze saturated with a lead and opium wash, which had no effect, but iodin seemed to do better. During convalescence, cod-liver oil with the hypophosphites and the syrup of ferrous iodid was prescribed, together with good feeding, plenty of fresh air and exercise.

68. **Chronic Deforming Polyarthritis.**—Walls reports a case of arthritis deformans in a child 5 years old, which has been improved by change of surroundings, more hygienic quarters and better food, and he has hopes of seeing complete recovery. He discusses the condition and says that the treatment mainly consists in supplying abundant fresh air, good food and in giving attention to the skin and nutrition. During the acute periods, salicylate of soda and antipyrin with soothing oils and ointments are of value. In the interval, general tonics such as cod-liver oil, iodid of iron, tincture of iodin, arsenic, massage and galvanization are likely to be useful.

81. **Venereal Hygiene of Future.**—Sholl's article is an imaginative one of the "Looking Backward" type, showing the condition of things in the ideal community of the future, in which marriage is regulated, criminals are unsexed and degenerates generally eliminated.

84. **Malaria and Mosquitoes.**—Moody claims that the question of the agency of mosquitoes in all cases of malaria is not yet settled. He believes that there are places where mosquitoes do not exist and malaria does, and that there is more than one method by which the germ of malaria may reach the blood. He also thinks it possible that it may be introduced during the mosquito season and lay dormant for months before producing its special effects. Another theory is that the different plasmodia have different modes of propagation and introduction. He says that the question is a very interesting one and one that calls for thorough study by the physicians of the South. He has seen cases of typical double tertian occurring in towns where no mosquitoes have been seen for months.

89. **Gasoline as a Surgical Detergent.**—From the action of this agent in cleansing wounds soiled with what railroad men call black-oil, Riordan was led to consider its efficiency as a surgical detergent. He finds that it has a decidedly antiseptic action when applied on cotton gauze, and that it does not irritate fresh wounds. It will be necessary to keep it from getting into the cavities, such as the eye and ear, where it is irritating, but if applied to surfaces where it can rapidly evaporate, it gives a cool, pleasant sensation. Microscopic appearances of the skin after being scrubbed with soap and water, and after being wiped off with gasoline, showed that the cleansing effect of the latter went much deeper and cleaned out the mouths of hair follicles, sebaceous glands and sweat ducts much more perfectly than did the soap and water.

71. **Ergot in Obstetric Practice.**—After noticing the opinions of various authorities, Hastings concludes that the use of ergot is always attended with more or less danger to the fetus *in utero*, and that it should be given twenty minutes before its action is required, and given to secure tonic contraction. He believes that it is valuable in preventing postpartum hemorrhage and in closing up the channels of septic absorption.

92. **Chloretone.**—Rudolf has experimented with chloretone on animals with special reference to its physiologic effect, and concludes that it would seem from Houghton and Aldrich's results, to be an ideal general anesthetic for physiologic work. It has for hours little or no effect on the pulse, respiration or blood-pressure, but eventually, if the dose is large enough, these become depressed and the animal dies, the heart stopping first. It is also more depressing on the bodily temperature than other drugs with which he is acquainted, excepting alcohol, and, therefore, should be used with great caution in medical practice. This is the more important as the drug is very slowly eliminated and has no known antidote, excepting perhaps external warmth.

96. **Communicable Diseases.**—Allen reviews the principal communicable diseases and their methods of dissemination, and suggests the instruction of the public in regard to the following points: That the dust from infected handkerchiefs, when the secretion has dried, often contains germs; and that they should, under no circumstances, be used after any secretion from the nose has been permitted to dry on them, and that after being used they should be placed in a paper bag, the top twisted shut, and there remain until they can be boiled in water; that contagion is liable to be spread by dust from floors or articles on which infected sputum or saliva has been ejected; by contact with the hands of persons who cough or spit into handkerchiefs, and then handle infected material; clothing often contains the germs of a communicable disease; books, pencils, chewing-gum, drinking-cups, etc., which are used in common, are often sources for the spread of contagious diseases; that while typhoid fever is ordinarily caused through the medium of drinking-water which has been contaminated with sewage or with leakings from privies, it is not improbable that it is sometimes spread by means of dust containing the germs of the disease.

97. **The Three Symptoms of Rickets.**—Berkeley calls attention to the haziness of the conception of rickets by many of the profession, and notices its most constant and striking symptoms. The first of these is the costal rosary or nodes, which are sometimes missed by the examiner because they are farther back from the median sternal line than in the adult, occasionally there being only an angle instead of a node. The typical rickety cranium is most noteworthy in the prominence of the parietal bones, which gives its characteristic box-like shape. The anterior fontanelle remains open late, often being greater at two or two and a half years than it should be at its greatest normal size. The sutures may be more or less separated and the bones thinned or softened. The latter condition—craniotabes—sometimes occurs with normal shaped heads. The shape and size of the liver and spleen should always be investigated, as the chronic intestinal indigestion of rickety infants furnishes toxic matter enough to cause swelling of these organs; and to this must be added the influence of the secondary anemia of the disorder. The enlargement is sometimes astonishing and causes many adventurous essays in diagnosis. Why one or the other shoud exceed in this respect is not clear, but the spleen is most apt to reach remarkable size.

100. **Brain Traumatisms.**—In the majority of injuries to the brain, the lesions are multiple and the general symptoms mask the local ones, while the general depression may be so prolonged that the latter may be observed too late to be of real value, and hence, the importance of localizing symptoms in injuries to the brain is not so great, acording to Williams as has been supposed. He believes that simple surgical shock is the cause of many of the symptoms credited to concussion or depression, and that the real pathogenic conditions causing prolonged unconsciousness are often overlooked, attributing them simply to a depressed bone or hemorrhage. Too much stress is also laid on the presence of fracture; compound fracture is only of importance as affording a source of infection. He believes that operation on the brain, under proper asepsis, is as safe as an operation on the abdomen, and should be done as readily. More can be accomplished by early operative interference than has been, and drainage of the epidural region or even the pia-arachnoidal cavities will, in many cases, relieve intracranial pressure and restore nutrition.

103—See abstract in The Journal of May 5, p. 1131.

104. **Colorado Climate and Sleep.**—The effects of the climate of Colorado on sleep are described by Eskridge, who finds that in acclimated persons of temperate and regular habits sleep is continuous and refreshing. For those who lead iregular lives, keep late hours, indulge in alcohol and smoke a great deal at night, sleep will be more disturbed and less refreshing than at sea-level. During the summer months, it is always easier for the phlegmatic individual to sleep in Colorado than in lower altitudes. On the other hand, sleep is disturbed more easily by slight causes, though the need of it is somewhat less. In those who are over-worked mentally, sleep is broken and shorter, as the climate seems to disturb the nervous system in this respect more than in others. Those who are inherently nervous are likely to have trouble in getting sufficient sleep, but if they are careful not to take too much physical exercise the difficulty is relieved. The neurasthenic and the hysterical patient always have difficulty in getting enough sleep in Colorado, unless they take abundant rest. All stimulants seem to have a greater disturbing effect than at sea-level. Tubercular subjects sleep as well in Colorado as at lower levels, and better if they avoid over-exercise and excesses. Nervous people do not stand prolonged residence so well there as in lower altitudes. Sleep in unacclimated persons coming to Colorado may be increased or greatly les-

sened. For the majority of consumptive patients, sleep is worse on coming to Colorado, unless precaution is taken to diminish exercise. For the over-worked from the eastern sections, who do not have indigestion or brain changes, the climate of Colorado possesses the best means of overcoming insomnia and of building up the nervous system. For those who are troubled for sleep in that climate, a change once or twice a year is of advantage.

112. **Stone in the Bladder.**—Paschal says that each operation has its indications and must be chosen accordingly. Litholapaxy gives the lowest mortality, but is not suitable where the stones are very hard and large. In all cases where there is chronic cystitis and it is desirable to give the bladder rest, there is no better treatment than simply to open it. In unskilled hands litholapaxy is not as safe as the cutting operation. The perineal operation gives a smaller death-rate than the suprapubic, which is best suited for cases of very large stone and for old individuals with prostatic tumors or enlargements, but it is not suitable for children. A well-performed lateral operation leaves little to be desired and is suitable to all cases. The combined perineal and suprapubic operation may be done, when needed, with perfect safety. Perineal lithotrity is not a well-accepted operation, and has no particular advantages over other ones. The recurrence of stones after removal follows any operation, perhaps no more frequently in one than another. The cause that gives rise to their formation should be sought and treated.

118. **Tuberculosis in Children.**—Risinger believes that many cases of mucous catarrh are due to tubercle bacilli and that lesions of this nature lead to the development of the strumous gland. He adopts Still's views as to the route of infection being chiefly by the air-passages, the frequency of intestinal tuberculosis being due to the swallowing of sputum. He thinks that there is no disease which has a greater tendency to cure or to remain quiescent than tuberculosis, and that it generally attacks the bronchial lymph-nodes. He says that a large majority of children suffer during one period of their life from a benign and self-limited form of tuberculosis. For the great majority of these children, the prognosis is good, it is only the weaker that suffer from pulmonary tuberculosis and from autoinfection. Milk infection is, in his opinion, extremely rare.

119. **Appendicitis.**—Love discusses the subject of appendicitis and the medical and surgical methods of meeting it. He lays stress on the value of colonic irrigations, and says that if he was subject to the disease, with no imminent danger of perforation, he would have the intestinal canal thoroughly cleaned out, the pain controlled by hot and cold applications, ice-bags, etc., a snug, firm abdominal bandage over a sheet of oil-silk and a layer of cotton batting applied. The absolute withholding of food for a week or more is best in most cases. The ideal method is the surgical, but since it is not safe to trust to the average general surgeon or general practitioner for operation, medical treatment is important.

125. **Primary Renal Tuberculosis.**—Ramsay concludes that in renal tuberculosis some form of surgical treatment is always indicated, and that it may have a palliative or curative effect, according to the condition of the patient and extent of the condition. As a palliative operation, nephrotomy gives almost immediate relief of dangerous symptoms and does not preclude a latter nephrectomy. Resection of the diseased part of the kidney is always contraindicated in this condition. Nephrectomy or nephro-ureterectomy is always indicated where tuberculosis has not developed elsewhere or when there is no fatal disease of the other organs. Tuberculosis of the bladder or a small focus of tuberculosis in one lung is not considered a contraindication to nephrectomy and primary nephrectomy or nephro-ureterectomy has been followed in suitable cases by final cure in 56 per cent. With the present methods of examination and improved operative technique, the percentage of final cures should be materially increased.

127. **The Walcher Posture.**—Walcher's statement that the true conjugate gains from 1/3 to 2/3 inch has been denied, and after noticing what others have reported, Cutts says that in an examination of a female cadaver at the University of Minnesota, he found an increase of ⅛ inch in this position, while marked flexion reduced the true conjugate ¼ inch, making the total difference 3/8 of an inch. He thinks that this would be still further increased in the living pregnant state. The transverse and oblique diameters remain unchanged in the extended position, yet all lines radiating from the promontory to points of the superior strait are increased in somewhat the same proportion as the true conjugate. He believes that at least some cases of dystocia at the superior strait would be benefited by the Walcher posture.

128. **Plague.**—The plague is discussed by Flint, who mentions the origin and history of the present pandemic, and then describes what he has seen in Hongkong and in India. The Chinese, who are the principal victims in the former place, are about the filthiest people on the earth, though the conditions in Hongkong did not equal those in some Chinese towns. The spread of the disease seemed to be largely through rats, but still more by fleas. Flies and mosquitoes do not seem to infect human subjects much. The symptoms of the disease, as observed in Hongkong, are largely the same as described elsewhere, but the mortality is much greater than it was among the Indian populations, even of the lowest class. The plague measures in India were not so thorough as in Hongkong, and the bigotry and animosity of the natives gave more trouble than among the Chinese. The effects of the Haffkine's inoculations are noticed and statistics given of the experiments at Hubli, which seemed to show that it had a most beneficial effect.

129. **"Christian Science."**—The author describes "Christian Science," its doctrines, policy, etc., and discusses the cause of its growth and flourishing condition. He believes that it is a sort of religious mania, one of those delusions which are cunningly contrived to gain a strong and permanent foothold. There is always an element in a community that goes to extremes in adhering to its ideas. He does not think that there is much that can be done to combat this, except to correctly instruct the people, and see that the public is protected, that births, deaths and contagious diseases are reported and that small children are protected from "Christian Scientist" measures. They have so far usually escaped penalties by claiming that they do not give any drugs or other medical treatment.

130.—See Therapeutics Department in this issue.

131.—Ibid.

132.—Ibid.

145. **Vaccination—A Correction.**—In an abstract in THE JOURNAL, June 23, of an article by Dr. F. J. Runyon, in the *Memphis Medical Monthly*, the statement was made that he deemed that only about 25 per cent. of those vaccinated are immune. It should have said that he claimed only 25 per cent. of successful vaccinations with glycerinated lymph were efficient in immunizing.

FOREIGN.

Physician and Surgeon. June 21.

Pelvic Pain in Women Caused by Impacted Ureteral Calculi. SEPTIMUS SUNDERLAND.—From his experience, some of which is here reported, Sunderland asserts his belief that a large number of women suffer from pelvic pain in varying severity by a stone in one or the other ureter and the pain is likely to be considered by the attendant as due to ovarian or uterine trouble, or regarded as of neuralgic, neurotic or hysterical origin. Occasionally, if the pain be situated on the right side, the appendix may be credited as the source of trouble. He advises that skiagraphs be taken of the kidney to discover if stones are present. In doubtful cases also one should have recourse to careful palpation of the abdominal parieties, inspection of the orifices of ureters with the cystoscope, examination of the urine and other methods for verifying or otherwise the presence of these complications in this situation.

British Medical Journal. June 23.

Degeneration of the Neurone. FREDERICK W. MOTT.—The author first gives the history of the neurone, the objections to it by Apathy and Bethe, the various elements of the neurone and their physiology, and passes to the degenerations of this unit of the nervous system. After the historical introduction, in which he gives Dr. Waller's theory, he shows that while there is traumatic degeneration there are other forms, like disuse-atrophy as shown by Dickinson and others. Senile decay is also mentioned, and he passes to the physiologic facts in regard to the functions of this organ. Before going into the detailed account of his own observations, which will take up the most of three following lectures, he gives a few illustrations relating to the neurone theory as regards the transmission of impulses and certain physiologic problems connected with the variable resistances to transmission of the spread of excitation. The lecture may be considered as a preliminary one bearing on the general facts that are necessary to learn in regard to the anatomy and functions of the nerve units, and should be read in full.

The Lancet, June 23.

Some Notes on the Introduction and Spread of Plague. G. J. BLACKMORE.—The writer calls attention to the great extension of plague throughout the world and the possibility of its introduction even into Great Britain. Experience has shown that during the first year only a few cases occur, and those generally not of a serious character, and the disease apparently disappears. The following year it, however, is seen again about the same time, there are more cases and the disease is more serious, but can scarcely be called an epidemic, and once more it disappears, only to appear again the third year, when we can see the epidemic visitation. This is Calcutta's experience and has been repeated universally. We do not know how the plague is transmitted from one person to another. It seems improbable that it occurs through the air or by mere contact. It is probable that it occurs from inoculation, though much more probably by means of insects and fleas. We know little more about its passing from place to place, though the fact that rats suffer from the same disease is significant. The statement that there is no mystery about the plague and that it can be stamped out is liable to do harm by creating a false security. Blackmore says that plague is liable to appear in mild form and sporadic cases and not be recognized. This is the probable source of many unexplained outbreaks, and a special danger is that it may not only reappear in the same place, but that it may spread to different places. He advocates the strictest examination of all vessels from plague-infected ports, and that all ports where the disease has occurred should be still considered, for a time at least, infected. All persons who come from places where plague is present or suspected should consider themselves possible sources of infection and should not treat even an apparently slight indisposition lightly for at least ten days after leaving the vessel that has been in an infected port. The crusade against rats and bedbugs should be most thorough, and the disinfection of rags and dirty clothing should be carefully attended to. A sharp lookout should be kept for an increase in the mortality of rats and a search made for the plague bacilli in the bodies of those found dead. Preventive inoculation should be early resorted to.

A Plea for Early Operation in Cases of Undoubted Tubercle of the Lung. J. FOSTER PALMER.—The author advises operation in cases of tuberculosis and shows how such interference with lung tissue may be often productive of a cure. The chief dangers are collapse, surgical emphysema and hemorrhage. The introduction of bacteria from without can be prevented by modern antiseptic methods.

Comparative Germicidal Action of Some Disinfectants. ARTHUR H. BURGESS.—The writer has experimented on mercury biniodid, mercury perchlorid, chlorinated lime, formal aldehyde, lysol, carbolic acid and a number of other preparations, and tabulates the results of his experiments. The germ experimented with was the bacillus coli, which has, for a nonsporing bacillus, a high power of resistance to germicides. His method is explained in detail and consisted in obtaining a pure culture, making sub-cultures upon the potato. The characteristic dark-brown growth was removed with a thick, sterilized peptone wire and mixed in a vessel with a little sterilized peptone bouillon to form a thick emulsion, into which silk threads were immersed. They were carefully sterilized previously, and after immersion in the emulsion for ten minutes were transferred with sterilized forceps to a Petri's capsule, in which they were partially dried in the dark, in a temperature of 24 C. for three hours. They were next transferred to the disinfecting solutions to be tested and, after remaining in these for the required time, were lifted out with a sterilized platinum hook, washed in sterilized water and placed in a separate tube of peptone bouillon. These tubes were incubated at 37 C. for ten days, being examined each twelve hours for forty-eight hours, and daily thereafter. If no growth occurred, the bouillon was perfectly clear at the end of that time; if it did occur, it began to show signs of turbidity within from twelve hours or less to seventy-two hours. The presence of growth was shown by microscopic examination, and by inoculation of gelatin plates. If no growth occurred at the end of ten days it was concluded that all bacilli had been killed with the disinfectant solution. In every case a control experiment was made precisely as above, except that sterilized disinfectant water replaced the disinfectant solution and in each instance growth was found to be present at the end of twelve hours According to the table given, mercury biniodid takes first rank as a disinfectant, following this is mercury perchlorid; chlorinated lime, formal aldehyde, lysol and carbolic acid follow at long distance below. The formal adehyde is prepared from the Schering formula and the preparation stated in the table referred to formal aldehyde and not to formalin.

Brazil Medico (Rio Janeiro), May 1, 8 and 15.

Sublimate-Serum and Vaccination in the Plague. C. TERNI.—The Italian government commissioned Professor Terni, director of the Institute of Hygiene at Messina, to study the plague and yellow fever in South America, and especially to test Baccelli's endovenous injections of sublimate. He states that Haffkine's vaccination, as modified at Messina, is the best method of immunizing men and animals against the plague. By his modifications he produces a vaccin much more rapid and active in smaller amounts than is obtained by any other method. A man inoculated with 2 c.c. has a chill and slight temperature in four hours, but sleeps well and wakes sweating profusely, in normal condition, except for pain in tumefied glands, and is able to attend to his affairs within twenty-four hours. A serum of great curative value can be produced in animals hyperimmunized with virulent cultures. The "beef" and the monkey are best adapted for the purpose, all animals being rejected that are not naturally extremely resistant to the inoculations. This antiplague serum stimulates phagocytosis and, combined with .5 per cent. sublimate in endovenous injection, proved remarkably effective in the four cases of plague in which it was tried. The germs rapidly vanished from the blood and three patients promptly recovered. The fourth showed marked improvement and treatment was suspended, but the patient died and the deep glands were found gravely infected from a primary bubo in the axilla. In all treatment of the plague, radical extirpation of the foci and surroundings is imperative, and the prognosis depends upon the thoroughness with which this is done. Terni obtains his extremely virulent material by inoculating guinea-pigs or monkeys with the plague bacillus direct. He first injects 10 to 15 c.c. of glycerinated bouillon or of a simple aqueous solution of 1 per cent. sodium chlorid and 3 per cent. pure glycerin, following this with a droplet of plague bacillus. The animal dies in two or three days and the peritoneal cavity contains about 30 c.c. of an exudate which is an actual "cream" of plague bacilli. A single drop of this exudate will kill a guinea-pig or monkey in twenty-four hours. One unit by weight of bacterial protein—equivalent to a liter of glycerin beef-tea culture—is contained in about .5 c.c. of this exudate, which has to be diluted to a fifth to prevent coagulation. He uses 1 mg. of the dry exudate of 1 c.c. of an aqueous solution of .5 per cent. sodium chlorid and carbonate; the latter, has a tendency to soften the envelope of the bacteria. He avoids injury to the elements of the vaccin by sterilizing it at the low temperature of 55 C., repeated at intervals during several days, and then adds 1 per cent. phenic acid. This vaccin is extremely rapid in its action and not more than 1 to 2 c.c. are required, as mentioned above, a vast saving of time, material and effort.

Yellow Fever. C. Terni.—Sanarelli's icteroid bacillus was found constantly at the autopsies on persons who died of yellow fever, but it was never found in patients with other diseases. The chief anatomo-pathologic lesions in yellow fever are always in the small intestine, and Terni considers the disease a gastrointestinal infection. The method of vaccination described above can be applied to yellow fever; .5 c.c. will prove amply effective, and without serious after-effects. The blood of animals susceptible to infection and vaccinated—guinea-pigs, rabbits and dogs—shows the agglutinating reaction and marked antitoxic power. Dogs and rabbits, after the reaction to the vaccination is past, readily bear doses of the virus ten times stronger than is required to kill the control animals and their serum possesses intense bactericidal action. These and other facts he has established, impel Terni to propose vaccination against yellow fever as a means of individual prophylaxis. The evidence is decidedly in favor of water as the medium of contagion; aerial infection and also flies and gnats as media must be excluded. In all his research the icteroid bacillus was found on only one fly. Lacerda's theory of the symbiosis of the icteroid with a mold should be thoroughly tested; at present it seems to conflict with the fact that molds secrete acids, while acids are known to have an unfavorable effect on the deevlopment of the bacillus. Serotherapy of both plague and yellow fever is still in its infancy, but promises much for the future.

Annales de Dermatologie (Paris), May.

Non-Parasitic Nature of Eczema. C. Kreibich.—In the course of extensive research on cutaneous suppurations, conducted at Kaposi's clinic, Kreibich found the staphylococcus or streptococcus in twenty-six out of forty-one cases of vesicular eczema. But it was impossible to induce acute eczema in other subjects by inoculating them with either the serous fluid or the microbes derived from it. The inflammatory papulous nodule and the rapidly drying vesicle which followed the inoculation in certain cases, were merely a non-specific reaction of the skin to any irritation, whether caused by a microbe, a mold or by the chemical or mechanical action of any substance. These lesions have a natural tendency to elimination of the irritating agent and hence to spontaneous recovery, but they are liable to invasion by pyogenic microbes sooner or later, transforming the vesicles into pustules. The negative results of these inoculations and the fact that the fresh lesions in acute eczema are sterile, while only the old contain pyogenic microbes, confirm the non-parasitic etiology of the affection.

Bulletin de l' Academie de Medecine (Paris), June 12.

Abdominal Testicular Ectopia. Lucas Championnière.—A frail, poorly-developed child of 11 years of age was operated on by the writer twelve years ago on account of true, bilateral cryptorchidia, or abdominal testicular ectopia, with bilateral inguinal hernia. The testes were sought, mobilized and transplanted in the region of the absent scrotum in a cavity dug out for each with the fingers. The vas deferens and testicular artery were the only support left for one, which was less developed than the other. Each testis was transplanted separately. The first result was the disappearance of the pains occasionally noted before, evidently caused by the attempts at hernia of the testes. The general health was completely transformed within a year. The child has developed into an exceptionally strong, well-built young man. The testes have worked up a little from their first position, the smaller to a point over the scar of the hernia, and it has recently been extirpated on account of pain during physical effort. There was no evidence of spermatogenesis in this extirpated testis, but the genital functions were otherwise regular, with frequent erections. As far as the writer could learn, this is the only operation on record for double abdominal ectopia of the testes. The remarkable transformation in the general health and normal development of the genital functions after transplantation of the ectopic testes are significant facts, applicable also to inguinal ectopia. He has operated in thirty-seven cases of this latter kind, six of which were bilateral. He always seeks to retain the testes, for even if they do not serve for spermatogenesis, they certainly aid in the normal development of the general physique and genital functions. The testes frequently descend spontaneously in very young subjects and consequently he does not advocate expectant treatment in these cases unless forced to operate by pain or defective development. When the testis fails to descend there are usually fibrous adhesions above which hold it, and consequently traction is useless until these have been severed. If the vas deferens is too short to allow transplantation, castration is the only resort.

Semaine Medicale (Paris), June 13.

Should We Treat Fever? R. Lepine.—The ancients considered fever salutary in disease, and this view has been maintained as a sort of dogma until this century, but many now combat the heat as the chief enemy in disease, proclaiming, with Liebermeister, that treating the hyperthemia is treating the fever. The conclusions of Lepine's article—which will be presented at the International Congress in August—are that although the hyperthermia usually is an indication of the gravity of a febrile disease, it is far from being the principal factor, and that the aim should be to treat the fever specifically. This can be accomplished in diphtheria, malaria and articular rheumatism, but in other diseases we are restricted to merely supervising the reaction of the organism, moderating it in certain cases with antipyretics, which are to some extent specific for certain pyrexias. In others we must stimulate the reaction with hydrotherapy or by the application of cold, and in others by sustaining the general system. It is the task of therapeutics to pursue the infinite complexity of the elements of disease and give the patient the benefit of all our resources as conditions arise to demand them. Quinin seems to have a semispecific action in la grippe, and also pyramidon—which Lepine much prefers to antipyrin, as better tolerated and requiring smaller amounts for the same dose—and similar drugs have an unmistakably favorable effect. In anemia, also, the fever should be treated; only harm can result from allowing the febrile consumption to continue, and quinin will usually arrest it. Tuberculosis is also another condition in which the fever must be combated, always bearing in mind—while of necessity using them—that antipyretics, even the most harmless, sometimes induce collapse in phthisical subjects. Alcohol is also serviceable in their case as an adjuvant. The treatment of typhoid fever which at present gives the best results is cold baths with the correctives indicated by the individual case. This treatment cools and stimulates the febrile reaction and also the nervous system. It is most effective in typhoid fever, cerebral rheumatism, and in certain cases of eruptive fevers. In pneumonia, hyperthermia, even extreme and for two days, is not necessarily injurious. This disease, with its extensive local lesion, can scarcely be called a pyrexia, and the benefit of digitalis must be ascribed to its influence on the heart rather than on the hyperthemia. It is possible that the high temperature may have an unfavorable influence on the pneumococcus, or may favor the defensive reaction, or both combined.

Dermatologische Zeitschrift (Berlin), June.

Syphilis of the Stomach. Max Einhorn.—Syphilitic ulcer of the stomach has been observed a number of times, but syphilitic tumor of this organ is rarely discovered on autopsy, and has seldom, if ever, been diagnosed during life. Einhorn reports two cases of each of these lesions—the tumors simulating malignant neoplasms—cured by specific treatment. He also describes two cases of stenosis of the pylorus in syphilitic patients, with the familiar symptoms of ischochymia, etc., rebellious to internal treatment and apparently demanding surgical intervention. A tentative course of potassium iodid resulted in prompt and permanent recovery.

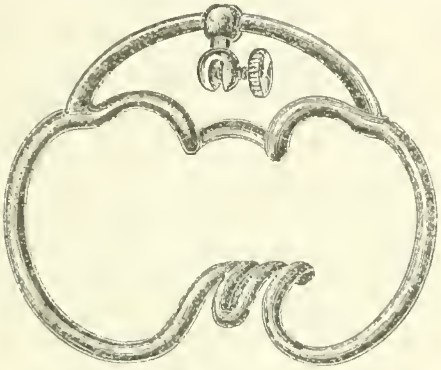
Syphilis of the Kidneys. J. J. Karvonen.—This comprehensive study of renal syphilis in all its manifestations has been continued from Volume v, and the end is not yet. All cases on record are critically analyzed and personal observations described in detail. Karvonen emphasizes, however, the fact that "ordinary nephritis" may occur at any stage of syphilis.

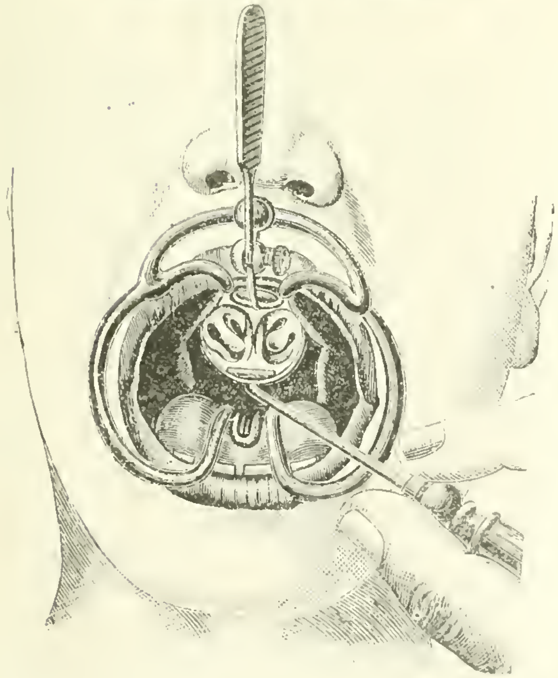
Deutsche Medicinische Wochenschrift (Berlin), June.

Fourth Report from Malarial Expedition. R. Koch.—This communication is dated April 28, and confirms the remarkably favorable results of the prophylactic and therapeutic measures instituted by Koch at Stephansort, described in former reports. The dreaded rainy season has come, with no new cases and only a few recurrences. Fresh infection is sure to occur when susceptible new-comers arrive, but this infection is easily kept under control. The important fact has been established that workmen imported from malarial regions are immune to infection, while those from malaria-free districts are liable to suffer severely. Another important fact is the necessity of investigating the blood of latent, mild cases of malarial infection, which have very slight clinical manifestations, but may be dangerous sources of infection. Koch reiterates his assertions that it is possible to eradicate malarial infection entirely or approximately in any malarial region, by the measures proposed.

Wiener Klinische Rundschau, June 20 and 17.

Automatic Tongue Depressor for Posterior Rhinoscopy. M. Paunz.—Strong wire is bent to form a continuous tongue depressor and circle to hold the mouth open; a slight bend in the wire at the top of the circle fits under the middle of the upper lip. An additional piece of wire, springing from the circle just below the nose, forms an arch with a slit ball and thumb-screw to hold the hook for the soft palate. This hook has a thin, flexible neck, and can be bent up toward the nose. The entire field is thus automatically exposed to view, broadly opened, with no hands nor instruments in the way.





Acute Occlusion Caused by Ovarian Cysts. S. G. Schalita.—In the case reported, an ovarian cyst had suddenly increased in size and caused acute occlusion with superficial pressure—necrosis of the ascending colon. In a second, similar case the intestine was found empty and dark-colored. The stem was twisted in each and the sudden occlusion was probably due to a hemorrhage into the cyst, induced by the torsion. The size and weight of the cyst had been much increased by this hemorrhage, with consequent compression and occlusion of the intestine on which it rested.

Muenchener Medicinische Wochenschrift, June 19.

Causes of Primary Iritis. v. Michel.—General examination of 84 cases of primary iritis at Würzburg disclosed chronic nephritis in 34.5 per cent.; tuberculosis in 36.8; affections of the circulatory apparatus in 15.4; syphilis in 5.9; and various other affections in 7.1. The large proportion of chronic nephritis emphasizes the necessity of general examination and appropriate treatment in all cases of "primary iritis" and also of parenchymatous keratitis, which probably has a similar etiology.

Operative Treatment of Inversion of the Uterus. W. Thorn.—Total inversion three months after childbirth in a very anemic patient had resisted all treatment and attempts at reduction, hemorrhage occurring at every intervention. Thorn opened the anterior cul-de-sac, incised the anterior wall of the uterus, and was then able to reduce the inversion after breaking up the adhesions. The walls of the uterus were then sutured together, commencing at the fundus, and the organ was supported by a broad stitch taken through the anterior wall, the peritoneum of the cul-de-sac and the vagina. The bleeding was slight and the patient rapidly recovered, leaving her bed the ninth day, and the clinic six days later.

Idiopathic Osteopsathyrosis. L. Lange.—The photograph of a six-year-old, intelligent child is given, who was healthy until his twenty-second month, when a slight fall caused him to break one of his long bones, and since then he has sustained twenty-two fractures of this kind. There are no symptoms of rachitis except this fragility of the bones, and consolidation follows with remarkable rapidity.

Wiener Klinische Wochenschrift, May 31 June 7 and 14.

Agglutinating Power of Human Serum. J. Donath.—Landsteiner has recently called attention to the fact that human blood-serum has an agglutinating effect on the blood corpuscles of animals and also of other human beings, most pronounced when the serum is derived from very sick subjects. Donath has been studying the serum of anemic persons from this point of view, testing it on normal blood from himself and others. The agglutinating power in serum from chlorotic patients was strong in 18 cases, weak in 3, and absent in 7. It was extremely pronounced in one case of leukemia and absent in one of pernicious anemia. One serum agglutinated the corpuscles in his blood very strongly, while it had no effect on the blood of other normal persons; the amount of agglutination varied with the individual specimen of blood. The intensity of the agglutinating power is not proportionate to the severity of the anemia; it depends probably on more complicated factors.

Dislocation of Goiter. J. Preindlsberger.—When goiter recurs and extirpation is impossible for any reason, or in case of bilateral compression of the air-passages, Wölfler "dislocates" the goiter, i. e., he removes it from the spot where it is causing functional disturbances and slips it along under the skin and muscles to another point, usually higher, where it can no longer press on the air-passages or esophagus. The writer describes a successful operation of this nature on a parenchymatous struma in a girl of 14, which had suddenly assumed a rapid growth and threatened suffocation. The right half was extirpated and the other moved to a new position in front of the trachea, after ligating the superior thyroid artery. The struma was still supplied by the inferior thyroid artery sufficiently to prevent necrosis, but the ligature of the superior thyroid reduced the supply of blood, causing the struma to diminish gradually in size, as hoped and anticipated.

Agglutination with Blood of Mother and Fetus. J. Halban.—Further research in the same line as Landsteiner's, mentioned above, is reported by Halban. It establishes the possibility of a reciprocal immunizing process between the organisms of mother and fetus. There is frequently a marked difference between the maternal and fetal sera in respect to their power to agglutinate the red corpuscles in human blood and dissolve them. This power also depends to a certain extent upon the blood to be agglutinated—some blood is more susceptible than others. In cases in which the maternal—but not the fetal—serum possessed the agglutinating power, the former agglutinated the corpuscles in the fetal blood the same as in extraneous blood, and vice versa. The hemolytic power of the sera paralleled the agglutinating power, and the latter seemed to be about the same for bacteria, especially the cholera vibrios, as for the red corpuscles. As the agglutinins are probably albuminoid substances, and as the fetus takes albuminoid substances from the maternal organism for its nourishment, the fact of the absence of agglutinins in the fetal serum, when conspicuously present in the maternal, indicates a remarkable elective power of absorption on the part of the epithelium of the chorion. On the other hand, when the agglutinins abound in the fetal while absent from the maternal serum, they must be congenital, i. e., occur independently of the mother. We must therefore distinguish between congenital and acquired agglutinins and lysins, and between heteroagglutinins and isoagglutinins as well as lysins (see The Journal, June 30, Ehrlich on "Hemolysins," p. 1685). Halban proposes the term "idioisoagglutinins" for the congenital isoagglutinins found in the new-born infant. The appearance of idioagglutinins in the maternal or fetal serum may possibly be the manifestation of a reciprocal immunizing process occuring between the two organisms. Blood-cells are being constantly destroyed in the circulation and an exchange of organic fluids is constantly occurring in the placenta. These afford the conditions for immunization, and it is possible that the two organisms may thus influence each other, with the result of immunization. Assuming this to be the fact, the idioisoagglutinins and lysins must be regarded as the products of a reciprocal immunization between mother and fetus during gestation. The fact that the agglutinins are found more frequently in the maternal than in the fetal blood is explained by our knowledge that the fetus reacts less energetically to tuberculin, for instance; a new-born infant will bear doses in subcutaneous injection which would induce high fever in adults. When the idioagglutinins are found in adults it is posisble that they have persisted from the embryonal life. The most plausible explanation of the whole phenomenon of agglutination is that the agglutinating and hemolytic power of normal serum is a congenital property of certain substances which occur normally in the blood, possibly the globulin, or of a substance originating in a kind of self-immunization from the constant destruction of red corpuscles.

Gazzetta degli Ospedale (Milan), June 10.

New Characteristics of Organic Mitral Lesions. G. Bassi.—An anatomic fact hitherto undescribed is the greater length of the anterior valve-flap in mitral stenosis, as compared with the normal. The flap was longest in cases which presented marked symptoms of mitral stenosis during life without the characteristic valvular constriction being found at the autopsy. Bassi therefore states that unusual length of the anterior segment—generally associated with increased thickness of the flap and also of the chordæ tendineæ—is an indication of a true organic lesion of the mitral valve, affirming the existence of a mitral defect during life, probably with symptoms of stenosis. The other characteristic to which he calls attention is that of a clinical order, and consists in the doubling of the second, or pulmonary, sound observed in connection with a special modification of the radial pulse. Combining auscultation of the heart with sphygmographic tracings, the duplication of the sound corresponds to a brief intermittency, a slight lengthening of the descending branch of the pulse, which signifies a prolongation of the ventricular systole.

Nordiskt Medicinskt Arkiv (Stockholm), May 10.

Primary Sarcoma of the Pleura. Israel-Rosenthal.—Two cases of primary sarcoma of the pleura came under Rosenthal's observation in 1898. One was a healthy young coachman, who had been kicked in the thorax by a horse. Fever followed, the symptoms simulating a large pleuritic effusion with dyspnea and expectoration. Punctures were negative or brought out a small amount of a chocolate-colored fluid. After death from asphyxia a very large, isolated, round-celled sarcoma was found, which compressed the intact lung and forced it downward. All the other organs were sound. The acute and febrile course of the affection, with death in five or six weeks, is exceptional, if not unknown. The connection with the trauma was unmistakable. Loewenthal noted a similar coincidence in 800 cases of malignant tumors collected by him, including 316 cases of sarcoma, and Ziegler in 35 out of 171 sarcomata. In the second case the first symptom was intermittent pain radiating from the left hypochondriac toward the renal region and the iliac fossa of the same side; there were no gastric symptoms, no indications of pulmonary trouble except the pain, and no fever, but progressive emaciation. The pain and emaciation continued for fifteen months; the stethoscope indicated a moderate pleuritic effusion. A small, hard, tumefied intercostal lymphatic gland was noted below the nipple, but no cough, nor marked dyspnea. The diagnosis was primary cancer of the colon with secondary pleuritic effusion. The autopsy showed a primary, round-celled sarcoma, as large as the head of an adult, on the left pleura. The colon was exceptionally long and twisted. Stethoscopic signs of tumors in the thorax are not absolutely reliable, neither is the retraction of the thorax wall nor the sensation of increased resistance to the exploring needle; these signs are also encountered in chronic, non-cancerous pleurisy. On the other hand, diffuse dilatation of the thoracic wall and obliteration of the intercostal spaces are not certain indications of effusion, as they were noted with a solid tumor in the first observation. Bronchial respiration was also noted over the tumor in one case. The results of exploratory puncture were misleading in both cases.

Relations Between Basedow's Disease and Myxedema. C. Ulrich.—Study of forty-three cases of struma has convinced Ulrich that there is a close pathologic kinship between Basedow's disease and myxedema, the symptomatic divergences merely indicating differences in degree.

Miscellany.

NEW PATENTS.

Patents of interest to physicians, etc., June 19 to 26.

651,962.	Apparatus for treating respiratory diseases. Demetrius Boghean, Vienna, Austria-Hungary.
651,921.	Trephine. Allen De Vilbiss, Toledo, Ohio.
652,119.	Making sulfuric anhydrid. Rudolph Knietsch, Ludwigshafen, Germany.
652,217.	Electric belt. Michael A. McLaughlin, Los Angeles, Cal.
651,951.	Preparing remedial serum. Franz Nieman, Basle, Switzerland,
651,978.	Electric belt. Wm. C. Sedwick, Des Moines, Iowa.
652,202.	Artificial ear-drum. Laura H. Vickers, Philadelphia, Pa.
651,942.	Obtsining pyrobetulin. James Wheeler, Ilfracombe, England.
652,345.	Disinfectant. Francois C. Cartier, Paris, France.
652,319.	Time medicine-cabinet. Frederick A. Linger and J. A. Carlisle, Washington, D. C.
652,286.	Clinical thermometer. John F. Myers, Sodus, New York.
652,446.	Electromedical bath. Johann J. Stanger, Ulm, Germany.
652,525.	Artery forceps. Frederick A. Stohlmann and L. G. Pfarre, New York City.

CHANGE OF ADDRESS.

Dr. E. S. Albee, from Chicago to Oshkosh, Wis.

Dr. F. X. Adams, from 114 Grant St. to 1100 S. Main St., Akron, Ohio.

Dr. S. S. Adams, from Washington, D. C., to West Springfield, N. H.

Dr. L. E. Andrews, from 356 S. Hermitage Ave., Chicago, to North Manchester, Ind.

Dr. J. Q. Allen, from Montrose to Telluride, Colo.

Dr. F. L. Anton, from 737 Buena Vista, to Old Sta K, Los Angeles, Cal.

Dr. N. M. Black, from 128 Wisconsin St. to 1807 Grand Ave., Milwaukee, Wis.

Dr. W. E. Bewley, from Warrensburg to Morristown, Tenn.

Dr. M. W. Bland, from 239 Ogden Ave., Chicago, to Galion, O.

Dr. L. P. H. Bahrenburg, from Brooklyn, N. Y., to Pemberville, O.

Dr. J. M. Brigham, from 607 E. Ann St., Ann Arbor, to Howell, Mich.

Dr. W. A. Burleigh, from Morrow to Fordoche, La.

Dr. W. Bertrand, from Cloutierville to Rosa, La.

Dr. H. Beyer, from 291 S. Lincoln St., Chicago, to Orange City, Iowa.

Dr. A. H. Benson, from 667 W. Adams St., Chicago, to Lake Park, Iowa.

Dr. L. L. Beehler, from Chicago to Manchester, Iowa.

Dr. L. F. Bucher, from Rush Med. Col., Chicago, to Box 70, Walnut, Ill.

Dr. S. Brownstein, from St. Louis, Mo., to 16 Johnson St., Chicago.

Dr. E. W. Carpenter, from Hyman to Blossom, S. C.

Dr. A. L. Cowden, from Olathe to Burlington, Kansas.

Dr. L. Dawson, from Rannir Club to Bailey Bldg., Seattle, Wash.

Dr. M. D. Delaney, from 911 Duke St. to 913 Prince St., Alexandria, Va.

Dr. G. L. Dines, from Libertyville to Mine La Motte, Mo.

Dr. B. B. Eads, from 530 Grand Ave. to 683 Washington Boul., Chicago.

Dr. A. T. Finch, from Blacksburg to Clarksville, Va.

Dr. W. H. Fall, from 534 7th St. to 422 W. 7th St., Cincinnati, Ohio.

Dr. J. A. Hill, from Groveton to Lufkin, Tex.

Dr. S. P. Hart, from Chicago to Auburn, Ill.

Dr. H. M. Hall, from Augusta to Cedartown, Ga.

Dr. C. E. Ide, from 528 Washington Boul., Chicago to Newport, N. H.

Dr. E. G. Little, from 361 E. Couch St. to 53 E. 11th St., Portland, Ore.

Dr. H. L. Lynah, from Charleston, S. C., to Johns Hopkins Hospital, Baltimore, Md.

Dr. J. W. Lea, from Cuero, Tex., to Jackson, La.

Dr. J. M. Mitchell, from Pontiac, Ill., to Milwaukee Hospital, Milwaukee, Wis.

Dr. J. McFarland, from 421 W. Price St. to 442 W. Stafford St., Germantown, Pa.

Dr. W. C. Mabry, from Cleveland to Stillwater, Ohio.

Dr. W. O. Neal, from Charlesville to Asbury, Va.

Dr. O. A. Newhouse, from Chicago to Battleground, Ind.

Dr. E. S. Pettyjohn, from Chicago to 6 Rue Halevy, Place de L'Opera, Paris, France.

Dr. B. G. Pinkerton, from Beyrout, Syria, to City Hospital, St. Louis, Mo.

Dr. Delos L. Parker, from 397 to 559 Jefferson Ave., Detroit, Mich.

Dr. A. C. Page, from Chicago to Des Moines, Iowa.

Dr. W. J. Pinkerton, from Chicago to Ludlow, Ill.

Dr. George Rubin, from 7 Rue Scribe Robert to 11 Rue Scribe, Paris, France.

Dr. R. R. Reynolds, from Nilson and 6th Sts. to 219 Superior St., Cleveland, Ohio.

Dr. B. Reed, from Philadelphia, Pa., to Hammonton, N. J.

Dr. W. D. Ruhl, from 434 to 454 Calhoun St., Ft. Wayne, Ind.

Dr. E. S. Riggs, from Washington, Pa., to Hamills Point, Lake Joseph, Muskoka, Canada.

Dr. W. H. St. Clair, from Charlottesville to Bluestone, Va.

Dr. P. B. Schofield, from Newark, Mo., to Luling, Texas.

Dr. W. Shafer, from Chicago to Moracco, Ind.

Dr. E. J. Senn, from 25 Astor St., to 100 State St., Chicago.

Dr. I. Sewell, from Cedar Bluff, Ala., to Cave Spring, Ga.

Dr. S. J. Townsend, from Las Vegas, N. Mex., to Cherry Creek, Nevada.

Dr. W. H. Walker, from Chicago to Utica, Neb.

Dr. L. P. Walbridge, from 602 U. T. Bldg. to 5001 Vernon Ave., St. Louis, Mo.

Dr. F. L. Wilcox, from Chicago to Albert Lea, Minn.

Dr. R. Williams, from Chicago to Carthage, Ill.

Dr. G. Wood, from 348 E. 55th St. to 143 E. 35th St., Chicago.

Queries and Minor Notes.

LAWS REGULATING PRACTICE.

ST. LOUIS, June 16, 1900.

To the Editor.—Kindly inform me whether a person holding certificates for three courses in a four-year school and a diploma (covering another year) from a school now graduating M.D.s after three courses, can practice in a state where four courses are required, or rather, would the receiving of a diploma from the three-year school bar him out, although he had taken four courses altogether? W. F. S.

ANSWER:—Yes. A diploma from a three-year school is the same whether the holder has taken three or more courses and would not be recognized in those states which demand a four-years course.

CHICAGO, ILL., June 23, 1900.

To the Editor.—Regarding those state examinations, how is it for old practitioners who graduated under the three-year course? If a state requires a four-years course, is no allowance made for those who received diplomas before that law was passed?

D. C. B.

ANSWER:—No state can make *ex post facto* laws and so far as the exclusion falls under that head it would be invalid. A more definite answer can not be given without specifically referring to the different state laws.

DR. APOSTOLI.

LAFAYETTE, IND., June 24, 1900.

To the Editor.—Will you kindly inform me of the address of Dr. Apostoli, of Paris? I have tried several places but have been unable to obtain his correct address, and thought possibly you could enlighten me. Very truly yours, E. C. D.

ANSWER:—The death of Dr. Apostoli was noticed in THE JOURNAL of May 26.

The Public Service.

ARMY CHANGES.

Movements of army medical officers under orders from the Adjutant-General's Office, Washington, D. C., June 22 to 28, 1900, inclusive.

Charles Anderson, acting asst-surgeon, from Santa Barbara, Cal., to duty at Fort Brown, Texas.

Lewis Balch, major and surgeon, Vols., previous orders of June 15, 1900, honorably discharging him from the service, revoked.

Christopher C. Collins, lieutenant and asst.-surgeon U. S. A., member of an examining board at San Francisco, Cal.

George H. Crabtree, acting asst-surgeon, from Chicago, to duty in the Department of California.

William D. Crosby, major and surgeon Vols. (captain and asst.-surgeon U. S. A.) honorably discharged from the volunteer service, to take effect June 30, 1900.

John R. Devereaux, acting asst.-surgeon, from Washington, D. C., to duty at Washington Barracks, D. C.

Robert J. Gibson, major and surgeon, U. S. A., relieved from membership on examining board at San Francisco, Cal.

Philip F. Harvey, major and surgeon, U. S. A., leave of absence extended; relieved from membership on examining board at San Francisco, Cal.

Augusts A. Nouel, acting asst.-surgeon, from New York City to Havana, Cuba, for assignment in the Division of Cuba.

Benjamin F. Pope, lieutenant-colonel, deputy surgeon-general, U. S. A., member of an examining board at San Francisco, Cal.

BOARD CONVENED.

On June 27, 1900, by direction of the acting secretary of war, a board of medical officers to consist of Major John Van R. Hoff, surgeon, U. S. A.; Major Peter R. Egan, surgeon, U. S. A.; Capt. George M. Wells, asst.-surgeon, U. S. A.; Lieut. Frederick F. Russell, asst.-surgeon, U. S. A., is constituted to meet at headquarters, Department of Porto Rico, San Juan, P. R., for the examination of candidates for admission into the medical corps of the army. The board will be governed in its proceedings by such instructions as may be communicated to it by the surgeon-general of the army.

NAVY CHANGES.

Changes in the medical corps of the U. S. Navy for the week ending June 30, 1900.

Asst.-Surgeon C. N. Fiske, ordered to the Boston navy yard.

Surgeon W. H. Rush, when discharged from treatment at the naval hospital, Mare Island, Cal., ordered to Washington, D. C., July 10, for examination for retirement, and then home to wait orders.

Asst.-Surgeon O. M. Eakins, detached from the *Buffalo* and ordered to the *Scindia*.

Surgeon C. F. Stokes, promoted to surgeon from May 31, 1900.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending June 26, 1900.

Surgeon H. W. Austin, granted leave of absence for one month from Aug. 2, 1900.

Surgeon G. M. Magruder, granted leave of absence for 10 days.

P. A. Surgeon A. C. Smith, granted leave of absence for 7 days.

P. A. Surgeon J. H. Oakley, granted leave of absence for 15 days.

P. A. Surgeon E. K. Sprague, granted leave of absence for 10 days.

P. A. Surgeon H. W. Wickes granted leave of absence for 15 days.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for one month from August 20.

Asst.-Surgeon J. F. Anderson, granted leave of absence for 10 days.

Asst.-Surgeon W. C. Billings, granted leave of absence for 18 days from June 28.

Asst.-Surgeon R. L. Wilson, relieved from special temporary duty at San Francisco quarantine and directed to report to medical officer in command at San Francisco for duty and assignment to quarters.

Asst.-Surgeon B. H. Earle, relieved from special temporary duty at San Francisco quarantine and directed to report to medical officer in command at San Francisco for duty and assignment to quarters.

Asst.-Surgeon J. D. Long, upon being relieved from duty at New York City (Stapleton) to proceed to Washington, D. C., and report to director of hygienic laboratory for duty.

Asst.-Surgeon Edward Francis, to proceed to New York City, (Stapleton) and report to medical officer in commasd for duty and assignment to quarters.

Asst.-Surgeon L. P. H. Bahrenburg, to proceed to New York City, and report to Surgeon L. L. Williams, immigration depot, for duty.

Asst.-Surgeon J. T. Burkhalter, to proceed to New York City (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon John S. Boggess, to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon G W. McCoy, to proceed to St. Louis, Mo., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon C. C. Pierce, to proceed to Mobile, Ala., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon B. S. Warren, to report at Washington, D. C., for temporary duty.

Acting Asst.-Surgeon J. A. Rowles, granted leave of absence for 10 days from June 12.

Acting Asst.-Surgeon H. C. Sibree, granted leave of absence for 7 days.

Hospital Steward A. M. Roehrig, upon being relieved from special temporary duty at San Francisco quarantine, to rejoin station at San Francisco, Cal.

Hospital Steward F. R. Hanrath, relieved from duty at New York City (Stapleton) and upon expiration of sick leave of absence, to proceed to Cleveland, Ohio, and report to medical officer in command for duty and assignment to quarters.

Hospital Steward F. L. Gibson, relieved from duty at Washington, D. C., and directed to proceed to Honolulu, Hawaii, and report to Surgeon D. A. Carmichael for duty and assignment to quarters.

APPOINTMENTS.

Edward Francis, of Ohio, Louis P. H. Bahreuburg, of Ohio, John T. Burkhalter, of Georgia, John S. Boggess, of Ohio, George W. McCoy, of Tennessee, Claude C. Pierce, of Tennessee, and Benjamin S. Warren, of Alabama, commissioned as assistant-surgeons June 22, 1900.

Walter R. Hicks, of Michigan, appointed acting assistant-surgeon for duty at Menominee, Mich.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 29, 1900.

SMALLPOX—UNITED STATES

District of Columbia: Washington, June 16-23, 14 cases.

Illinois: Chicago, June 16-23, 7 cases.

Indiana: Indianapolis, June 15-22, 2 cases.

Kansas: Wichita, June 16-23, 3 cases.

Kentucky: Covington, June 16-23, 12 cases, 1 death.

Louisiana: New Orleans, June 16-23, 16 cases, 7 deaths; Shreveport, June 16-23, 3 cases.

Massachusetts: Fall River, June 16-23, 5 cases; Lowell, June 16-23, 1 case.

Michigan: Grand Rapids, June 16-23, 1 case.

New Hampshire: Manchester, June 16-23, 3 cases.

New Jersey: Jersey City, June 17-24, 1 case; Newark, June 8-23, 10 cases.

New York: New York, June 15-23, 4 cases.

Ohio: Cleveland, June 16-23, 12 cases.

Pennsylvania: Pittsburg, June 16-23, 1 case.

Tennessee: Nashville, June 16-23, 5 cases.

Washington: Tacoma, June 8-16, 1 case.

West Virginia: Charlestown, June 19, 14 cases; Wheeling, June 22, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, June 2-9, 8 cases.

Belgium: Antwerp, May 26 to June 2, 1 case.

Brazil: Rio de Janeiro, May 11-18, 7 cases, 5 deaths.

Canada: Province of Quebec, Bonaventure Co., May 21-28, 1 case.

China: Hongkong, May 5-19, 1 case.

England: Liverpool, June 2-9, 4 cases; London, June 2-9, 11 cases; Southampton, June 2-16, 2 cases.

France: Lyons, May 19-26, 3 deaths; Paris, June 2-9, 3 deaths.

Gibraltar: June 3-10, 1 case.

Greece: Athens, June 2-9, 4 cases, 2 deaths.

India: Bombay, May 16-29, 29 deaths; Calcutta, April 21-28, 41 deaths; Kurrachee, May 13-27, 61 cases, 48 deaths; Madras, May 5-25, 1 death.

Mexico: Chihuahua, May 26 to June 9, 4 deaths; Vera Cruz, June 8-16, 9 deaths.

Porto Rico: Ponce, June 4-11, 2 cases.

Russia: Moscow, May 25 to June 2, 13 cases, 3 deaths; Odessa, June 2-9, 6 cases, 1 death; St. Petersburg, May 26 to June 2, 47 cases, 8 deaths; Warsaw, May 19 to June 2, 6 deaths.

Scotland: Glasgow, June 15, 1 death.

Spain: Corunna, June 2-9, 1 death.

Straits Settlements: Singapore, May 10-17, 3 deaths.

YELLOW FEVER.

Colombia: Barranquilla, June 2-9, 4 cases, 3 deaths; Panama, June 11-18, 3 cases.

Cuba: Havana, June 6-17, 6 cases, 2 deaths; Santa Clara, May 16 to June 21, 26 cases, 8 deaths; Trinidad, June 19, 1 case.

Mexico: Vera Cruz, June 8-16, 15 deaths.

CHOLERA.

India: Bombay, May 17-29, 110 deaths; Calcutta, April 21-28, 92 deaths.

PLAGUE.

Arabia: Aden, May 12 to June 2, 170 cases, 100 deaths.

China: Amoy, June 23, reported; Hongkong, May 5-19, 155 cases, 142 deaths.

India: Bombay, May 17-29, 410 deaths; Calcutta, April 21-25, 343 deaths; Kurrachee, May 13-27, 154 cases, 115 deaths.

Japan: Osaka, May 25 to June 2, 4 cases; Shidzuoka Ken, May 25 to June 2, 5 cases.

Turkey: Smyrna, May 29, 1 case.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, JULY 21, 1900 No. 3

Address.

OBSTETRICS AND GYNECOLOGY.*

ADDRESS OF THE CHAIRMAN.

W. E. B. DAVIS, M.D.
BIRMINGHAM, ALA.

It is with much pleasure that I greet you on this occasion. I am grateful beyond expression for the honor you have conferred in selecting me to preside over your deliberations. It is indeed no small distinction to be honored in this way by so important a section of our national association, many of whose members have become known throughout the civilized world by the excellence of their work. No other country has furnished so many leaders in gynecological and abdominal surgery. They form a galaxy of bright stars in the medical firmament, and the history of this department would be incomplete without them. Imagine such a history without the names of McDowell, Sims, Dunlap, the Atlees, Battey and a host of others long since dead, and the many now living who are members of this Association, whose names have become household words. In the language of another, "gynecic surgery, with all its brilliant achievements, owes its position to the illustrious Sims, no less than abdominal surgery owes its origin to the world-renowned McDowell; and the outcome of the labors of these two remarkable men in beneficent results has no parallel in the annals of medicine." Surely we have a heritage which we should prize beyond my power of expression.

I am admonished by the amount of work which appears on the program that the time of the Section will be fully occupied, and have presumed upon your approval of a short address.

OBSTETRICS, GYNECOLOGY AND SURGERY.

It has been claimed that obstetrics has not received the attention it deserves in our Section; that the teachers of obstetrics, with few exceptions, have offered papers on gynecological subjects, and as a result the proceedings have been scant in obstetrical literature. This has not been to the neglect of obstetrics as much as it would appear. Gynecologists have reached the highest perfection in aseptic and antiseptic technique. They have emphasized the importance of repairing injuries to the genital tract, and obstetrical operations have been devised and perfected by them. The two departments are so intimately associated that there is little in the one that does not concern the other and that is not necessary for both to know. It has been the application of surgical knowledge that has reduced the frightful mortality of the puerperal state. Such results as have been achieved at the Preston Retreat, of Philadelphia, and at similar institutions in this country and abroad, could not have been attained except by the practice of asepsis and antisepsis, together with such aid surgically as the gynecologist is best fitted to render. Patients in wealthy homes are not so fortunate as the poor in these well-conducted maternities. Physicians who seldom operate, with few exceptions, do not carry out a thorough technique. The habit must be formed. I would feel that this Section had accomplished enough for one session if it could impress upon them that the sterile rubber glove should be used in these cases. There is nothing required that can not be accomplished by the well-fitted gloved hand.

Some years ago the lamented Parvin, in his presidential address before the American Gynecological Society, earnestly pleaded for the combination of the chairs of obstetrics and gynecology in our colleges. He had published with his address a paper by Winckel, of Germany, in which this practice was eulogized. Winckel's claims were based largely on the fact that gynecology in Germany and Austria had been practiced first, with few exceptions, by the obstetricians. This was due entirely to national conditions. The great maternities of Germany and Austria furnish material for the obstetricians to find application for operations which the American, English and French surgeons had proved of value. We as a nation should learn a lesson from Austria and Germany, and have large maternities connected with our colleges for teaching purposes. After this shall have been accomplished, our students will be better trained and results will rapidly grow better in the homes of patients. As stated by Winckel, in all German universities the teacher of obstetrics is also the teacher of gynecology, and the clinic under his direction contains a department for women suffering with diseases of the sexual organs. He says: "A distinct advance was made in 1842, by Kiwisch, of Prague, at whose request a department in the hospital for the treatment of the sexual diseases of women was transferred to his care. Soon after this a similar arrangement was made at Vienna, and by E. Martin in Berlin in 1857; and the last stone in the completion of the structure of general gynecology was furnished by the reception into the same clinic of gravid women and women suffering with diseases of the sexual organs, who were placed, in part for treatment in the wards previously used for the delivery of parturient women, and in part in new buildings constructed for the purpose." Germany is not alone in her position. Throughout Italy the teachers of obstetrics in the universities are the operators in gynecology.

It has been said, "Obstetrics married surgery and the fruit of their union was bright-eyed gynecology." When it is remembered that more than 50 per cent. of the cases coming to the gynecologist for operation are the result of delivery, at term or prematurely, the need of obstetrics for surgery is only too apparent. It may be very justly claimed that the specialty of gynecology resulted from the fact that the surgeon appreciated the situation; and to the surgeon more than to the obstetrician is due the exalted position of this department. I would not belittle the part the obstetrician has played in furtherance of this work, especially in the German and Austrian universities, but it was from the ranks of the surgeons that the first great workers emanated. In return this department, gynecology, has done most to bring surgery to its present high position. The gynecologists have achieved results in abdominal and pelvic work that never could have been accomplished by the surgeon who gave his time to general cases. As in all the special lines of practice and study, it requires a specialist to work out the delicate questions involved in this great field. It has been well said: "Most of the great advances of recent years have been made by them—specialists. They have perfected our methods, enriched our literature and filled our storehouses of knowledge. The reef they are constructing is no longer submerged in the dark waters of obscurity, but is now a mainland teeming with the fruits of their joint labors."

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the AMERICAN MEDICAL ASSOCIATION, held at Atlantic City, N. J., June 5-8, 1900.

Dr. Geo. Ben Johnston likens the professional qualities of the true specialist to a massive pyramid, the finished capstone of which constitutes the specialty. "The pyramid of experience, learning and skill is a stable edifice, a pillar of strength which can not topple nor reel. In the case of the pseduo-specialist this pyramid of learning is inverted." Dr. Chas. A. L. Reed holds that specialism is manifestly to be even more distinct than in the past, while specialties, as known to the broad and progressive profession of America, will be able to gain recognition only by conforming to severer tests than are now applied; that it is safe to predict that in the not distant future "there will be fewer specialists, but, happily, better ones." He says: "The lines may, and possibly will, shift. Existing specialties, or certain of them at least, through the influence of further segregation and final equilibration, may, and probably will, disappear into the general profession, while segmentation will be inaugurated at other points to result in the development of other specialties. Thus shall the great future witness the mutations of progress."

Dr. Paul F. Mundé, in 1898, in referring to the growing tendency upon the part of the general surgeon to encroach upon the field of the gynecologist, said: "We all know how long it requires and how difficult it is to gain the *tactus eruditus* by means of which an accurate diagnosis of pathological conditions in the female pelvis and abdomen can be made, and how liable even an expert gynecologist is to err in a doubtful case. How, then, can the general surgeon, with all due allowance for his skill and dexterity as an operator, except to rival the expert gynecologist in the field which the latter has made his special study." He further says that he has seen general surgeons, to whom he would unhesitatingly intrust his patient for an operation in any other region of the body, make woful blunders when attempting to carry out the operative indications emanating from their mistaken application of a purely gynecological case.

The exalted position which gynecology occupies in this country is owing largely to the medical journals devoted to this department, and to the national special societies, of limited membership, whose transactions have gained world-wide reputation. It was a great step when the American Gynecological Society was organized in 1876. Membership in this society meant ability and worth and guaranteed recognition at home and abroad. Later the American Association of Obstetricians and Gynecologists was formed after a similar plan, with like results. In 1887 the Southern Surgical and Gynecological Association was formed. At first this union of surgery and gynecology was questioned by many, but it is acknowledged now by all that it was a fitting and proper union. When this organization was first suggested many thought its sectional name would interfere with its usefulness. Its promoters had no thought of sectionalism. It was formed with a view of giving the profession of the South the opportunities which had long been enjoyed by the East and North. The members of the American Surgical, the American Gynecological and the American Association of Obstetricians and Gynecologists who resided in the South were the ones first to give their support to the organization. Distinguished members of the profession from all parts of the country were invited to join. It was not intended that it should be sectional, but national, in its membership—in other words, it was expected to have its meetings in the South, but its membership from the entire country. The South had done most excellent work, but owing to its scattered population and the war, slavery, etc., her colleges and other institutions were not in keeping with those of the East and North. Many of her surgeons who did splendid work wrote but little and were not known; hence, with but few exceptions, they were not invited to join the Eastern societies. This association looked up the good men throughout the South and brought them forward. Many have since joined the national special associations. But few gynecologists and surgeons of the South who have done good work are members of this society. Its transactions have been complimented at home and abroad. Indeed, it is a fitting organization for a land hallowed by the footprints of McDowell, Sims, Eve, Briggs and Battey. You must agree with me that this Section of the American Medical Association has profited by these special societies. Some have thought to the contrary, but the evidence is too patent to require argument.

PROGRESS IN GYNECOLOGY.

The development of gynecology has witnessed many errors and extremes in practice; but with so many earnest and able workers seeking the truth, it required only time to settle many questions at issue and secure the adoption of safer lines of procedure. Much of Sims' work was found to be erroneous; many of the cervices he slit had to be repaired. Battey's operation was a monstrous mistake: yet the value of his pioneer work in pelvic surgery can not be overestimated. He had no conception of pelvic pathology and removed normal ovaries to establish the menopause, because it had been observed that patients frequently were better after they had ceased to menstruate. I knew Dr. Battey well, and had exceptional opportunity to follow many of his cases. While he thought these nervous cases were benefited by the operation, the unbiased observer could not fail to appreciate his mistake. Think of the countless operations performed by less capable operators than Battey for nervous symptoms, removing normal ovaries. His teachings have resulted in more harm, perhaps, than those of any other one gynecologist. On account of his erroneous and radical teachings the neurologists went to another extreme and have failed to give surgery its proper place in the relief of nervous symptoms by the removal of pathological conditions in the tubes and ovaries. In a discussion before the American Association of Obstetricians and Gynecologists some years ago I made the following remarks, which are pertinent in this connection: "This country, which has been foremost in many good things, and particularly the Southern part of it, has caused much harm in the enthusiasm for surgical procedures for the relief of nervous troubles. Dr. Battey, unquestionably the father of pelvic surgery, did all his operations without any knowledge or conception of the pathological condition to be relieved. In other words, he operated for symptoms. He repeatedly stated that he removed the ovaries in cases which he felt he could not relieve by other treatment. The operation was frequently done in cases where there was no local disease, with bad results, consequently the neurologists became prejudiced against surgical procedures for the relief of pelvic trouble. No doubt the teachings of Dr. Battey have led largely to the prejudice that is manifested now by neurologists. Of course Dr. Battey and his followers were misled in many cases. We know how hysterical women may be operated upon and sometimes relieved, it makes no difference what the operation. An operation on this class of patients seems to relieve for a time even though nothing is removed. As gynecologists, we know that we accomplish the most good in those nervous cases where we find marked pathological conditions. The more local disease we are compelled to remove, the sooner the patient gets well, and the less the disease and the greater the amount of nervous trouble, the slower is the case to recover. Neurologists expect too much in cases of pelvic disease that have progressed perhaps for fifteen or twenty years. If these patients do not get relief at once, the operation is put down as a failure. We might as well expect a man who has had financial reverses, or who has been losing a large fortune for years, to have his nervous system restored at once by the restoration of his money. We know the nervous system does not recover so quickly. Unquestionably, in cases where we find marked neuroses, they are instances in which the women have a predisposition to nervous and mental disease, as has been pointed out by the neurologists."

The French gynecologists, not being permitted for a long time to do abdominal operations, undertook too much by the vaginal route and sacrificed countless uteri and ovaries unnecessarily. In order to reach the pelvis by the vagina it became necessary to remove the uterus to furnish a satisfactory route. A few of these distinguished gynecologists have come across the waters to teach the Americans French methods, and instead have learned that the abdominal incision is the preferable route by which to deal with the majority of the conditions in the pelvis. In their operations for pelvic inflammation they often found themselves unable to remove the tube and ovary after the uterus had been extirpated in cases cured by the operation; yet they did not learn from this that a vaginal section with thorough drainage might have accomplished the same without hysterectomy. Too much has been claimed for vaginal section, yet it has a wide field. Peritubal and periovarian abscesses of large size, from whatever cause, should be drained by this route, and later abdominal section done, if found necessary. The uterus, of course, should be curetted before the abdominal operation. In this way the appendages on one side can in a majority of cases be saved. Puerperal pelvic inflammation occurring in the first month or six weeks after delivery should be dealt with by vaginal incision. If the abscess is small all adhesions should be broken up, and the diseased tube thoroughly opened, followed by gauze packing. A large percentage of such cases will be cured and some will bear children afterward. Cases of puerperal inflammation should be operated on without waiting for pus formation. By early section and drainage convalescence is hurried. My experience in cases without pus has not been large but exceedingly satisfactory.

The extremists for a time advocated hysterectomy for all uterine fibroids that could be found by the most searching examination, and there are some now—the same ones, I believe—who practice myomectomy in a class of cases that the great majority of gynecologists very properly consider suitable for hysterectomy. There is no reason for the sacrifice of the uterus when the tumors can be enucleated without mutilation, but it is mere sentimentalism to try to save organs when greatly mutilated.

Uterine cancer has furnished a field for another extreme in practice. It has not been shown that the extensive operations recently practiced have accomplished more than hysterectomy, going wide of the disease. If it has passed much beyond the uterus, palliative operations are attended with better results than the radical ones. However, I hope that the discussion to take place at this meeting will throw valuable light on the management of these cases.

It is gratifying to note the increasing popularity of the round ligament operation for retrodisplacements of the uterus. I am impressed that few operative procedures without danger are capable of furnishing so much relief. Cases should not be encouraged to wear pessaries when so simple an operation would give relief. If intra-abdominal conditions prevent the extraperitoneal operation the abdomen should be opened and the ligaments shortened by an intra-abdominal method.

Much honor is due Kelly and others for their work in exploring the bladder and ureters, but it is carrying refinement too far when it is attempted to treat pus in the kidney through the ureter. A lumbar incision is too simple and free from danger for such methods.

The surgery of the gall-bladder has advanced little beyond Marion Sims' operation in 1878. No department of surgery has been attended with better results than operation on this organ. While its surgery is about settled, the surgery of the ducts is still under discussion. In the spring of 1893, I undertook some experiments, which I reported the same year to the Surgical Section of this Association, and was convinced from these experiments that it was unnecessary to stitch the duct after the removal of stone; that gauze-drainage and a glass tube would take care of the bile, *even though infected.* This operation *without stitches* had not been done at that time, but since then a sufficient number of cases have occurred to demonstrate the advisability of the procedure. I quote the following from a paper by Dr. W. D. Haggard, Jr., at the New Orleans meeting, 1899, of the Surgical and Gynecological Association, as evidence in favor of the operation:

"If it is inexpedient to suture, the entire efficacy of drainage with gauze has been abundantly proved and its employment ardently insisted upon by W. E. B. Davis. . . . The importance of this suggestion is well illustrated by a recent report. Quénu collected 95 cases of suture of the ducts with a mortality of 35.5 per cent., while the mortality of the cases without suture was only 18 per cent. In these were included six personal cases. In two sutures were used; both died. In two others biliary intoxication appeared, the sutures were cut and the patient recovered. The other two were not sutured and recovered. Fenger also believes the common duct should not be sutured as a rule, and never without drainage, both from the site of incision in the duct, and particularly drainage of the gall-bladder to prevent biliary intoxication."

This procedure should make the surgeon feel very secure in these operations, as it is almost impossible to stitch the duct satisfactorily in many cases.

The methods of stitching the abdominal incision have not proved entirely satisfactory. Animal sutures may give way, causing trouble, and non-absorbable material, if buried, may have to be removed. I have been using a method which commends itself in a considerable percentage of cases. The tier suture with absorbable material has a high place in surgery, but the majority still close the wound by the interrupted through-and-through suture of non-absorbable material. The method described possesses the advantage of both, and obviates some of their objectionable features. I use interrupted sutures of silkworm gut, uniting the aponeurosis, recti muscles and peritoneum, and secure the sutures by means of very small silver tubes, corresponding in length to the thickness of the skin and subcutaneous fat, through which the ends of the suture are passed, and then through a perforated shot. After the aponeurosis has been well approximated, each tube is pressed well down and secured by the compression of the shot at the distal end of the tube. After all sutures have been secured, the skin is brought together with a very small suture of silk or catgut. The suture should be very superficial or subcuticular. The little tubes with shot project just beyond the wound. Compresses of gauze are placed on the sides of incision to approximate the subcutaneous fat.

The silkworm gut sutures should remain from two to three weeks, and may be removed by clipping the ends of the suture between the tube and the shot, and after the tube is removed the suture comes without difficulty. By this method the wound is free of all foreign material before the patient is discharged, there being nothing left to cause subsequent trouble. The method has a wide field of application.

In conclusion, I may say we have reason to regard the future of this Section, and of the Association of which it is a part, most promising—in fact, brighter than ever before. Much has been accomplished in making the editor of The Journal secretary of the Association. There yet remains one source of regret to all, and that is that the New York State Medical Society is not in affiliation with the Association. Let us hope that the time is not far distant when it shall be otherwise.

Original Articles.

A SYSTEM OF PERSONAL BIOLOGIC EXAMINATIONS THE CONDITION OF ADEQUATE MEDICAL AND SCIENTIFIC CONDUCT OF LIFE.*

BY GEORGE M. GOULD, M.D.
PHILADELPHIA.

The ranchman has his annual round-up; the merchant his yearly account of stock and balancing of books; the machinist gives his engine a thorough going-over at regular intervals; every military organization has its reviews and inspections, every government its budgets—indeed, every financial hair of the commercial head is noted, and not a sparrow of the hunter, Success, falls to the ground unnumbered; those that do not fall are even more accurately numbered. But it is not so concerning the one piece of mechanism that conditions all these things, and that is the most valuable of all earthly possessions—the human body. For all practical consideration a man's body is his life, and yet civilization has come so far without any systematization of the business and mechanics of the entire single and personal life. The science of bodily living in its complete extent still awaits its discoverer. Numberless philosophers treating of the conduct of life have soared in superficial inexactness and easy generality over the heads and hungers of the individual liver, but they have utterly failed to formulate the physiologic and pathologic conditions of success and failure. All the biologic and medical special sciences have struggled toward an unreached unity; all are single rays, as it were, awaiting the lens of a focalizing intelligence to illumine the concrete image of our total physical appearance here. War has devised a rough and crude system of physical examinations for the would-be soldier; insurance companies have more accurately examined the bodies and life-prospects of their policy-holders to estimate their financial risks; through the Bertillon system, criminology has still more perfectly fixed the anatomic measuring of the bodies of the lawbreaker; the Amherst and Harvard examinations have looked into the muscular functions of a few students for four years of their lives; the psychophysic laboratory has measured a few neurologic reactions; the medical practitioner has found out a few ways of reaching backward to the etiology of some single diseases; a few hundred school children have been subjected to some tests as to growth and the influence upon organization of poverty and wealth. But all these, I believe, are sporadic and ineffectual hints of a coming science of man, based upon a thoroughgoing and repetitive system of physiologic and pathologic examinations which will ultimately give us a genuine and all-comprising science of anthropology based upon all the data, morphologic, physiologic, and pathogenic, of the entire individual life. Prophecy and prognosis are based upon a thorough knowledge of the past and present fact, a rigid understanding in a scientific sense of the evolution of the organism and of its present departures from a normal standard. For his children a foresighted man must wish such an accounting, such a prophecy and prognosis; and as to himself every intelligent adult, when he awakens to scientific consciousness, must try to look forward through the years, and reckon up his powers and possibilities of life. This most important function of prevision has heretofore been left to the gypsies, the palmists, the astrologists, and the clairvoyants! Is it a wise way for science to leave the individual struggler, unconscious and ignorant of his own body and its fateful laws, incapable of learning the scattered and ununified half-sciences blindly converging to some far-off unity of mutual helpfulness and life? The crowning work of scientists is to turn science into prescience. The unification of the sciences dealing with the conduct of life; the making practical and useful our knowledge of the individual organism; and lastly to establish a scientific prescience—such are the ideals of a living anthropology.

Is it not at once plain that these ideals can be realized only by a system of periodic examinations and records made every year or every five years, throughout the life of the individual organism? Such a system of records may be held generally to comprise the following elements:

---

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. *The hereditary datum.*—The endowment at birth, the influence of heredity, must in every way govern and condition the development of the organism, and modify every reaction to environment. It is wise therefore in all ways possible to fix, at the opening of life, what is this datum of inheritance. Nationality, ancestral and genealogic histories, craniology, cerebrology, etc., help to make up the estimate of this factor.

2 *The developmental and historic record.*—Especially during the period of growth—childhood and adolescence—should the space between the annual or quinquennial systematic examinations be historically epitomized. The strains, work, illness, and tasks conquered or incomplete, are surely a necessary part of the life-chronicle.

3. *The morphologic or anthropometric examination is fundamental.*—In this the Bertillon system, modified, perfected, and expanded, or something similar, should form the basis of such a system of physical measurements, descriptions, and records, statistic and graphic, that any future variation of the organism would be detected in later examinations; and thus would be preserved the morphologic picture of the individual for the whole life.

4. *The physiologic record* would include the testing and tabulation of all the significant reactions and functions. These would be made up of all necessary dynamic tests of the muscular system; of statements of accurately observed metabolic and nutritional functions; the reactions and reflexes of each of the special senses, and of those of the neurologic and psychophysic systems. The profound influence of habits, both positive and negative, innocent or harmful, should also be remembered.

5. *The psychic or intellectual datum* is one too carelessly ignored in scientific and anthropologic studies. The fundamental qualities of character, disposition, memory, sentiment, religion, reason, morality, education, etc., are powerful influences acting upon and reacting to the environment and to disease, and if they are left out of the count a most valuable determinant of scientific prescience is lost.

6. *The pathologic element* is one heretofore almost or utterly ignored in anthropologic studies, and in instructions as to the conduct of life. The profession should urge its profound importance. The examinations at stated periods should in large part consist of the records of the findings of expert medical specialists secured by all the arts and instruments of diagnosis at their command. All departures from health and normality that indicate pathologic results or tendencies in any organ, or in the organism as a whole, are absolute conditions of estimate as to present powers or prospects. One is almost inclined to think that the savings in medicolegal cases, by such a system of examinations, would defray the expenses of making them. Some time ago a railway company, after several years of legal proceedings, was forced to pay a man $10,000 damages for intracranial hemorrhage said to have been caused by a fall from a car. When the man died there was found in his brain a bullet which had been received 25 years previously in the Franco-Prussian war, and this had produced all the non-feigned symptoms for which the railway had to pay.

7. *The factor of heredity* closes the circle, with the possibility of making more accurate the knowledge of the transmission of the individual endowment to the child. Successive generations are but the completion and extension of a single personality. The family is the realization of the incomplete individual.

Leaving out of consideration the questions of the onerousness of the task proposed, and the apparent impossibility of carrying out so many observations, one may ask as to the feasibility of keeping the records of such a series. The answer to this query points to the most remarkable plasticity and adaptability of the modern plan of record-making by the card-system, with its ever variable and extensible use of loose leaflets or cards of different colors, numbers, ear-marks, sizes, etc. Photography, the kromscop, the phonograph, the instruments of the physiologic and psychophysic laboratories, and those of every specialist in medicine, make it easily possible to condense the chronicles of all tests and examinations in an inexpensive and effective way. The post-mortem records, and the preservation of the brains, and, perhaps, of the skulls of the subjects, would supplement the work.

As has been intimated, we already have the beginnings, the sporadic attempts, and detached parts of such a system of examinations. The Bertillon criminal records of the police bureaus, the anthropometric data of military examinations, the results of athletic and gymnasium tests, those of psychophysic laboratories, the medical examinations of school children, and those especially of life-insurance companies, etc.—all these indicate the thought, labor and expense which civilization is giving to the problem. But the most important of all contributions might be the case-books, hospital records, and patients' histories of physicians. Hardly a tithe of the precious material, however, is utilized The waste of biologic data—wasted because not systematized and unified—in the lost records of physicians is appalling. The most valuable books in the world are the oldest city directories, scientific statistic records, etc., and more valuable still would in future years be the present-day case-books of scientific physicians, if they were well kept and illuminated by a statistical and scientific judgment. We now dump them into the pulp-mill.

Is it a foolish dream, is it an unrealizable ideal, that all these things might be preserved, and rendered of use to science and humanity by some institution carried on by the government, by a university, or by a union of scientific and medical men, whereby the records of individual lives might be made so frequently, so continuously, and so scientifically that we should at least gather the inductive data for a genuine science of anthropology, pathology, and ethical biology? If governments could be prevailed upon to devote to this work one-tenth the money now squandered in war; if legislators could be prevailed upon to give to it a small proportion of their stealings and political plunderings; if a fraction of the money poured into the pockets of the ward and city bosses could be got; if a small percentage of that spent on comic opera could be shunted this way! If these are idle dreamings is it not perfectly possible that in future ages some wise legislator of some civilized government may convince his fellows that not only is this the duty of the national administration, but that the very beginnings of the system are already in operation in the national census-taking. In this the mechanism is really inaugurated, and needs but the inclusion of the civil service examination, the soldiers' entrance tests, and the governmental pensioners' medical examinations, to bring it a long way toward perfection. With the plan once determined upon, and the brain once found to gather the haphazard and discrete parts to an organic unity, but little additional expense would be incurred over that now spent in the separate systems. Indeed, the scheme itself is only an extended and a perfected bureau of vital statistics. Once such co-operation were started, the city and state with their criminologic statistics, the insurance companies with their accurate vital and pathologic records, and especially the medical profession with its systematized records of individual and social morbidity, and many other agencies, would be drawn into co-operation, and the bases of a truly inductive and physiologic science of civilization would begin to be laid.

While we wait for that millennial palace of Science we physicians need not be idle—nay, we may be at work in the quarries. Our first duty is to reorganize, systematize. and make scientific our case-books and recordings of patients' histories. Let us study this great and neglected art so that these most precious fruits of our life-work shall not end in the pulp-mill. The lack of literary workmanship in making and keeping our records of disease is altogether deplorable. What is left to science of the life-work of a million physicians whose business has been with the most precious biologic facts of the world? Can we not perfect some bridge whereby the results of our life-labors can be carried over the stream of death and become the property of general biologic and pathologic science?

Surely then, our second duty is to make our science prescient, by means of the repeated examination at stated intervals of those patients whom we can convince of the necessity and wisdom of such a proceeding. It is a shame of medicine that in the one department of our science which we are most foolishly inclined to look down on with too much superciliousness, its practitioners have outrun us. The dentists have long recognized the need of periodic examinations of the special organ, regardless of symptoms, and they have at last driven the knowledge into the minds of their patients. Thousands of patients have their teeth periodically examined for beginning needs and diseases or to prevent them. If this be wise as regards the teeth, how infinitely wiser it would be as regards the kidneys, the eyes, the heart, arteries, etc., and the person as a whole. It is the shame of medicine and the basis of quackery, this symptom-treating and symptom-killing. What a horrible fact—this of the vogue of the pain-deadeners! Millons of dollars are capitalized in the business, and half or three-fourths of the work of our lives is devoted to the mere stopping or deadening of symptoms. But, as we all know, true medicine is to stop the cause of symptoms, to prevent the symptoms from ever arising. For many years, in my specialty, I have been begging that biennial ocular examinations should be made, regardless of "no trouble," regardless of "perfect satisfaction." Absence of symptoms is no evidence whatever of absence of disease. No eye should ever be left over two years without re-examination. No spectacles can remain correct two years, because no eye ever preserves the same refraction, balance, and powers, for that period of time.

And what good also is the enucleated eyeball, or any piece of dead tissue, in the hands of the pathologist? Certainly only to prevent other living eyes and organs from becoming as these dead ones have. True pathology is surely knowledge of disease in the making. The pathologist's final problem is to prevent pathologic specimens from ever coming into his hands. Quâ pathologist he must commit scientific suicide. Most of our fashionable pathology is the paleontology, not the biology, of disease; but was it not said of old, that it is better to be a living dog than a dead lion? How is disease in the making ever to be discovered except by examinations, continuous observation, of the living supposably-well organism?

Is it not even true of living disease that one-half the patients seen by the doctor are seen far too late? For paresis, locomotor ataxia, etc., and for many psychic diseases we do nothing, because we recognize their existence so late that nothing can be done. Had they been seen earlier injury could have been prevented. Surely in more than 25 per cent. of my patients many years or whole lifetimes of suffering and disease could have been obviated. It is doubtless as true in general medicine. All good medicine inevitably tends to become preventive medicine; all good physicians labor to stop disease before it arrives. The whole ingenuity of the trained diagnostician is now expended on the problem of the earlier symptom. He is the greatest discoverer who finds the presymptom, or the symptom of the symptom; the greatest therapeutist is he who cures before the disease exists, he who starves the bacillus to death, he who stops the evil habit, thus preventing the malfunction that becomes organic disease. The best cat is the one that kills the rat that eats the malt that lies in the house that Jack built. It is a truism that gout exists in the patient's system long before it causes a twinge of pain; the kidneys are ruined before the slightest subjective system is manifest; there may be heart changes indicating the existence of nephritis, which a single uranalysis may not detect; arteriosclerosis may be present prior to subjective symptoms, and the objective examination would detect it; there may be unsuspected diabetes without symptoms until examination of the urine reveals it—even with our crude prescience early uranalysis of the apparently well would often reveal the hidden evil at work sapping and mining toward the vital centers. Every oculist has often discovered albuminuria before the general physician suspected it. There are a hundred known intimations and auras of oncoming disease, but there are a thousand undiscovered ones, presymptoms, advance scouts and forerunners, to be learned when the slight and unconscious departures from normality are studied by examinations of the supposably well. Pathogenesis, not therapeutics, is the ultimate study of all medicine. And all pathogenesis is by no means running bugs to their holes: the greater number of life-wasting diseases are not bacterial in origin; and even the growth of the bacterial diseases depends on the soil in which they are sown.

I picture to myself a new field of work opening out before the poor plundered general practitioner. It must often seem to him that as a general he has been stripped of both army and enemy. One by one the specialists have robbed him until he has left hardly a soldier or a patient. The surgeon first took almost half of his army, and now threatens to relieve him of Colonels Appendicitis and Typhoid, and heaven knows of how many more officers which he formerly considered his very own. Then the aurist, the oculist, and the rhinologist deprived him of his special senses, and the laryngologist rendered him aphonic. If the obstetrician and gynecologist left him one or two of all his women folk, the rest-cure man and the neurologist soon alienated the affections of these hysterics—and they lived unhappily ever after. The pediatrist stole his babies and the psychiatrist his mind; and, lastly, the gastrologist will not allow him to have all to himself, even a simple stomachache.

The truth seems to be that of all the specialists the generalist has been squeezed into the narrowest specialty, and the surgeon is grasping avidly at his one or two remaining comforts. Even the diseases of the lungs, stomach and kidneys are now claimed and we may soon expect to see such advertisements in the religious and daily newspapers as: "A new operation for neurasthenia; craniotomy for unselfishness; preventive inoculations in case of threatened breach of promise; vaccinations for antivivisectionists; damaged heart-valves surgically repaired while you wait; kidneys transplanted immediately following the next electrocution; complete maturation of the artificially fertilized ovum in our new twenty-first century incubator."

The family physician's function seems to be fast becoming that of adviser-in-general and referrer-to-others; the "last straw" is that ethics will not permit these others to divide their fees with him. Nothing in fact is left to him except to have permanent anorexia and to move to a climate in which house and clothing are not necessary—Porto Rico and the Philippines, for example—providentially supplied, without doubt, for this and similar tariff purposes.

But seriously, have we not gone too far with our specialism, and are we not thereby in danger of losing the co-ordinating sense and oversight of the organism as a whole? The specialist can not be dispensed with. By his aid and through his accuracy medicine must progress; but neither should the generalist be squeezed aside. He is even more necessary. It is his duty to teach his under-officers, the specialists, their proper places, and by his sane and large grasp of all the facts supplied by these subalterns, by his co-ordination of the work of each and of all with his own overlook of organism and life as a whole, he brings cosmos out of chaos, and organic unity out of hundred-eyed and selfish diversity. The specialist is fatally inclined to treat the disease; to the generalist must be left the far more important treatment of the patient.

It may seem hard and impertinent to say to an audience of generalists that the generalists have been robbed because of their own fault and negligence. The so-called stealings of the specialists are in reality helpful and if rightly understood they leave the generalist his proper work. Life, it has been said, is made up of little things; and yet life itself is not a little thing. So it is with health, fulness of years, and utilization of powers; they all depend, medically and physiologically, upon little things, and yet compositely, they are "the greatest thing in the world." In the vogue of the specialist, the generalist is more than ever needed. If the aristocrats have usurped power, there is the chance and demand for a powerful king. The specialists are, or may be made, the assistants of the general physician, who needs their help and all the data they can supply, and whose supreme function it is to fuse the whole to a higher unity and to establish the secret relations in reality existing in all. There is no specialist who is not willing and glad to make full and systematic reports to the general physician of all his findings. It is his duty to the patient and it is the specialist's self-interest to do it well. He is not so stupid as to offend the referrer of patients. In this function the generalist has the whip-hand—and he should use it, at times.

And thus it happens that the desirable system of personal biologic tests sketched need not await the action of government, the university department, the city or state institute, the union of anthropologic societies, or the anthropometric and pathologic institution founded by private endowment. Let us earnestly pray and work for any or all these things; but in the meantime much may be done by medical men and societies to prepare for the larger and more perfect outworking of the scheme—nay much may be done toward the realization of its more distinctively medical features.

Based upon the fact actually felt by every physician, that a series of systematized periodic examinations of patients apparently well would often reveal beginning diseases, prevent future illnesses, and increase the vital values of life, every one can prevail upon certain patients, students, or members of his family, to undergo the necessary tests. The more intellectual and well-to-do citizens will soon realize the self-evident value of such work, and not only submit to it for themselves and children, but will be willing to pay an annual fee for the service. Specialists will be willing to contribute their results. The examinations need be only of the more fundamental and simple factors at first until the good-will, machinery, funds, and recognition of the significance and usefulness of the work grow.

In several ways these examinations themselves are the means of a striking self-education of the physician:

1. In systematizing and perfecting a method of record-keeping there is a subjectively psychologic as well as an objectively scientific result of inestimable good. It is a sort of liberal education. To adapt and perfect the card-system to this useful end; to summarize the results of all diagnostic methods; to formulate prognoses; to classify and epitomize so that the whole shall look to the personal advantage, as well as toward the progress of preventive medicine; and finally, to dovetail the combined result into general biologic science and to clarify the laws of heredity; all of this is labor worthy of the wisest selfishness and the best intellectuality.

2. In rendering accurate and mathematical all the known and recognized methods of medical testings, there is much to be learned. It is in catching sight of the forerunning indication of disease, the symptom of the symptom, the functional beginnings of organic abnormalism, that a large deal of progress lies. Who, e. g., as yet, measures the blow or stimulus in taking the patellar tendon and other reflexes, with machine-shop accuracy, also the resultant excursion or reaction, chronicling same in his notes, with absolute or approximate precision?

3. In the excursions into the border land, but still closely related, domains of cerebrology, craniology, psychophysics, criminology, sociology, public hygiene, and all the rest—in learning to make these tests, and chronicle the results required in these studies, one enlarges the range of his subjects, broadens his personal and scientific outlook—in a word annexes with justifiable imperialism and expansion, the adjacent territories of his special science. Each gives his light, and, as in all beneficence, by giving, each increases his own as well as the general illumination. The stars go out but the day dawns.

DISCUSSION.

Dr. Charles G. Stockton, Buffalo, N. Y.—This most interesting paper of Dr. Gould is one which I should like to think over a while before discussing it. Its importance is manifest, and its applications are many. Without attempting to go into the subject at length, I desire to mention this suggestion, which was made to me years ago by another, viz: that it would be possible to establish archives of individuals and family histories which might be placed on file, as documents are now kept at the office of the county clerk. While this may be impracticable, if it could be accomplished it would be a good thing, and would enable us to solve many of the questions relating to heredity.

LARYNGOLOGY AND ITS RELATIONS TO GENERAL MEDICINE.*

J. SOLIS-COHEN, M.D.
PHILADELPHIA.

Laryngology is more intimate in its relations to general medicine than is fully realized by the average practitioner, or by the exclusive specialist.

Except by the initiated few, the laryngoscope was regarded in the earlier days of laryngology as little more than a physiological toy; but the lessons learned and the triumphs earned by those few, and by their pupils, their successors and their admirers, have slowly become sufficiently appreciated to render its more or less systematic study necessary in well-appointed schools of medicine. Indeed, in a number of medical schools, in the United States at least, laryngology, with its collateral subjects, is the students' favorite among the elective branches. Nearly every school has one professorial instructor with his staff of assistants; some schools have two, and at least one has three. This demand for laryngological instruction must soon culminate in its acknowledgment as an essential feature in medical tuition, requiring satisfactory examinations in efficiency as prerequisites to medical degrees. Teachers of the branch should uphold its dignity and aim for this complete recognition. Nothing less can be assigned to this important region where cross the two essential avenues of life, the pathways to respiration and nutrition.

THE LARYNGOLOGIST SHOULD HAVE A KNOWLEDGE OF GENERAL MEDICINE.

What has been the cause for this great desire for instruction in diseases of the upper air-passages and accessory structures? Partly, perhaps, a wish to participate in the reputed pecuniary rewards of those who have been devoting themselves to laryngological and kindred practice. Largely, more probably, in the gradual comprehension by preceptors and practitioners generally, of the manifold relations of this branch with nearly every other branch of medical practice, and the light and more light which it is steadily casting upon obscure points in the broad domain of general medicine. This leads them to recommend the study of the throat and nose to their medical students, as an essential branch of their professional education. For this reason, it is in all probability a great error for a recent graduate to devote himself to exclusive practice in a special line before he has some considerable experience in general practice. A general practice, with special attention meanwhile to any desired branch, will render the practitioner the better and more thorough specialist in the long run. There are specialists and specialists. There are specialists in the branch under consideration who rarely, if ever, condescend to feel a patient's pulse or in any other way make themselves acquainted with the condition of his general health. Mechanicians rather than physicians, they will snare or cut away or otherwise remove an obstructing turgescence of a turbinate body, when a smart saline laxative would have purged the tissues of their excess of liquid, or when even a run upstairs from the bottom of the house to the top would have sent blood enough to the patient's heels to lessen the supply to his head and thus restore nasal respiration for the time being. Then again, ignorance of the relations of the nasal structures and accessories to the structures of the ear, to the structures of the eye, and alas! to the structures of the brain, occasionally leads to the sacrifice of an organ or of a life to injudicious instrumental operation, and occasionally even to injudicious instrumental explanatory investigation. So, too, ignorance of possible sequence to operative interference engenders neglect in attention after operation; and again organ or life becomes a sacrifice to hemorrhage, to autoseptic infection, or to some unexpected complication. From these errors the specialist who remains or has been a general practitioner is far more free. He is in the habit of, actually or mentally, interrogating more or less the entire system of his patients, and of providing for exceptional contingencies; his errors are more likely to be errors of judgment than errors of ignorance; in the other case, the errors are errors of ignorance as well as errors of judgment. Often, too, the ignorant specialist is so unaware of his deficiency that he vaunts as great personal triumphs the eventual subsidence by exhaustion of tumultuous complications, really brought about by his own injudicious interference.

RELATION OF LARYNGOLOGY TO OTOLOGY.

In briefly enumerating some of the more prominent relations of laryngology to other medical departments and to general medical practice, the diseases of the ear produced by extension and convection occur first in consideration; and so closely has the connection been demonstrated that prevalent opinion coincides to-day with that expressed by the writer of this address a generation ago: that diseases of the ear could not be properly cared for without familiarity with rhinopharyngology, and that treatment of diseases of the ear should be practiced in connection with laryngology rather than with ophthalmology, as was then the almost universal custom. These relations are so familiar to the members of this Section that they need not be further alluded to.

RELATIONS BETWEEN RHINOLOGY AND OPHTHALMOLOGY.

The relations between rhinology and ophthalmology are not so close; but there are numbers of positive relations. Beginning with conjunctivitis, many an intractable case can be cured by treating the preliminary nasal catarrh which has extended along the nasal duct. Then there are the diseases of the lachrymal apparatus, sometimes due to direct pressure from hypertrophied, abnormal or distorted turbinate or septum; or from polyp or morbid growth: or from mere atrophic rhinitis without any stricture of the canal whatever. Then there are the distortions of the orbit produced by abscess and neoplasms in antrum and nasal structures. Furthermore there are remoter relations with retinal and other defects, with which most of us are far less familiar, and which have been reported chiefly as contributions to ophthalmologic literature.

RELATION OF LARYNGOLOGY TO GENERAL MEDICINE.

Passing to general medicine, where in its study will be found better places to observe the natural history of circulatory phenomena in the mucous membranes; anemic, passive or congestive; ecchymotic, infiltratory, inflammatory or ulcerous; than just in those places exposed by laryngological aid, or to follow the clinical progress of specific and other infectious processes, of morbid growths, or of tuberculous infiltration? In the opinion of the great Virchow, "the larynx is the very best place to study tubercle." So likewise the corollaries of many dermal diseases are seen in these mucous membranes modified by difference of structure, sometimes as though developed in the sodden skin. Here again will be seen the manifestations of the exanthematous diseases in advance of their cutaneous evidence. In this region, too, diphtheria is first detected, often happily in time to avert all perilous constitutional involvements. Anemia of the laryngeal mucous membrane may be the first manifestation of constitutional tuberculosis; epiglottitis, the first symptom of enteric fever, and edema of epiglottis and larynx, the first suggestion of renal insufficiency. Nephritis and diabetes are sometimes first suspected by the evidence disclosed on laryngoscopic investigation; and the advanced stage of the latter malady is sometimes indicated by ulcerative processes attributable by exclusion to no other systemic condition.

---

*Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Laryngologic inspection and the sequels of topical treatment of diseased conditions under its aid, have taught us that much which is deemed rheumatism is really infectious arthritis, infectious myositis or myalgia, originating in bacteriological changes in the mucous membranes and glands produced by disease or by interference with disease, and projected along lymphatic or circulatory channels to structures at a distance. This lesson demonstrates the importance of hunting within the diseased body for processes actually autotoxic, instead of speculating too much upon the introduction of toxic processes from without.

This brings to mind how much laryngorhinology is contributing to bacteriologic studies of great import to general medicine. The various organisms found normally in the different cavities and their adnexa in health; the metamorphoses taking place in many of them under various exposures and under the influences of various systemic diseases; the introduction of foreign bacteria under climatic and infectious influences and the changes that these undergo, can be well studied in the domain under consideration.

Respiratory diseases are largely sequels of rhinopharyngeal and laryngeal disease, sometimes by direct extension, as in chronic bronchitis, sometimes by obstruction, as in emphysema, sometimes by reflex neurosis, as in asthma. Round shoulders, pigeon breast, deflected spine are often the sequence of impaired nasopharyngeal respiration, and most frequently consequent upon the presence of lymphoid enlargements at the vault of the pharynx.

DISEASES OF THE CENTRAL NERVOUS SYSTEM.

The close circulatory relations between intranasal structures and cerebral meninges are sufficiently intimate to admit of transference of morbid products and traumatic injury from one region to the other; and thus serious cerebral complications, structural as well as functional, may follow in consequence of disease in the rhinopharyngeal regions.

Doubtless some of you have had the gratification of saving patients from commitment to insane asylums by correcting or curing some intranasal or rhinopharyngeal lesion; or have rescued an inmate from an asylum for idiots by wrenching lymphoid hypertrophies and proliferations from the fornix of his pharynx.

DISEASES OF THE PERIPHERAL NERVOUS SYSTEM.

Turning now to the peripheric nervous system, allusion may be made to frontal and other headaches, to asthma, to repressed and impaired intellection, to night terors, to convulsions, to epilepsy and to insanity, directly due to intranasal and pharyngeal disease, and upon the removal of which depends the cure or the best possible measure of relief whatever it may be, but in either instance unattainable by administration of neurotic drugs.

Some cases of special neural diseases, central and peripheral, are to be suspected or detected in their earlier manifestations solely by laryngological investigation. Thus bilateral paralysis of the adductor muscles of the larynx is often the first intimation of a progressive locomotor ataxia; and its recognition sometimes suggests the only method of securing immunity from the risk of sudden death by spasm of the larynx. Unilateral paralysis of the recurrent laryngeal nerve is often the very first and sometimes the sole method of recognizing the existence of an aneurysm of the aorta; as it is often the first intimation of the development of esophageal and other intrathoracic neoplasms.

Thus without going further abroad to hunt up analogous examples, it must be admitted that the whole domain of medical practice may be more or less intimately associated with primary lesions in its laryngologic and rhinopharyngologic territory; this but emphasizes the thought in the development of which this address was begun, namely, that the practitioner of diseases of the throat and nasal passages should be at least competent to practice general medicine, in order to do justice to his specialty and to contribute the best that his specialty has to offer in the interest of his patients.

1824 Chestnut St.

HUMAN TEMPERATURE IN DISEASE.*

NORMAN BRIDGE, M.D.

LOS ANGELES, CAL.

We are always seeking for symptoms that tell the exact nature of the diseases of the human body. If there were idiopathic signs the people would learn many of them, and hardly need doctors, except for the mysteries of treatment; and even these they would more or less master in time, as now they often think they have mastered them. The doctors are alert for the smallest hint of a new sign that can show without error the goings-on in the sick body. The treatment of disease troubles us rather less than the diagnosis; and we are usually more chagrined at our errors of diagnosis than at blunders of treatment.

The temperature of the body in health is maintained at a given point, with slight fluctuations, in all climates and conditions; and it fluctuates peculiarly in disease, and probably with some approach to a typical manner. How these mutations may be discovered and so the clinical thermometer be made more effective in practice has been a long search of the profession.

The temperature of the body in health is kept near a normal line by a regulating mechanism somewhere in the nervous system. More heat is usually made by muscles and glands than is necessary, and the regulation point is chiefly maintained by varying loss of heat, due mostly to the changing size of superficial vessels produced by the muscular fibers in their walls. These fibers are controlled by nerves, and so by nerve-centers.

---

*Read before the Association of American Physicians, Washington, D. C., May 3, 1900.

In fever there is a regulation point as truly as in health, only it is higher and less constant. With its rise and fall there are frequently attendant symptoms that are curious and paradoxical, although probably conservative, as the subjective sensation of cold with a rising temperature and of heat with a falling one. It is not true that more heat is generally produced in the body in fever than in health under full exercise, but the contrary. It is only the regulation point that always rises.

What makes the regulation point rise? Why do the nerve-centers controlling the heat manufacture and dissipation change their force and action under certain influences which we call causes of disease? These questions go at once to the core of the clinical phase of the subject.

Doubtless several pathologic conditions produce the rise of the regulation point, and the accidents to these factors may cause all of the fluctuations. There is no great change in the regulation point below the normal; whenever, therefore, we speak of a change we mean a change above the physiologic par, and that is fever. Yet there are disorders, of a chronic sort mostly, in which the temperature is for weeks or months slightly below normal at certain or all times of the day. Myxedema is one of them.

The tendency of professional thought is now toward attributing all fever to certain substances in the blood produced by microbes or to the microbes themselves. The proof of such toxic influences is overwhelming, but they are not the sole causative forces. And if we shall ever be able to catalogue all the causes we shall need to discover the one essential factor in the complete solution of the question—namely, the manner in which the nervous regulating machinery is ultimately affected by toxins or what not.

In studying the fluctuations of temperature we may profitably set a few things we know over against some that we do not know, and so hope to gain some practical lessons for the more efficient care of the sick.

1. We know that pus poison—that is, the microorganisms of pus and their products absorbed into the general circulation—causes fever. We probably often encounter fevers that we fail to understand, which are due to small accumulations of pus hidden away somewhere in the body; but that is no justification for the assumption that in every inexplicable prolonged fever such a source of poison must exist.

2. Dead tissue, as the products of changes in greatly overworked muscles, albuminous bodies set free from these tissues, and floating in the blood, probably cause fever.

3. Slight elevation of temperature is produced by absorption of albuminous toxic substances from cyst cavities in various portions of the body, as the skin, the scalp, and the ovaries, that leak into the connective tissue about them and undergo absorption. These are not the products of pus poison.

4. Then we know that certain poisons, almost positively microbic, are taken into the body from the air, or in food and drink, and produce fevers—with possible eruptions upon the skin—which run a distinct course and terminate spontaneously if the patient lives. The fever begins after a period more or less definite—an average of perhaps a week—of so-called incubation, and often begins suddenly. Probably a certain amount of the poison must be introduced to cause fever, or some especial susceptibility must exist to make possible the cycle of events referred to. The theory seems plausible that the self-limitation of these diseases is due to the rapid accumulation in the body of the products of the microbes, first depressing, then destroying them; or that the microbes, by some reaction of the physiologic forces of the system, provoke the formation of a toxin capable of destroying them in a few days. This class of diseases includes, of course, typhoid, typhus, scarlet, and yellow fever, measles, German measles, whooping-cough, varicella, variola and its modifications, pneumonia, plague, diphtheria, erysipelas, follicular tonsillitis, possibly acute rheumatism, and unnumbered other and yet unknown diseases. The list is not complete, nor will it be probably for many decades to come. We shall go on, as we have done, discovering new diseases out of the symptoms that have been the common but misinterpreted observation of centuries.

5. We know that high temperature results from certain conditions of malarial organisms in the blood, the forms of fever differing with the life-history of the plasmodia. Here, too, personal susceptibility plays some part in the process; all people do not resist or succumb alike, nor do all who are affected suffer alike, either in manner or degree.

6. High temperature of the environing atmosphere, with or without the sun's rays, under certain conditions causes alarming pyrexia known as thermic fever or sunstroke. It is probably due to inhibition or stimulation of some of the heat centers or other part of the heat-regulating machinery. But microbes have even been accused of inducing these cases, and it is not very unlikely that toxins are produced in the tissues by the heat and disturb the regulating centers, and so cause fever as the toxins of bacteria do.

7. We know that inflamed follicles of the tonsils may cause sudden high temperature, lasting a few days and subsiding spontaneously, while the same sorts of microbes are found within them that are discovered in normal follicles. How far this fever should be attributed to pus poison is unsettled.

8. Inflammations in general are attended with fever. Formerly we thought they always produced the fever; but now we know the two events are frequently coresults of some other causative influence. Where some irritant, applied locally, depreciates the vitality of a part, and inflammation results, and then fever, it is rational to assume that the microbes of pus may find there a culture-medium, and infect the system as they do from an abscess. But when, as in the pneumococcus infection, we know a fever precedes the inflammation in the lung, it is clear that the microbe poison in the blood does the whole mischief. And nobody knows how much of some toxin may find its way into the circulation as the result of an inflammation and help to cause fever.

9. We know, but usually forget, that the commonest serious diseases of the kidneys are free from fever as well as from backache; that practically no disease of these organs causes fever save the rarest and somewhat questionable acute parenchymatous inflammation of the renal or the perirenal tissues, and that in general only those with calculi cause pain in the back. Bright's disease fails to do either in any of its multifarious forms.

10. We do not know how much fever is caused by tuberculosis apart from that due to pus microbes encouraged to grow by the tissue necrosis, which is nearly always induced by this remarkable disease, and to absorption of products of the necrosed tissue itself. Pure

tuberculosis may, but usually does not, cause fever under circumstances that permit us positively to exclude the presence of pus products or those of inflammation or necrosis, whatever they are, except where the tissues of or about the central nervous system are directly involved.

11. We do not know why fever rises or falls rapidly or slowly. There are ingenious theories about it, but no proof.

12. We lack positive information to explain the genesis of many cases of fever which occur suddenly in children—and occasionally in adults—and are connected in some way with gastro-intestinal derangement. The difficulty is that at times apparently exactly similar disturbances are unattended by fever. An easy claim is that ptomains from decomposition of intestinal contents cause them. It may be that a part of the cases are so caused, but as to many of them it is unproved and appears unlikely. The symptoms of constipation and diarrhea, of pain and swelling, are, so far as any clinician can tell, exactly the same a hundred times—an even many times in the same patient—when no fever occurs. It is easy to say that the fever must be due to some peculiar chemical or vital change not present in the other cases; and it is true that if abnormal metabolism within the digestive organs or elsewhere can cast into the circulation such substances as pepsin, peptones, albumose, fibrin ferment, or diastase, fever is produced. That such events do occur in these cases is largely conjectural.

13. We may fairly be in doubt to what degree nervous perturbation alone can cause fever. In a pus-poisoned patient, or one with an essential fever or tuberculosis, where there is even a trifling elevation of temperature, this is often made worse by mental excitement or by work. Can the excitement alone produce it when no poisoning exists? Probably not, since the greatest mental excitement—grief, fear, joy, anger—in a well person usually causes nothing of the sort. And in the cases where the fever is produced or raised by activity, is this due to the nervous excitement or to physical labor? A patient with tuberculosis or pus absorption, who keeps perfectly quiet in body and mind, may have a maximum temperature of perhaps 100 F. some time in the day; but a walk round the block or a business discussion of half an hour will carry it to 101 or 102. This is so well known that in sanatoria for consumption the rule is general that only patients wholly free from fever are permitted to exercise.

It seems impossible to deny that psycho-neuroses may disturb the heat-regulating machinery and produce positive fever. But the apparently fabulous fever reported of certain cases of hysteria is subject to honest doubt. Many physicians even deny that pure hysteria can cause fever. But the pronounced paralysis of motion and sensation, the spasms of several kinds, the hyperesthesias, and the erratic aberration of functions of almost every sort and degree, known the world-over as the result of hysteria, ought to make it easy to believe that the heat-centers may be involved as well. And if hysteria can affect them, then there is no limit to their possible degree of aberration, except the capacity of the tissues to produce and husband heat, and their tolerance of high temperature without coagulation.

14. There are numerous slight attacks of fever that seem inexplicable. They are short, and have few or no focal symptoms or signs, and no evidence of microbic poisoning save in the mere phenomenon of fever. That this fact is some evidence can not be denied. But if the reasoning is sound, then it is fair to assume that hitherto unknown microbes—or their life-history—capable of producing definite febrile action are yet to be discovered. Time was when rötheln was some erratic form of measles; now we know it to be a specific and probably microbic disease, differing wholly from the latter, and protecting its victim as measles does. Time was when myxedema was a freaky form of dropsy; now we have its perfect explanation—with what glory to modern pathology every one knows; and cretinism is analogous to it. Why should we not expect to find that other specific diseases have been occurring under our eyes and observation for years without our knowing it? And why should we, every time we are confronted with one of these inexplicable fevers, attempt to make it fit some of the grooves of known febrile disorders, as typhoid or malaria, or be unhappy if we can not? The effort to do this leads us often to hazard a diagnosis that, being false, we are forced to change in a few hours, or that we foolishly feel compelled to stick to throughout the case, to our discomfort and loss of self-respect. And we gain little, save with a peculiar portion of the public, when we load our uncertainties off upon some convenient scapegoat, the existence of which can neither be proved nor disproved. Formerly the scapegoat was malaria; now that malaria is so perfectly demonstrable, it is oftener grip—that can not be demonstrated; for the necessities of a scapegoat require that it shall be airy, indefinite, and incapable of proof.

During this very season numerous cases have occurred in many states, of suddenly oncoming fever, lasting two or three days, with slightly swollen, red pharynx, and no apparent follicular inflammation. The general malaise, weakness, and perhaps headache of the fever state have come and vanished in this brief period. Perhaps these cases were the true influenza; perhaps some other zymotic disease as yet unidentified.

The clinical significance of fever depends on other circumstances than the fever itself. High temperature, *per se*, is of small account. With a spot of sharp abdominal tenderness or rigidity of muscles, or with unconsciousness or spasm, coming on with fever, it may mean very much, as may a long-continued slight elevation of temperature without focal symptoms. This last leads us, especially in chronic cases with slight indisposition, to hunt long and faithfully for the cause. Clinically it is a valuable pointer.

The temptation among practitioners to treat the fever state is almost irresistible, but it should not ordinarily be treated. The wholesale medication so often used for this purpose is mischievous in the extreme.

If unconsciousness or convulsions attend high fever, showing brain involvement and perhaps a paralysis of some of the heat regulators, the temperature should be promptly reduced by baths, for through this act directly, or by some increased elimination it produces, the convulsions usually cease and consciousness returns. It is not true that fever of moderate degree must be brought down at once; fever often endures for a long time with little harm, as is shown in many cases of tuberculosis of the lungs, in which a slight daily elevation of temperature may persist for months with little impairment of the strength or general physical condition. Slight fevers may occur daily with no cachexia for a long time; the system becomes adjusted to it and the secreting organs are little disturbed.

A very high fever, or one that produces marked head discomfort, or great restlessness, may not improperly be reduced by means of coal-tar preparations or the application of water. But it is not proved that in typhoid or other fevers the antipyretic drugs for any ordinary febrile temperature have shortened the attacks or increased the percentage of recoveries, and the habit of using them for this purpose has undoubtedly done much harm and very little good.

Probably the drug most extensively used for lowering fevers during the last thirty years—notwithstanding the free prescribing of the coal-tar preparations—is aconite; yet to this hour I am ignorant of any proof whatever that this drug can lower the temperature of fever, except by injuriously lowering the vitality of the patient. It may slow the heat and lessen nervous perturbation; but that is quite another thing.

We often find ourselves considering in the most serious manner as a grave thing the direct effect of a temperature of, say 102 F., and lasting for a few hours or for a day. And we have connived at the belief by the lay people that such a fever is dangerous. If placebos are needful for the *morale* of the patient, there is no objection to giving some innocuous thing ostensibly for the fever, but for doctors to regard it as necessary on other grounds is unscientific and poor practice. A free catharsis at the beginning of sudden fever often gives a sense of relief, probably by removing ptomains and other effete matter from the intestines, and in this or some other way removing congestion—or a sense of it—from the head. But except by removing ptomains there is small proof that it lowers the temperature; and evidence of this latter even is not of the best.

It is, of course, always in order to attempt to remove or destroy the causes of fever. Some of the more tangible ones, especially those of a surgical character, we may deal with effectively. We may evacuate effete matter from the alimentary canal and increase the toxicity of the urine, which it seems clear is one of the eliminative effects of the Brand treatment of typhoid, although many forms of treatment may help the system to free itself from the toxic influence.

The service of this sort which we can render is very sharply limited, and may be roughly indicated as follows:

1. Pus-pockets, suppurating surfaces, and cysts leaking into the connective tissue, and so reaching the general circulation, may sometimes be evacuated or removed.

2. Inflammation may be assuaged, cured, or waited for.

3. Ptomains in the alimentary canal may be evacuated by a cathartic if they do not directly bring on a remedial diarrhea.

4. Malarial plasmodia may be effectively dealt with; and we have, fortunately, one drug proved to have a positive action against these parasites.

5. The causes of the essential fevers, that obviously consist of specific microbes which run their course in definite periods, are usually destroyed by the conservative havoc wrought by the products of the microbes themselves. No drug is capable of destroying them, and, on the basis of present knowledge, it is idle to medicate by such means. But we are beginning to know that the destruction of these poisons is possible by artificial means acting like the physiologic forces. The success already attained in a few diseases, most notably diphtheria, is crucial proof of the possibilities in this direction, and is reason for the faith that we shall soon be able to deal with many diseases in the same way. This is the direction the efforts of every clinician ought to take, and we await the beck of the votaries of bacteriology and pathology.

It is hard to keep the practising part of the medical profession plumb, as it is the lay world. We easily drop into habits of prescribing for insignificant things, to the neglect of the few indications that make for the patient's better comfort and greater prospect of recovery—the two objects that alone justify the existence of doctors. We give aconite or other drugs for slight fever and to bring down the pulse; digitalis, because the pulse is weak at the wrist—even when the weakness is apparent and not real, but due to the muscular and nerve fibers of the vessel-walls; we give calomel to clean off the tongue; prescribe for dry and rough skin and for cold, clammy skin; and for temporary dark coloration of the urine—and all as though such things were consequential and not the necessary, harmless accompaniments of many sicknesses of all shades of severity. Worse, we often prescribe thus to the injury rather than the benefit of the patient, and by pursuing such methods hide from our own eyes the manner of reasoning that means growth and the measures that, beside being scientific, are genuinely useful for the health and longevity of the sick.

SURGERY OF THE TEAR-PASSAGES.*

J. G. HUIZINGA, M.D.
Professor of Ophthalmology, Chicago Post-Graduate Medical College.
CHICAGO.

What the physician of to-day wants more than anything else is a practical knowledge of the science and art of medicine as it is practiced by the leading men in the various departments into which the work is ordinarily divided. Theorists there always have been and always will be, and they undoubtedly serve a very useful purpose; but to the ordinary physician he is an unknown quantity. His logic and theoretical deductions may be interesting, even fascinating, but directly they are of extremely limited practical benefit, to either the physician or the patient.

With the exception of a very few, the members of this society are all general practitioners; or let me put it a little differently—they are general specialists, i. e., specialists in everything. In your every-day practice you are called upon to examine into and treat every form of sickness or accident that our bodies are heir to. Isolated as some of you are, you do not always have the time or opportunity of calling in the assistance and counsel of men who by special study and large experience have become experts in the different specialties. Allow me, therefore, to speak to you this afternoon about a group of diseases that every one of you must often have met, and without theorizing as to the how and why or whence, give a brief summary concerning their general diagnosis, care and treatment, together with a few hints as to the dangers to be avoided.

Among the most numerous and most important diseases that the oculist is called upon to treat are the diseases of the canal whose function it is to conduct the tears from the lachrymal lake into the nose. The epiphora which usually accompanies these diseases is so annoying and aggravating that persons suffering from it very soon seek medical advice. The tears, instead of finding their way through the passage ordained by Nature for them, are either prevented from entering the canal at all, or having entered, are hindered from passing through it. In either case it results in the tears flowing over the border of the lower lid on to the cheek. If this happens only occasionally, it will not seriously inconvenience the patient, but if it be continuous and, as is usual, aggravated by being out of doors, especially when it is windy, it will sooner or later result in considerable excoriation of the skin, besides the inconvenience of being obliged to constantly wipe away the tears. It must be remembered, however, that epiphora is not necessarily a symptom of obstructive disease of the tear-passages. It may be due to excessive irritability of certain endings of the trigeminus and occasionally it is found to precede Basedow's disease.

---

*Read before the Grand River Valley Medical Association, Aug. 15, 1899.

The canal being lined with mucous membrane, it may under certain conditions become subject to catarrhal inflammations. Sometimes this may be communicated to it from the nose; sometimes from a catarrhal conjunctivitis; sometimes it may be caused by the lodgment of a foreign body in the duct; but more often no definite cause can be assigned. Syphilis, a scrofulous diathesis, periostitis and erysipelas have all to be mentioned as possible causes. There is very little doubt that a certain per cent. of cases are the result of the extremely irritating qualities that tears occasionally possess. These changes, like those in the urine, are dependent upon the condition of the system as a whole, as it is influenced by this or that local trouble.

The characteristic results of a catarrhal inflammation —a swollen and congested mucous membrane, with an increase of the secretions, that readily decompose and become pyogenic—are sufficient to entirely close any part of the canal, and the formation of an abscess is only a question of time. Any suppuration, pus or infected sore anywhere near the organ of vision must always be considered as extremely dangerous. With the least abrasion of the cornea, and sometimes even without it, infection by this pus may produce abscesses and ulcers that often perforate and may ultimately terminate in panopthalmitis in the eye primarily affected, and possibly sympathetic opthalmia in its fellow. Or the orbital tissue may become affected, causing an orbital cellulitis that may terminate fatally.

Since such disastrous results may manifest themselves before the disease is checked, we need not be surprised at the heroic measures sometimes advocated for their cure or to restrict as much as possible any evil consequences.

Beginning at the palpebral end of the canal we often meet with a considerable narrowing or contraction of the punctum. It may be limited to either the upper or lower one, or may affect both at the same time. The normal diameter of these openings is .25 mm. for the upper and about .33 mm. for the lower. They act as the sphincters of the canal. The punctum is funnel-shaped and in close apposition to the eyeball. Immediately beyond the funnel-shaped opening the canaliculi expand considerably, so that a kind of valve is formed, which, while it encourages the entrance of the tears, to a certain extent retards their exit in this direction. According to Gerlach, a few unstriated muscle-fibers have been found surrounding it. The cause of any constriction at this point may be a long-continued congestion or inflammation of the palpebral conjunctiva. Often it closes entirely, as a result of a burn, as from a flame, from molten metal or from chemicals.

Because it is easy of access, the treatment of this condition is comparatively simple. If it is entirely closed, it will be necessary to use a narrow, sharp-pointed knife, like a broad von Graefe cataract knife, to open it. Unless a person has had considerable experience in treating such cases, it is not always an easy matter to find the opening into the canaliculus, even after it has been opened by this method. Our only guide is an exact knowledge of the position and direction of the canal. Sometimes it happens that a large proportion of the canal is closed. In this case it is necessary to make the opening a short distance beyond the punctum toward the median line, just within the upper or lower border of the lid, as the case may be, so that the opening in the lower lid may face upward and backward, and in the upper lid downward and backward. The tendency to heal and close again must be prevented by the daily use of a well-lubricated No. 6 probe, which must be introduced as far as the sac.

If there is simply a contraction without a complete closure of the punctum, dilatation, either rapid or slow, is usually sufficient. I prefer the rapid method. The upper as well as the lower punctum should be dilated, as the results of treating both are far more satisfactory than that of treating one alone. In fact, some cases absolutely demand it and would not get well without this form of treatment. The results, as a rule, are very gratifying and the patient is immediately relieved of a very annoying epiphora.

Narrowing or constriction of that part of the canal between the punctum and the sac is also quite common, especially at the junction of the upper and lower canaliculi and of the sac and the common duct. Its normal diameter is about .5 mm., and its length varies from 5 to 7 mm. It is surrounded by fibers of Horner's muscle, which assists the orbicularis palpebrarum in moving the lids, while at the same time it compresses the canaliculus and draws it toward the median line, thus shortening it with every effort toward closing the lids. The effect of this rhythmic compression and shortening is to force the contents of the canal into the sac. This results in a vacuum, which is immediately filled again by the tears from the lachrymal lake, entering through the funnel-shaped punctum. If any part of this canal is contracted it will prevent the tears from passing through it, and the regular compression and shortening of it will force the tears back again out of the punctum into the lachrymal lake. Thus the canaliculi are kept clean and washed out by the tears several times a minute, preventing stagnation, decomposition and abscess. For this reason it is exceedingly rare to meet with an abscess, or discharge of pus, whose origin is in the canaliculus. The only inconvenience that the patient complains of, therefore, is similar to that of closure or contraction of the punctum, viz., epiphora.

The treatment of this condition has been quite unsatisfactory in a large proportion of cases, and warrants us in trying to discover a better method. Dilatation is only of temporary benefit, and sooner or later the patient returns, no less to the disappointment of the physician than to himself. Often it seems as though the condition has been aggravated instead of relieved by it. Dr. Knapp, in writing on this subject in Norris and Oliver's "System of Ophthalmology," rather than subject the patient to the discomfort and uncertainty of dilatation, advises "patients with moderate epiphora to bear it without probing."

Slitting the canal and converting it into a groove is as unscientific and crude as its results are unsatisfactory and disappointing. Unless accompanied by such radical and forcible dilatation of the nasal canal as advocated by Theobold, it is a question in my mind whether it does not seriously increase the difficulty. By converting it into a groove we forever destroy the normal and proper function of the canaliculus, viz., that of forcing the tears into the lachrymal sac. The tears do not pass from the lid to the nose because of the effect of gravitation. In fact, the direction of the canaliculus is slightly uphill and the tears, like the contents of the bowel, are moved along by the peristaltic action of the canal. Therefore, any method of treatment that interferes with this peristalsis or prevents it altogether should never be considered or advised so long as equally good results can be obtained by working in harmony with Nature. Theobold overcomes the bad effects of slitting the canaliculus by enlarging the entrance to the sac and the nasal canal to such an extent that a probe whose diameter is 4 mm. can easily be passed.

The objections to this are two-fold: 1. The amount of force required to pass such large probes is a "dangerous and reprehensible procedure" that not only severely lacerates the lining membrane, but, as its advocator himself acknowledges, often fractures the bony wall of the canal. I scarcely need do more than quote his own words: "Occasionally I have used the strength of both hands to pass these probes." 2. The other objection to it is still stronger, in that a large canal and a large opening in the lid allow the contents of the nose to be forced upward toward and on to the eye whenever the patient blows the nose, and thus constantly exposes the eye to all the dangers of infection from this source, which is little less than the danger of dacryocystitis, for which this operation is often performed.

In the treatment of strictures of the canaliculus two objects must be kept in view: 1. To obtain a canal of sufficiently large caliber to conduct the tears to the sac; 2, to preserve the normal function of the canal by not interfering with anything that would disturb the function of the organ and the forces that make this function possible. Simple dilatation of the constricted portion by means of ordinary probing alone is notoriously unsatisfactory, and the well-nigh universal opinion is that if a stricture, no matter where it be located, is to be permanently cured, it must be divided with the knife and its raw edges prevented from reuniting by repeated dilatation of the canal.

But how to cut without interfering with the physiologic function of the organ is the all-important question. After a careful study and considerable experience, I have adopted the following as my method of procedure: The punctum is dilated to such an extent that a knife made for this operation may be introduced with the least possible injury, for ordinarily it does not need to be cut. Having first ascertained the exact location of the stricture by means of probing, the knife is passed into the canal with the back of the blade firmly hugging the wall of the canaliculus toward the border of the lid, so as to injure the mucous membrane as little as possible. The sharp edge of the knife is directed downward in case of the lower, and upward in case of the upper, canaliculus, until it reaches the stricture, which is cut by a sawing movement. The knife is withdrawn just as carefully as it had previously been introduced. In the lower canaliculus the cut is made downward and in the upper it is made upward. In this way little or nothing is cut except the stricture, and the direction in which it is cut is such that it in nowise interferes with the proper physiologic function of the organ. It does not sever the fibers of Horner's muscle, which controls the peristaltic action of the canaliculus; neither is the canal converted into a groove, but it retains both the shape and the function of the organ.

The after-treatment consists of irrigations with boric-acid solutions and the regular use of a No. 8 Bowman probe as follows: Daily for the first week; every second day for the second week; every third day for the third week, and once a week during the three following weeks. I need scarcely mention that neither probing nor cutting should ever be attempted without first having taken the most perfect aseptic precautions possible.

Quite commonly stricture of the tear-passages is found at the junction of the lachrymal sac with the nasal canal. The canaliculus may be of normal shape and size and performing its functions perfectly, but the obstruction at the lower end of the sac prevents the tears from passing through into the nose. The retained secretions become stagnant, easily decompose, and on account of the well-nigh universal presence of bacteria and germs, readily become an infected and infectious mass. The irritating qualities of the fluid soon set up a congestion and inflammation of the lining membrane of the canaliculus, producing a swelling and consequent constriction of this narrow canal, which effectually prevents the exit of the infected fluid from the sac. The lining membrane of the sac becomes similarly affected, resulting in a purulent catarrh, which increases the contents of the sac, and a true abscess or dacryocystitis has developed. It manifests its presence by a fluctuating red tumor at the base of the root of the nose, with considerable edema and puffiness of the lids, so that frequently they can not be separated except by force. There will be epiphora, severe pain, headache, with perhaps slight chills and elevation of temperature. Its treatment is similar to abscess in any other part of the body. A large opening is made in the most dependent portion of the sac and the contents thoroughly evacuated, followed by flushing with boric-acid or bichlorid of mercury solutions. No attempt should be made at this time to open or dilate the strictures, as the swelling of the lining membrane is usually so great as to make this procedure impossible without the use of more force than is justifiable. The after-treatment is again similar to that of an abscess elsewhere, viz., thorough daily cleansing and dressing with antiseptic precautions until all discharge has ceased.

In addition to this, an attempt should be made to overcome the strictures and have the canal patent from end to end before allowing the opening to close entirely. If for any reason this is impossible, one of two methods may be followed: 1, the destruction of the lachrymal sac; and, 2, the establishment of a permanent fistula. Of these two, the former is to be preferred. It frequently happens that when the abscess has healed and the inflammation subsided, the stricture has also disappeared, proving that it consisted simply of a swollen mucous membrane.

On the third or fourth day after having opened the abscess, an attempt may be made to pass a small probe. If successful, it may be repeated every day by one of the next larger size. If unsuccessful, wait two or three days longer and try again, at which time there is usually no difficulty, unless complete closure of the canal has taken place. If a stricture exists it should not be cut or treated by any other method than simple dilatation until the abscess has completely healed and all danger of infection has passed.

If a complete stricture and an entire closing of the canal has taken place, we must first ascertain by means of a probe whether this obstruction is due to closure of the bony canal or whether it is simply the result of cicatricial contraction. If due to the first, the probe will encounter a firm, hard, irresistible barrier; if it is the result of the second, the contact of the probe with the obstruction will impart to the fingers a sensation not unlike that which would be conveyed to them if the probe were pressed against a piece of soft rubber. There is a certain amount of "give" and elasticity.

If after a careful examination it has been ascertained that the obstruction to the canal is of a bony nature, the treatment resolves itself into extirpation or complete destruction of the lachrymal sac, with or without excision of the lachrymal gland. Extirpation or destruction of the sac may be accomplished by one of three methods: either by a careful dissection, by means of the actual cautery, or by scraping and curettage. Preference should be given to these methods in the order in which they are mentioned, although the last is perhaps the easiest, and, if thoroughly done, is equally as successful as the others. The wound should be left open and allowed to fill in and heal by granulations, except when the first method is followed. In this, if the operation has been done under strict aseptic precautions, the wound may be closed immediately and healing by first intention is usually accomplished. The canaliculi should be slit and cauterized.

The operation for removal of the lachrymal glands seems to me to be gaining in popularity, and I can see no good reason why this gland should remain after destruction of the sac, since its presence is a source of considerable annoyance and inconvenience, and its absence is followed by no ill results. The secretions from the glands in the lid are sufficient to lubricate the cornea and keep the parts moist and comfortable.

If the obstruction is the result of a deposit of fibrous or cicatricial tissue, it is best treated by the same method as that used for stricture of the canaliculus, viz., cutting and dilatation with a No. 8 Bowman probe. Having passed the probe, it should remain *in situ* for about 20 or 30 minutes before it is withdrawn again.

The normal diameter of the nasal canal is about 3 mm.; but when we take into consideration that all the tears passing through this part of the canal must first pass through the canaliculi, whose normal diameter is only about .5 mm. each, then we must reach the conclusion that a canal whose narrowest part is not less than 1 mm. in diameter is plenty large to carry off all the tears that come to it. Any mode of treatment, therefore, which attempts to increase the diameter of the canal very much above this, especially if this is done at the risk of lacerating the tissues and fracturing the bones through which it passes, must seem absurd, to use no stronger term. Bowman's probe No. 8 is about 2 mm. in diameter, and any canal large enough to admit of the easy passage of this instrument from end to end is large enough to permit the tears to pass freely without producing epiphora.

Occasionally we meet with cases in which the formation and discharge of pus will continue even after the canal has been properly opened. In such cases I have had the best success by injecting a 2 to 5 per cent. solution of nitrate of silver, preceded and followed by a douche of a saturated solution of boric acid. When I say a "douche," I do not mean the injection of three or four syringefuls of the solution, but inserting a canula both into the upper and into the lower punctum, allow a pint of the fluid to flow through uninterruptedly by means of a fountain syringe or a siphon from a bottle. In desperate cases I order a use of the douche three times a day and the nitrate of silver every two to four days. Rarely is it necessary to use it every day. Thorough antiseptic irrigation for not less than half an hour at a time is of the greatest importance here as well as elsewhere.

It has never yet been my bad fortune to meet a case in which it was necessary to destroy or extirpate the sac in order to stop a discharge of pus. I do not deny that such cases are occasionally met with, and therefore the operation is a justifiable one, but it certainly should not be attempted except as a last resort and after every other method of treatment has been faithfully tried without success. "In resorting to such radical and heroic measures we must ever consider it as an evidence of our limited knowedge and inability to deal more properly with this sometimes so-complicated a condition," were the words of a noted surgeon in speaking of amputations, and they apply with equal force here.

Lastly, allow me to call attention to the necessity of being certain that no stricture exists at the nasal extremity of the canal. In many cases in which no stricture or narrowing of any part of the canal can be detected by the ordinary Bowman probe, there may nevertheless be a stricture at the inferior or nasal extremity which is not always reached by these probes. For this purpose it is necesary to have an extra long probe, which I believe was first suggested by Noyes. It is introduced just like a Bowman probe until it passes down about as far as these probes will go, when it is twisted around about a quarter of a circle, so that the point of it is directed toward the median line and pushed down about half an inch farther. In this way the entire canal is thoroughly dilated from end to end.

Having treated the tear-passages after the most approved fashion, we shall nevertheless be doomed to disappointment in a certain number of cases, unless the same careful attention and treatment are directed to the nasal mucous membrane. Time will not permit me to do more than simply call your attention to this important point.

100 State Street.

THE DIFFERENTIATION OF CHOREA AND THE DISORDERS SIMULATING IT.*

BY AUGUSTUS A. ESHNER, M.D.
Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital; Assistant Physician to the Orthopedic Hospital and Infirmary for Nervous Diseases.
PHILADELPHIA.

In some of its aspects true chorea, the chorea of Sydenham, presents the features of an acute infectious disease. Among the phenomena suggestive of such an etiologic relationship are the mode of invasion, the seasonal prevalence, the self-limitation, the endocardial and articular complications, the liability to recurrence, and the postmortem findings in some cases. Further, optic neuritis has occasionally been observed.

The actual causation of chorea yet awaits final solution, but the belief is growing that the disease is dependent on irritative disturbance of the motor cells of the cerebral cortex, of either infectious or toxic origin. In the etiology, heredity, sometimes direct, at other times indirect, is a not unimportant factor. It is not uncommon to obtain a history of the disease in the parents or in other members of the family. Chorea occurs almost invariably in neurotic stock, so that, as with infectious diseases, the predisposition or the susceptibility, viz.: the fundamental condition of the nervous system, is an important etiologic influence. The competitions, the strains, the overwork, the anxiety, the successes, perhaps not less than the failures of school life, the profound changes that take place at puberty, and the emotional and other disturbances of pregnancy appear to be important contributing factors, lowering physiologic resistance. Fright seems to be a less common provocative influence than is generally believed. Worms, eye-strain, peripheral irritation, and other so-called reflex influences probably play no part in the etiology of true chorea, as they may in that of the various forms of spasmodic tic. The apparent relations between chorea and rheumatism are yet obscure. The elaborate investigations of Morris J. Lewis have shown that both diseases prevail much at the same time, rheumatism first and chorea afterward, and that this corresponds with the greater prevalence of disease in general. In clinical experience, it is not rarely related that the choreic symptoms have developed in the sequence of those of rheumatism, while less commonly the rheumatic manifestations appear during the progress or in the train of chorea. The cause of neither disease has yet been established, and it can not therefore be determined whether it is identical or allied in each. Rheumatism also is looked on as an infectious disease, although its bacteriology has not been fully cleared up. A number of investigators have found different micro-organisms in the articular lesions and in the endocardial complications of the disease.

---

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

It appears likely that what is commonly designated acute rheumatism, clinically, really represents a group of diseases dependent on a number of different causative factors; and it should, therefore, for the present, be considered as a form of polyarthritis. Acute endocarditis can now safely be said to have a similar multiple, though bacterial, etiology. An observation made recently by Westphal, Wasserman, and Malkoff,[1] may throw some light on this obscure subject. From the blood, the brain, and the endocardial vegetations in a case of acute articular rheumatism, followed by chorea and complicated by endocarditis and nephritis, these investigators succeeded in isolating a micrococcus, susceptible of culture and capable of inducing polyarthritis in lower animals, with the appearance of the same micro-organism in the articular effusion. In commenting on this communication, Mircoli[2] reviews his earlier investigations on the same subject, as a result of which he concludes that both rheumatism and chorea are dependent on infection with pyogenic cocci, which do not, however, give rise to suppuration.

De Buck and Van de Weghe[3] have also reported a case, thought to illustrate the infectious nature of chorea and its relation to rheumatism. The patient was a girl in whom, in a third attack of acute articular rheumatism, complicated by endocarditis, symptoms both of chorea and of profound nervous disturbance appeared.

At a recent meeting of the Pathological Society of London, Abraham demonstrated sections from a fatal case of chorea of pregnancy, showing inflammatory and degenerative changes in the cerebral cortex, suggestive of toxic alterations in the blood.

Cases in which cerebral lesions, such as hemorrhage or embolism, have been found were probably not instances of true chorea, but rather examples of choreiform movement.

Chorea often sets in abruptly; at times, with maximum, and at other times with progressive, intensity. Chills, convulsions, nausea, vomiting, or diarrhea, do not occur; and the temperature is not elevated, as a rule, unless in consequence of the violence of the movements. Hyperpyrexia, when present, has been attributed to rheumatism. The period of greatest prevalence of the disease appears to be the spring of the year. Under treatment with arsenic, which seems to exert an almost specific influence, its duration is, on the average, from six to eight weeks; although there is reason to believe that under favorable hygienic and dietetic conditions, without the use of drugs, the disease would terminate spontaneously in a not much longer period. Endocarditis is not rarely observed as a complication and valvular disease of the heart as a sequel or sometimes even as an antecedent condition. Arthritis is occasionally an antecedent condition, sometimes contemporary and rarely a sequel.

The movements of chorea are peculiar and distinctive. They may begin in one and extend to the other member on the same side, and remain confined to this side; or they may extend successively also to members of the opposite side. Occasionally they are present only in the lower or the upper extremities, but most often one side is more profoundly affected than the other, while sometimes the movements are general from the outset. The face is, as a rule, involved, and speech is often affected, the tongue being described as thick. The movements are irregular, jerky, disorderly, inco-ordinate, purposeless, sometimes violent and incessant. They are beyond voluntary control, being occasionally aggravated by efforts in this direction, as they are also by excitement, emotional disturbance and observation. As Weir Mitchell and Rhein have shown, the movements are sometimes increased, sometimes restrained, and sometimes unaffected by voluntary movement, and cease during sleep, although they may prevent the patient from falling asleep. The knee-jerks are sometimes deficient and often capricious and irregular. The temper is generally irritable. The motor inco-ordination is often attended with muscular weakness and this may be so pronounced as to simulate hemiplegia or paraplegia. Mental symptoms are generally not marked, but the patient often presents a peculiar foolish or fatuous appearance, with lack of power in concentrating the attention, though intelligence is preserved.

The disease designated habit-chorea, habit-spasm, or preferably spasmodic tic, does not result from the same causative factors as chorea, to which it bears no closer relation than that both are motor neuroses attended with involuntary movement. It, likewise, thrives best on neurotic soil, but it bears no relation to rheumatism, it presents no features of an infectious disease, it is unattended with endocardial complications, the character of the movements is different, and, most important of all, its duration is uncertain or indefinite, and it may or may not improve under treatment with arsenic. Of its intimate etiology little is known, but it seems to be the disorder that has been mistaken for chorea, attributed to reflex influences. Peripheral irritation, such as errors of refraction, insufficiency of the ocular muscles, conjunctivitis, nasal or oral disease, carious teeth, a tight prepuce, a painful cicatrix, intestinal parasites, or any local irritation may be the exciting factor. The disease may also arise as a result of imitation or habitual performance of a given act. The movements are different from those of chorea, being often co-ordinated, purposive and repetitive. They may disappear from one situation and reappear in another. They do not interfere with voluntary movement and are more distinctly intermittent. Facial movements are perhaps most common. Grimaces, blinking of the eyes, distention of the nares, pursing of the lips, elevation of the eyebrows, shrugging of one or both shoulders, are also common. An arm may be jerked, a foot kicked, a halting movement or some other definite, usually simple act performed; sometimes vocal utterances are associated. The movements may, in one form or other, persist for years, usually with remissions, occasionally with intermissions. They cease during sleep, and can be restrained temporarily by an effort of the will. They differ from the movements of chorea in their distribution, their character, their persistence, and the absence of seasonal relation.

---

[1] Berliner Klin. Woch., 1899, No. 29.
[2] Ibid., 1900, No. 14, p. 303.
[3] Belgique Médicale, Dec. 7, 1899.

Painless facial spasm, or mimic spasm, may be considered as a variety of convulsive tic, and is to be differentiated from chorea by its localization, involving one or several muscles on one or both sides of the face; its association with disease or paralysis of the facial nerve, or the facial cortical center, and its occurrence in adults, rather than in children. The spasm may be clonic, or tonic, and is relieved by rest and increased by emotion and activity. The disorder is irregular in course, and usually long in duration.

The athetoid movements that attend certain lesions of the brain sometimes closely simulate those of chorea; but so far as their peculiarity can be expressed by words, they are rather vermicular or serpentine, as compared with those of chorea, and less jerky, and rather progressive than abrupt. They, too, are inco-ordinate and involuntary, but they are usually confined to the same member or members; they persist indefinitely, and are but little susceptible to therapeutic intervention; and they are, as a rule, although not always, associated with palsy and other spastic phenomena, and often with evidences of mental deficiency. They are excited or intensified by voluntary movement, and sometimes in association with other movements, and by excitement.

So-called chronic or senile chorea, the disorder described by Huntington, is dependent on degenerative changes in the cerebral cortex, and occurs only in adult or late life. While the movements are much like those of chorea, they do not yield to treatment, and with them mental aberration becomes associated. The onset of the disease is gradual, the movements are less abrupt and jerky than those of chorea, the gait may be staggering, and other members or ancestors in the family may have been attacked.

Hysteria may be attended with various disorders of movement, some of which may closely simulate chorea. These, however, are usually more abrupt in onset, more rapid, more shock-like, and more rhythmic than those of chorea, and they are, as a rule, associated with other hysterical stigmata. It should, however, not be forgotten that a hysterical patient may also be choreic or vice versa. So-called chorea major is a manifestation of hysteria, as is probably also so-called electric chorea. The fatal disorder known as Dubini's disease, or electric chorea, is probably an infectious disorder, and is attended with muscular weakness and atrophy.

Torticollis, or spasmodic wry-neck, in a child may simulate chorea. Here the movement, however, is confined to a few muscles, and is always of the same character. It may be tonic as well as clonic.

The nodding, or rotatory spasm, observed in rachitic children, differs from chorea in its limitation to the head, in the exceedingly early period of life at which it occurs, in its association with other symptoms of rickets, and its disappearance with improvement in the nutritional state. The character of the movements is sufficiently described by the name.

Saltatoric spasm, jumpers, myriachit and latah, as well as other forms of myoclonus, are rare diseases, whose discrimination from chorea is rarely necessary.

224 South Sixteenth Street.

RECENT PROGRESS IN THE ROENTGEN-RAY METHODS OF DIAGNOSIS.*

BY CHARLES LESTER LEONARD, A.M., M.D.
PHILADELPHIA.

The operative technique of modern surgery is the result of a process of evolution which is based upon the more accurate knowledge of the sources of infection and the formation of pus. The employment of asepsis and antisepsis, as a consequence, has had the result of decreasing the mortality in a field of operating that is ever widening, and narrowing the horizon of the inoperable and hopeless.

The value of operative intervention is limited only by the inability to recognize the pathologic process at a sufficiently early period. It is impossible to restore to perfect functional activity organs seriously injured by disease. Marked progress can not be looked for in operative technique. A high average result can be obtained by an ever-increasing number of operators.

The innocuousness of surgical operations is leading to an increased employment of purely exploratory operations and to operations that are not based upon a clear diagnosis of the pathologic process that is present.

Progress in surgery can be expected when these methods are set aside and more accurate methods of surgical diagnosis are substituted. An early, accurate diagnosis is now the *sine qua non* of a successful restoration of function. Progress in surgery will keep pace with the development of accurate methods of diagnosis and be proportionate to their advance.

The new method of physical diagnosis which is the subject of this paper is but one line in which surgical diagnosis is progressing. Physiology, pathology, bacteriology, and chemistry are all aiding. The phonendoscope has increased the powers of perception and differentiation in auscultation and percussion. Direct cystoscopy and the catheterization of the ureters have produced results in the clinical examination of the female that are approximated by analogous methods in the male. All these methods possess an increased amount of precision, which, like the clinical thermometer, is the result of a basis on purely physical laws.

The Roentgen-ray method of diagnosis owes its accuracy to these elements of physical precision. The physical phenomenon upon which this method is based is the production of a form of radiant energy, which emanates from a vacuum tube when a high potential current of electricity is passed through it. The best scientific opinion holds that this form of radiant energy is a light-wave which lies far beyond the ultraviolet in the spectrum. It is sufficient for its use to know it obeys the laws of rectilinear rays and can not be reflected or refracted. Its peculiar physical properties that make it valuable in physical diagnosis are the power to penetrate in varying degrees, substances that were formerly considered opaque, and to register the amount of penetration on the fluorescent screen or the photographic plate.

The pictures or skiagraphs produced are shadows, the varying densities of which correspond to structures, each of which has a relatively constant resistance to the penetration of the Roentgen discharge. The more opaque substances are represented by denser shadows, since they absorb or disperse the most rays; the less opaque permit more rays to pass, while the least opaque or complete penetration are represented by absence of shadow.

---

*Read by invitation at the annual meeting of the Medico-Chirurgical Faculty of Maryland, Baltimore, April 24, 1900.

Although all substances constantly maintain their relative opacity, their shadowy representations vary with the shortness or length of the exposure and the quality of the Roentgen discharge. The discovery of the varying effects produced by rays discharged from the Roentgen tube during different states of the vacuum led to their careful study. Professor Roentgen has termed these states "soft," "medium" and "hard." Various attempts have been made to secure accurate fluorometric measurements, but with only partial success. A physical measurement that is fairly constant and directly applicable to any tube while in action is the measure of the length of the equivalent spark-gap in air in a parallel circuit. This measure is very practical, as by it the self-regulating tube can be adjusted at any time to produce any desired quality of Roentgen discharge.

By this standard the "soft" tube will have an equivalent resistance less than 1½ inches of spark in air. The resulting negative will show differential shadows of the less dense structures, while the bones will be but slightly penetrated. The "medium" tube has an equivalent resistance of from 1½ to 2½ inches. It produces negatives of strong contrast, with some penetration of the bones. The "hard" tube has a resistance above 2½ inches and produces a flat negative, without contrast, and is chiefly of value in detecting foreign bodies more opaque than bone.

The volume of Roentgen discharge is an important factor and is dependent upon the volume of the secondary discharge that energizes the tube. It was a deficiency in volume that formerly made it impossible to penetrate the denser portions of the body with rays that would produce tissue differentiation. This is the defect of the static-machine energy.

The recognition of these varying qualities of Roentgen-rays and the adaptation of them to the particular fields where they are most useful is an essential of technique and marks the source of the latest development in the adaptation of this method of surgical diagnosis.

The improvement in the construction of apparatus, and the development of the self-regulation tube are responsible for the flexibility and adaptability which the rays now possess. With the self-regulating tube, it is possible to obtain and maintain any desired quality of Roentgen-rays for any length of time. The power to maintain the tube at a low vacuum for any desired length of time is responsible for the progress which has been made in tissue-differentation. This is in turn responsible for much of the advance made in surgical diagnosis and will be the father of future advances.

THE X-RAY AN AID IN THE STUDY OF ANATOMY.

Before discussing the adaptation of this method to diagnosis, it is well to point to its possibilities as a method in anatomical studies. The injection of opaque fluids into the veins, arteries, sinuses, or cavities of the body renders their relation to each other and to the bones visible. The relation of the bones in different positions of the joints forms the basis of a comparison with pathologic condtions.

DETECTION AND LOCALIZATION OF FOREIGN BODIES.

A most useful as well as most obvious application of this method was found in the detection and localization of foreign bodies. A great advance has been made in their localization. The early crude methods are replaced by simple processes which are remarkable for the mathematical accuracy of their results. The surgeon's knife is directed by these calculations directly to the most minute fragments. These localizations are very valuable, especially, of foreign bodies of the eye. In all cases the operation must follow immediately upon the localization, especially in the case of the eye, since the electromagnet is unable to overcome the resistance of the dense adhesions that rapidly surround a minute fragment. In these cases the negative value is almost as great as the positive. It prevents meddlesome interference where no foreign body is present, or when it lies either in a position from which no further trouble can be expected, or where the surrounding vital structures make it unsafe to remove it.

DIAGNOSIS AND TREATMENT OF FRACTURES.

The value of this method in recognizing and directing the appropriate treatment for individual cases of fracture is not fully realized by the profession at large. It is, however, fully recognized by many leading surgeons who constantly employ it in their diagnosis and setting of fractures. They control their results in setting by its use, and refrain from much interference with the dressings which would otherwise be necessary.

The later developments in its employment and the increased definition in the skiagraph, enable the most minute fractures to be detected. The cancellated structures of the bones can be distinctly shown, so that linear fractures without displacement, or impacted fractures can be shown with distinctness. The rapid swelling that follows fractures involving the joints adds greatly to the difficulty in detecting the fracture. Crepitus, that crude sign of fracture, is wanting on account of the exudate into the line of fracture.

The progress in surgery which this method has made possible is very great. The pain and agony of fracture-examination can be entirely avoided. More definite and absolute knowledge can be obtained in a scientific manner, without causing the least discomfort. The time has arrived when the manipulation of a limb suspected of fracture should be considered meddlesome surgery. It causes the patient pain that is unnecessary, and inflicts serious injury on tissues already devitalized by traumatism, that may greatly retard or even prevent recovery. The knowledge gained by this method of diagnosis should have as important an effect upon the treatment of fractures as upon their diagnosis. It is a simple matter to show that many forms of apparatus now employed to produce immobility are failures. The individual fracture needs its own peculiar and appropriate dressing. The skiagraph has shown how great the variation in type is from the classic, empirical and schematic descriptions of the text-books. It is necessary to study carefully the mechanical elements involved in each fracture. The transverse, oblique, spiral and all other fractures each demand their appropriate treatment. The determination of the exact line of fracture directs attention to the mechanical difficulties that will be met with in reducing the fragments to their proper position and in retaining them there. It shows where the danger from exuberant callus is to be guarded against or the blocking of the joint by the protrusion of a fragment.

Many simple fractures have been shown to be more dangerous to function than the compound fracture. The shape of the fragment can be seen in a compound fracture and the small fragments removed, while fixation methods can be employed if essential to repair. They should be employed in many cases of simple fracture. The amount of displacement, the involvement of joint surfaces, and the extensive rupture of ligaments can be inferred from the altered relations of the bones that enter into the joint. The rarity of intercapsular fractures has been found to be due to the failure to detect them; this is also true of many other rare fractures. "Bad sprains" have frequently been shown to be unrecognized fractures.

The progress made in this form of diagnosis has increased the power to recognize fractures until it is possible to absolutely exclude fractures of the limbs. Fractures of the skull or of the vertebræ can be recognized only in particularly favorable cases and can not yet be excluded. It has been considered the duty of the surgeon to treat all cases of suspected fracture as if the fracture existed, unless it could be absolutely excluded. This practice undoubtedly resulted in procuring the greatest good for the majority of patients; and yet many of them have been deprived of much valuable time, and have been subjected to unnecessary confinement in bed and to needless expense, where no fracture really existed. Since, as has been mentioned, the accuracy of the skiagraphic method of examination is now so great that fracture can be detected, or absolutely excluded in all suspected cases of fracture of the limbs, there is no longer any ground on which such a course of treatment can be justified. Absolute knowledge can be obtained in the majority of cases on which a more rational line of treatment can be based. Much has been written and said regarding the inaccuracies and fallacies of the Roentgen rays. These so-called fallacies are not faults in the Roentgen-ray method of diagnosis, but errors in the technique of its application. Such errors in technique are but human and the result of the faulty employment of this mechanical method. It should not be judged by the errors introduced by the poor technique of the observer. If operators would study to find out and correct these errors, they would confer a greater benefit than they do by charging their ignorance to the account of a method they do not understand. Another valuable use of the skiagraph in connection with fractures is the confirmation of the reduction, and the assurance, that the skiagraph can give, that the dressings are sufficient to retain the fragments in proper position. Such a skiagraph is also very valuable evidence in demonstrating the fact that the fracture was properly reduced and an appropriate dressing applied.

CORRECTION OF DEFORMITIES DUE TO NON-UNION.

The correction of the deformities resulting from vicious union is greatly facilitated by this method of study and the knowledge obtained by it aids the operator in correcting the condition which was responsible for the trouble. In cases of suspected non-union it is not always possible to establish the fact, especially at an early period, as the time when callus becomes opaque varies. Six months is probably a safe limit. The only method, however, by which non-union can be proved is by the production of a change in the relation of the fragments that can be detected by the skiagraph.

Asymmetry and functional disability do not always go together. Many old fractures that are not symmetrical when studied by the skiagraph have yet produced no permanent disability. On the other hand perfect osseous symmetry may be present, and yet the injury have produced such serious lesions of the soft tissues, which can not be recognized by the skiagraph, that a permanent and lasting disability results.

It can be readily inferred from this that skiagraphs can not form any basis upon which damages can be assessed in suits at law. They have, however, a distinct value, the bearing of which upon the facts in the case is gradually being determined. Although the question requires deep study and consideration, it is, perhaps, safe to say that they have been admitted as evidence and as such are capable of determining whether a fracture has taken place or not, provided the examination is made within a reasonable time after the injury; what the line of fracture was, and what its bearing upon the difficulties of treatment would be. In all cases in which skiagraphs are admitted as evidence, expert testimony should be called by both sides and the privilege demanded and used of examining the patient by this method. Skiagraphs under these conditions will demonstrate the absolute facts. Without expert explanation they are liable, by their erroneous visual impressions, to mislead the jurors. Skiagraphs taken with the fixation dressings in place are a safeguard to the practitioner and evidence that the result desired has been accomplished. They should never be given to patients except by the surgeon in charge or with his consent, as misinterpretations may result in serious trouble.

IMPORTANCE OF X-RAY TO ORTHOPEDICS.

Orthopedic surgery has already been greatly benefited by this new method. The predetermination of the exact osseous deformity facilitates treatment or points out the exact operative intervention that is demanded. The various pathologic conditions that simulate each other in outward appearances are readily differentiated by this method. This is particularly true of diseases of the hip. In spinal disease the extent of the deformity, amount of rotation or involvement of the bones by tubercular disease, is readily determined. Metatarsalgia was accurately described by Morton years ago; the proof afforded by the skiagraph and the determination of the exact point for operation are invaluable additions. The result of osteoplastic operation and the efficiency of fixation dressings can be studied, and valuable lessons learned.

The study of the malformations and regenerative processes found in the bones is not the only value of this method. The fact, that in the majority of pathologic processes involving osseous tissues there is always an absorption or an increase in the amount of the bone salts, makes the study of these processes possible by this method, since it is to these salts that the bones owe their opacity. Hypertrophy or atrophy can be readily detected and confined to a more limited area. The shape and size of exostoses and osteomata can be seen, and the needed intervention predetermined.

DIAGNOSIS OF ANEURYSMS.

In November of 1896, Dr. Pepper, in discussing the value of "Skiagraphy in the Diagnosis of Aortic Aneurysms," in a paper read before the Pan-American Medical Association in Mexico, said: "In many cases the new agent serves only to confirm a diagnosis which has already been established with great confidence by auscultation and percussion. Even in these cases we may hope for greater precision as to location and size and form. In other cases, however, an intrathoracic aneurysm of such small size, or so situated as to cause but few symptoms, and not susceptible of diagnosis by ordinary methods, may be demonstrated by the X-rays. Lastly there are cases where symptoms strongly suggestive of aneurysm are present, and the gravest anxiety must be entertained, since clear diagnosis by exclusion may be impossible, and yet the employment of the X-rays may be of positive value as failing to reveal an increase in the shaded form of the heart and aorta."

The progress which has been made since that time has more than realized the expectations expressed. The size and position of aneurysms that lie too deep to be detected with certainty by other methods can be shown by the skiagraph. Their pathognomonic expansile pulsation can be seen upon the fluoroscopic screen, and the increase or decrease in their motion noted as indicated by a thickening of their walls and as a progress toward increase or recovery.

VALUE AND LIMITATIONS OF THE FLUOROSCOPE.

It will be of service to stop for a moment and consider the value and limitations of these fluoroscopic examinations. What value ought to be placed on the assertion based on these observations? It is but a transient image that affects the eye of the observer. It can not be mechanically registered or reproduced. It is, therefore, impossible to compare them with any fixed standard or normal, or with any other case, or any other observer's impressions except through the senses of the individual. How inaccurate these observations must be! The normal has physiologic variations that are absolutely unknown in this relation. In appearance they may approximate so closely to the pathologic in its incipiency as to make it impossible to differentiate between them. These fluoroscopic images can never be more than the personal observations of the individual; as such they may approach in accuracy the results obtained by other methods of diagnosis, but they lack the element of mechanical accuracy based on physical laws, that would give them a greater value. As the opinion of the individual observer they should receive only that amount of credence which any similar personal opinion would receive, and must depend entirely upon the acuity of his perceptions for their value. They are chiefly valuable in detecting abnormal motion and in confirming observations made by other methods. Gross variations are readily detected. It is not possible to detect the lesser, incipient pathologic variations from the physiologic normal or one pathologic condition from another.

A great deal has already been claimed for the fluoroscopic methods in the diagnosis of incipient tuberculosis. As confirmations of other methods they may have some value. They lack a purely mechanical process of production and a known fixed normal to which they can be referred. They undoubtedly aid the observer in confirming other impressions: but they are simply impressions and can not differentiate between the incipient pathologic and physiologic variations; they can only have a value as personal opinions secured by employing the sense of sight in a new method; since they are limited by the observer's acuity of perception, they can have no other value.

SKIAGRAPH MUST DISTINGUISH BETWEEN SOFT TISSUES OF DIFFERENT DENSITIES.

Further developments, and results that have the element of mechanical accuracy, can be obtained only by an improvement in this power to differentiate, by the skiagraph, between the less dense tissues. Some progress has already been made in this direction. Areas of infiltration and cavities with their surrounding wall of tubercular infiltrates can be shown in the skiagraph, while the progress of the disease can be recorded in a series of skiagraphs. They are also valuable in mechanically confirming the details of a diagnosis which has been made by the other methods.

The employment of this method in detecting consolidation of the apices and the incipient stage of tuberculosis would render the greatest service. It is, however, impossible, even where the skiagraph detects the increased density due to consolidation, to prove that this opacity is due to a tubercular deposit, or that it is even pathologic, except by employing, in conjunction, other methods that are now in vogue.

SURGERY OF THE KIDNEY.

Within the past twenty years the surgery of the kidney has been developed. The untiring efforts of clinicians and operators have already done much in systematizing the symptomatology, and in determining the various pathologic processes that involve these organs. More, however, must be accomplished if the early recognition and differentiation of these conditions is to be sufficiently accurate to render operative intervention of the greatest service. The similarity of the symptoms is so great that they may readily be confused and the differential diagnosis be impossible. The difficulty is increased when one or another symptom is masked or wanting. Frequently the symptoms become so severe and the condition of the patient so serious that operative intervention is indicated before a definite diagnosis has been reached. Here, where surgical diagnosis is often so deficient, this method has overcome the difficulties of diagnosis, and through it an absolute addition to knowledge can be secured. The absolute negative as well as the positive diagnosis of renal calculus can be made by this method, even when there are so few signs and symptoms that only a suspicion of its presence suggests the examination. Thus expectant or non-operative treatment is rendered rational where it otherwise would have been hazardous.

RENAL CALCULI.

Calculous nephritis is a pathologic condition in which delay in forming the diagnosis is most serious in its results. The mortality from early operation when the calculus is small, is but 2 or 3 per cent.; delay rapidly increases the danger until in the presence of suppuration it reaches 25 per cent. or more. Recovery after early operation practically restores the kidney to its primary and complete functional activity. The longer the pathologic process is permitted to remain undisturbed, the greater is the injury and functional loss; while if it continues undetected the entire kidney may be destroyed, or atrophy may set in and result in complete functional disability.

Clinical experience and post-mortem findings have shown that the danger from quiescent and unsuspected calculi is very great. Even where the symptoms unmistakably point to calculus and operation is indicated, there is always grave danger that the other kidney may be involved in the calculous disease. The formation of calculi depends upon some systemic cause, so that the possibility of the presence of a calculus in the other kidney should never be forgotten. Many operators even advocate double exploratory nephrotomy to guard against operation on the wrong kidney or when both kidneys are the seat of calculous disease. This is one of the problems that this method has solved. Quiescent or unsuspected calculi, that have either made their presence felt by one attack, where the symptoms have entirely subsided, or have never given rise to sufficient symptoms to cause more than a suspicion of their presence are a great danger, since their presence threatens, sometimes the integrity of one kidney, sometimes the life of the patient. These calculi, that are generally minute, are dangerous, because they may became impacted in the ureter and thus give rise to a partial unilateral anuria, or, if the other kidney has been prevously destroyed, to complete anuria and the death of the patient.

Post-mortem examinations have frequently demonstrated that the total destruction of one kidney has been accomplished by this process, or the suppuration resulting from the presence of one or more calculi, and that death has ensued when a calculus has formed in the other kidney and blocked its ureter. The process by which a kidney is thus destroyed is so insidious that destruction may simulate recovery. This pressure of the urine, dammed up in the ureter, soon equalizes the intranephritic blood-pressure; the kidney ceases to act, and loss of function is followed by atrophy and degeneration, until nothing may remain but a mass of fibrous tissue. The symptoms that ushered in the anuria subside completely and the patient has apparently recovered from the attack. There is in fact, such a complete simulation of recovery that undoubtedly many of the "cures" attributed to internal medication would be shown by post-mortem examination to have been in reality the cessation of symptoms because the kidney has been destroyed; while many other cases never had a calculus.

The patient who has suffered from an attack of renal colic, or in whom symptoms are present that point to the possibility of a calculus, can never be said to be out of danger until the absence or exact location of the calculus has been established. So long as the calculus remains in the patient's kidney or ureter, there is always danger of partial or complete anuria. If the calculus exists, its presence should be detected, and it should be immediately removed; if there be no calculus, the patient should have that assurance, as a basis for the rational treatment of the condition that produced his symptoms. Quiescent and unsuspected calculi are not the only difficulties met with in forming a diagnosis of renal calculus. Other pathologic processes, either within or outside of the kidney, simulate it so closely that their symptoms differ only in some minute particulars or degree, and are often so nearly alike as to render a differential diagnosis impossible by ordinary methods. The classic symptoms are seldom found and are nearly always wanting in the incipiency of the disease, when the very smallness of the calculus makes it most dangerous and when operation is most favorable and the loss of function the slightest.

The conditions that simulate calculous nephritis and render the differential diagnosis difficult are inflammations of the kidney, varying in degree from a simple hemorrhagic pyelitis to complete destruction of the kidney by a suppurative process. The formation of a benign or malignant tumor in the kidney may produce symptoms that are the counterpart of the early calculous pyelitis and can not be distinguished from it in the earlier stages, or until the tumor has reached a palpable size. Tubercular disease of the kidney is most difficult to differentiate. The similarity of symptoms is very close, and when it is impossible to detect the tubercle bacillus in the urine, the differentiation is often impossible.

The excessive secretion of oxalic or uric acid may give rise to a symptom-complex that is difficult to separate from true calculous disease. In fact it is probable that these conditions are often the prodromal stage of calculous formation and the negative diagnosis established in such cases can not guarantee that the patient will not form and pass calculi or gravel at a subsequent period, unless the systemic condition responsible for these excessive excretions is corrected. Ureteritis with or without the formation of a stricture may be very difficult to differentiate from calculous disease.

Other conditions than those that are purely intranephritic and yet that involve the kidney may produce a resemblance in their symptomatology that is very close to that of calculus. Abnormal motion, either in the form of the floating kidney with a wide excursion from the normal position, or the movable kidney with a lesser, yet pathologic, displacement, may give rise to twists or sharp angles in the ureter or the renal artery and veins that will produce alterations in the flow of the blood or in the escape of the urine, thus altering the intranephric blood-pressure or the intrapelvic urinary pressure. These alterations may produce periodic congestions or an intermittent hydronephrosis. They are acute in type and have such crises of pain and are often attended by hemorrhage to such an extent as to make it impossible to exclude calculus. The continuance of these conditions or of an acute hydronephrosis may in time result in pathologic malformations, which have been variously described as valvular folds or twists of the ureter. Perirenal abscesses and inflammations or cicatricial adhesions and contractions may also play their part.

Besides these numerous conditions within and outside the kidney, other diseases in distant or neighboring organs may be readily confounded with calculous disease of the kidney. The ovaries, the appendix, and the gall-bladder are all the seats of pathologic processes producing symptoms that may be readily referred to the kidney. Ulcerations or malignant disease in the stomach, intestines, or other parts of the genito-urinary tract, may produce crises of pain that resemble very closely nephritic colic, since the pain is often referred to the kidney. Disease of the lumbar spine in its incipiency is frequently accompanied by pain that is lancinating in type, and may be mistaken for nephritic pain occasioned by a calculus.

This résumé of the conditions in which the symptomatology is confused with that of calculus, shows how readily mistakes may arise, and how impossible it is to prevent them by the ordinary means of diagnosis at present at command. The list of operations performed for stone in which none were found would be very large if all were reported. Mr. Henry Morris, who is probably the greatest authority on renal calculi, has reported forty-four cases in which he operated for stone and found none. The patients in the majority of these cases were benefited, since the pathologic process present was determined, and frequently complete recovery ensued. Many other operators of the highest diagnostic ability have made similar mistakes. In many of these cases exploratory nephrotomy was indicated. Such operations are indicated, even where calculus has been excluded, whenever the symptoms point to a process the persistence of which would endanger the function or vitality of the kidney; they are, however, unjustifiable for suspected calculus, since their absence or presence can be absolutely determined by the Roentgen-ray examination. Surgical opinion has already reached the point where it condemns the incision of the kidney during an exploratory operation, unless some macroscopic lesion demands it, or a calculus has been shown to be present by the skiagraph.

Two cases have come within the author's personal experience in which the Roentgen-ray diagnosis was the only indication for incising the kidney. In each case the calculus was found and the patient relieved before serious injury had been done to the kidney. In either of these cases the incision of the kidney would have been an unjustifiable procedure if the presence of a calculus had not been predetermined, as there were no macroscopic indications of its presenuce.

These various simulations of calculous renal disease, and the benefits secured by the employment of the Roentgen-ray method of diagnosis have been illustrated by the series of seventy-four cases in which an absolute negative or positive diagnosis has been established.

HYDRONEPHROSIS.

The benefits derived from this method of diagnosis are not confined to the detection or exclusion of calculi. In three cases a hydronephrotic condition was shown; in one instance accompanied by three calculi that were subsequently removed; in a second there was a pure pyonephrosis where the negative calculus diagnosis was subsequently proved by operation. The third case is of particular interest, as it illustrates the possibilities of this method and what may be expected from further developments. Attacks that simulated a mild form of appendicitis had persisted for about three months, recurring at intervals with an exacerbation of the symptoms. The presence of a slight amount of blood in the urine after these attacks was the only symptom or sign that pointed to renal disease. It suggested calculus and the patient was referred for a Roentgen examination. The skiagraph showed the absence of calculi and in addition an opacity, greater than that of the rest of the kidney which corresponded in form with the pelvis. The outline of the pelvis was not visible in the other kidney shadow, showing that some pathologic condition must have been present to produce the contrast. The clinical history made it highly probable that this shadow was due to the distension of the pelvis by bloody urine, forming a condition of acute hydronephrosis. The subsequent history justified this conclusion. Another case similar in character in which a hydronephrosis was detected was shown by the catheterization of the ureter to be correct, as a large amount of pus was withdrawn.

In another case which exhibited no renal symptoms and in which a true cystitis had been excluded, the skiagraph showed a minute calculus in the ureter just outside the bladder. Its position was beautifully demonstrated by the shadow of the bladder wall. In another pelvic examination the shadow of the enlarged prostate was distinctly visible. No detail was, however, added to the diagnosis that had been made by other means, except that calculi were excluded.

The production of such detail and differentiation in soft tissue shadows points out the way for further advance in diagnosis. The value of the detection of abscess formation, as the result of tubercular disease in the kidney will be very great. A nephrectomy will, if the diagnosis can be made sufficiently early, completely eradicate the disease.

THE EXACT LOCALIZATION OF THE CALCULUS.

The exact localization of the calculus is one of the great advantages of this method. Not only is the operation rendered complete by the definite determination of the number of the calculi, and the question of the involvement of the other kidney decided, but the exact location also limits the operative intervention to a particular portion of the kidney. Thus a calculus weighing 42 grains was removed in a late case through an incision in the upper pole of the kidney which brought the operator directly upon the calculus. In another case the second calculus was found only because the exact localization led to the opening of a cyst in which it lay. In a third case three calculi were removed where one would have been considered the sole cause of the trouble. In two cases calculi have been found in both kidneys. Such precise localization would be invaluable in a case of partial or complete anuria from calculus. The knowledge obtained would facilitate and limit the extent and severity of the operation. The greatest value of this method lies in the mechanical method of its production, which guarantees mathematical accuracy when it is properly employed. If the calculus is suspected it can be detected. The examination is harmless, painless, and yet comprehensive, detecting or absolutely excluding calculi from all portions of the urinary tract.

The completeness and accuracy of these diagnoses, both positive and negative, has been attested by the seventeen cases, out of the twenty-four that have been operated upon. A calculus weighing 9/10 of a grain has been detected, and a mass of crystals that were not organized into a true calculus found and removed. Calculi of all chemical compositions are included in this number, from the more opaque oxalate to the less opaque uric-acid stones. Calculi have been found in fourteen cases; the negative diagnosis has been confirmed by seven operations, and in only one case, through a fault in placing the plate, has a calculus escaped detection.

The technique essential to the production of negatives upon which these absolute diagnoses can be based has been already published.[1] Where such mechanical results are produced, absolute dignosis can be based upon them. All that is essential is that the negatives be perfect in emulsion and show detail in shadows of tissues less dense than the least dense calculus.

The same method applies with equal accuracy to the detection of vesical calculi. It is especially valuable in determining the size and number of calculi present; in showing partially encysted calculi lying in a diverticulum or in detecting calculi in the pocket behind an enlarged prostate gland.

1930 Chestnut Street.

ACUTE TONSILLAR DISEASES AND THEIR SEQUELAE.*

JOSEPH H. ABRAHAM, M.D.

INSTRUCTOR IN LARYNGOLOGY IN THE NEW YORK POLYCLINIC.

NEW YORK CITY.

The tonsils belong to the hemopoietic system, and are germinating centers for the leucocytes. Their period of greatest activity is in childhood and youth, when all the lymphatic organs are especially active, and when the thymus gland is disappearing.[1]

Surrounding the tonsillar follicles are plexuses of lymphatics, and in the tissues of the tonsils there exists an intimate lymphatic network, composed of minute channels from which the lymph is collected by larger lymphatic vessels. These pass to the superior deep cervical glands, which frequently become enlarged in tonsillar inflammations, and can be easily demonstrated in the upper part of the neck. Goodale[2] proved that absorption exists normally in the tonsils and takes place through the mucous membrane of the crypts. Hodenpyl[3] demonstrated that rarefaction of the epithelium is of constant occurrence in the tonsils; as a result of this process, parts of the epithelium are considerably diminished in thickness. Therefore any irritant to the cells increases desquamation, which may denude the tonsil in places of its epithelial covering and favor lymphatic absorption of the toxins often found in this vicinity into the general circulation.

---

[1] Annals of Surgery, February, 1900.

*Read before the Alabama Medical Association, at Montgomery, Ala., April 17-20, 1900.

For practical purposes I have divided this paper into a description of acute catarrhal or superficial tonsillitis, acute lunar or cryptic tonsillitis, and peritonsillar abscess. Some knowledge of the relative frequency of tonsillar disease may be obtained from Lennox Browne's[4] hospital reports of 12,330 cases of tonsillar disease treated by him in ten years, representing 13 per cent. of all the cases of throat, nose, ear and neck diseases; of this number, 3167 cases were of acute or subacute inflammation, rather more than one-fourth of the whole.

Acute catarrhal inflammation of the tonsils occurs primarily as a lesion in acute pharyngitis and is found regularly in measles, scarlet fever and diphtheria. Secondary extension of an acute catarrhal and lacunar inflammation through the tonsils may produce phlegmonous tonsillitis; and in some cases the infection is primary.

Frequent bacteriologic examinations have demonstrated the presence of numerous micro-organisms within the lacunæ, among which streptococcus, staphylococcus aureus et albus, Fränkel's pneumococcus, and Friedländer's pneumobacillus have been found.

In Meyer's[5] report of 53 cases, he found staphylococci in 14 cases, streptococci in 15 cases, and in the remaining 24 cases a mixture of the two. In 100 cases classified by Reid[4] at the Central London N. T. & E. Hospital, streptococci were found in 58 cases; staphylococci—aureus 31, albus 23, and others 8—were found in 62 cases. Diplococci were found in 32 cases. Among the other forms, Klebs-Loeffler bacilli were found in 7 cases.

Nicolle,[6] Hebert[6] and Pakes[7] inoculated serum tubes from the throats of patients and found Friedlander's pneumobacilli were present 8 and 5 times, while Griffon and Besancon examined the tonsillar secretions of 40 persons of all ages and conditions, and found the pneumococcus constantly present.

Sendziok[9] examined 133 cases of lacunar tonsillitis and found staphylococci and streptococci were constantly present. He also found that hypertrophic tonsillitis predisposed to an attack and that the disease was equally divided between the two sexes, but a majority occurred between the ages of 20 and 30. Out of 1000 cases reported by Mackenzie,[10] 323 cases occurred between the ages of 20 and 25, and 184 cases between 15 and 20. Persons once affected are very liable to subsequent attacks.

Patients suffering from congenital or acquired hypertrophy of the tonsils are very prone to an attack. Retained masses within the lacunæ may produce an irritation favoring inflammation.

Lymphatic hypertrophies in the vault of the pharynx, causing mouth-breathing, thereby lowering the normal physiologic function of the gland, predispose to an attack. In four cases of recurring lacunar tonsillitis in children, I have obtained a complete cure by removing the adenoids.

Edwards and Severn[11] reported six cases of milk infection, causing acute lacunar tonsillitis, and traced the infection to one particular cow in the dairy. In the milk were found the same micro-organisms as were found in the exudates from the tonsils.

Chapin[12] considers disordered stomach due to overfeeding, producing an acid fermentation as a frequent cause of tonsillitis in children. A rheumatic, gouty and strumous diathesis and other conditions, as over-work, mental depression and menstrual—Gautier[13] and Raymond[14]—disorders are predisposing causes; in some, by the action of the toxic substance in the blood upon the lymphatic tissues of the glands; in others, by reducing the normal physiologic resistance of the mucous membrane of the tonsils, allowing previous non-virulent bacteria to assume a virulent type and favoring absorption into the system of their toxins.

The exciting causes are exposures to cold or sudden thermo-climatic changes, and vary considerably in different localities.

In comparing Delavan's and Mackenzie's[15] tables, Delavan finds that tonsillitis is most frequent in March, least frequent in September, in New York; Mackenzie finds nearly the opposite conditions existing in London.

Inflammatory changes, due to mechanical irritation and inhalation of irritating gases may be a direct cause. Frankel and Lennox Browne[16] consider intranasal operations a frequent cause, and especially after the use of the galvanocautery. Lastly, bad hygienic surroundings favor an attack, as the following will prove:

In December, 1898, I was called to see a girl, aged 7, suffering from an attack of acute lacunar tonsillitis. At the end of twenty-four hours the entire household—two girls, three adults and a servant—were affected. The drain-pipe of the refrigerator was connected with the house drain, and for several days the family had noticed a peculiar taste and odor in the milk, butter, etc. The drainage was corrected, the refrigerator cleaned and no subsequent attacks occurred.

The various forms of acute inflammation of the tonsils vary mainly in degree. The edema of the tonsils is due to the engorged vessels which cause obstruction of the muciparous glands, and it is followed by infiltration of the parenchymatous tissues with an exudate of serum and leucocytes. In lacunar tonsillitis, the epithelium is thus deprived of its nutrition, the cells become swollen and cloudy, followed by rapid multiplication and death, producing the yellowish masses we see upon the surface of the tonsils and so pathognomonic of the disease. Leucocytes, numerous micro-organisms—see Etiology—and at times fibrin are found in the exudate. Sometimes these coalesce and cover the tonsils with a serofibrinous exudate, resembling a membrane. Transudation of the leucocytes occurs to such an extent in the parenchymatous tissues that it is impossible to differentiate the lymph-nodules from the surrounding lymphatic tissues. This, in conjunction with the engorged vascular supply, increases the size of the tonsils. As a result of the infiltration, the cells die, pus is produced in the substance of the tonsils, or, as occurs most frequently, the inflammation may extend externally and involve the intercellular spaces, following the coagulation-necrosis, with the formation of a peritonsillar abscess.

In the majority of cases we find great prostration and severe constitutional symptoms, which are entirely out of proportion to the local manifestations. Usually the person complains of chilly sensations, which at times may be a distinct rigor, these with headaches, aching pains in the back and extremities, followed by a feeling of dryness in the throat and of stiffness in the muscles of the neck, are usually the premonitory symptoms. Following the onset, pain in the throat is the most frequent symptom; it is lancinating in character, and located more at the angle of the inferior maxilla. The pain is often reflected to the ear, and follows an extension of the inflammation to the mucous membrane lining the Eustachian tube, producing a catarrhal otitis media with tinnitis and a temporary impairment of hearing. When the inflammation attacks the laryngeal structures the voice will be altered; this is especially true when the swelling of the pharyngeal structures interferes with the nasal resonance. The temperature rises rapidly, and in children may reach as high as 105 F.; in adults the temperature varies from 101 to 103 F. The tongue is furred, the breath foul and there is often vomiting and diarrhea in infants, while older persons complain of nausea and obstinate constipation. The pulse is full and regular, and averages 100 to 120. The amount of urine is decreased; it is highly colored, loaded with urates and contains an excess of urea. A great amount of indican may be found, but there is a deficiency of chlorids. Albumin is occasionally found in small amounts. On examination the tonsils are found to be swollen and the mucous membrane deeply reddened. Scattered over the surface are seen the characteristic yellowish masses, marking the orifices of the lacunæ; sometimes they coalesce, forming a creamy exudate, resembling a membrane. A slight swelling and tenderness of the cervical glands may be found. Osler[17] considers the development of general or local paralytic symptoms in lacunar tonsillitis as proof of an error in diagnosis. The general symptoms continue for from one to three days, when the inflammation subsides, the fever departs and the local conditions improve.

In the peritonsillar abscess the symptoms vary greatly in severity from those of an acute catarrhal and lacunar tonsillitis. Frequently the symptoms of the latter precede those of the former from one to three days or more. The pain in the throat is deep-seated and throbbing or boring in character. Dysphagia is intense, the patient can hardly swallow his own saliva and refuses food on account of the swelling and severe pain on opening his mouth. The breath is very foul, the tongue covered with a thick, furry yellowish-gray or brownish material, the teeth are covered with sordes, and the general expression is one of great anxiety and suffering.

Locally, the tonsils and surrounding structures, the uvula and velum palati and frequently the laryngeal structures are reddened and edematous. As suppuration increases, the swelling of the cervical glands and surrounding tissues also increases and spontaneous rupture may occur at the most dependent portion.

The differential diagnosis between lacunar tonsillitis and diphtheria is at times extremely difficult. Upon clinical and bacteriologic examinations rests our diagnosis; therefore, in all doubtful cases cultures should be made, that the presence or absence of Klebs-Lœffler bacillus may be determined. In some cases of diphtheria, the bacilli may not be found at the first examination, but subsequent examinations will reveal them; again, the presence of the pseudo-diphtheria bacillus makes positive diagnosis somewhat doubtful. The majority of physicians must rely entirely upon a clinical diagnosis, and in order to do this an enumeration of the following local and constitutional symptoms will aid. A history of repeated attacks is common in tonsillitis, seldom so in diphtheria; as a rule, the onset of diphtheria is gradual, with a low temperature, rarely over 103 F., which continues for some time; the pulse is rapid, depressed and at times irregular. In lacunar tonsillitis the onset is usually abrupt, with a high temperature, which may reach 106 F. early in the disease. The pulse is rapid, full and regular. With the low temperature of diphtheria, albumin appears early and persists for a considerable length of time, while with the high temperature of tonsillitis it is rarely found; if so, usually about the second day, and only lasts from twenty-four to forty-eight hours. The membrane of diphtheria begins as a small patch, usually of a pearl gray or of a dense white color. It soon spreads to the faucial pillars and uvula and on removing the membrane the surface bleeds and is eroded.

In lacunar tonsillitis the exudate is of a yellowish color and marks the orifices of the lacunæ. It can be easily removed, leaving no bleeding or eroded surface. In diphtheria, frequent paralysis of the throat and other muscles with marked asthenia, and severe toxemia are found. In tonsillitis they rarely, if ever, occur.

At the onset tonsillitis may be confounded with scarlet fever, but the characteristic exanthema and tongue symptoms of the latter will clear the diagnosis.

Recent clinical and bacteriological evidence proves that the tonsils are without a doubt portals through which pathogenic micro-organisms enter the system, and that infectious diseases and serious sequelæ may result therefrom. Du Mesnil de Rochmont[18] reviews the recent literature on the bacteriological investigations as well as the complications following acute tonsillar affections. Among the latter, he mentions the following: Pleuropneumonia, osteomyletis, albuminuria, paraplegia, erysipelas, orchitis, etc. The same author reports an epidemic of acute tonsillitis in the Altonia hospital, following the admission of a patient suffering with acute tonsillitis and acute articular rheumatism. A few days later 17 patients and a nurse, in five wards in the same corridor, developed acute tonsillitis. No case of tonsillitis existed prior to the above, therefore the infection seemed clear.

Cultures from the tonsillar exudates demonstrated the presence of staphylococci, streptococci and a few small non-pathogenic streptobacilli. Following the tonsillitis, three cases developed acute rheumatism, one nephritis, pericarditis, endocarditis and myocarditis. In concluding his article, he advocates isolation in all cases of acute lacunar tonsillitis.

In 1866 Trousseau called the attention of the profession to the fact that acute tonsillitis frequently precedes an attack of rheumatic fever; since then numerous investigations have verified his deductions, therefore if we accept the theory that rheumatic fever is an infectious disease, then the following evidence will prove that rheumatism is frequently a sequel of acute tonsillitis.

Sir Willoughby Wade[19] claims that rheumatic fever is a secondary disease arising from the absorption of microbes or their toxins into the system and frequently follows a primary infection of the tonsils. In support of his views, he reports a number of cases of rheumatism following the first attack of tonsillitis, while other cases followed after repeated attacks, in which no previous history of rheumatism existed. Wagner[20] reports two interesting cases of tonsillitis, without previous histories of rheumatism, in which, after a bacteriologic examination, the same micro-organisms were found in the knee-joint and urine as in the diseased tonsils. Sterling[21] mentions five cases and Ross[22] four cases of rheumatism following acute lacunar tonsillitis.

Between the years of 1890 and 1898 Lachmanski[23] studied seventy-three cases of acute rheumatism in children at the Emperor and Empress Frederick Hospital in Berlin and found twenty-six cases were due to exposure to cold and other causes. In eleven cases pharyngitis, in two lacunar tonsillitis were the causes. In three cases tonsillitis occurred between attacks of articular rheumatism.

To the above I add another:

Miss ——, aged 24, professional nurse, complained of a sore throat. On examination her pharynx and tonsils were reddened and swollen. Protruding on the surface of the glands, the characteristic yellowish exudates were seen. Her temperature was 102.8 F. With a decline of the faucial symptoms, there appeared on the third day pain and swelling in her right shoulder, which appeared subsequently in the left shoulder, knee and ankle joints. The patient gave a good family history, but had suffered previously from two attacks of tonsillitis, never from rheumatism.

M'Donnell[24] reports a case of acute tonsillitis followed by pericarditis without arthritis, and Jessen[25] mentions a case of pericarditis with a double pneumonia which proved fatal following a staphylococcus tonsillitis. Packard[26] reports seven cases of tonsillitis followed by endocarditis. In five of the cases he was positive that there existed no abnormal heart lesions previous to the attack of tonsillitis. Mayer [27] reports a case of lacunar tonsillitis followed by endocarditis. Holt[28] reports a case of cardiac murmur, following an attack of tonsillitis. In both cases the heart was previously normal, and no articular symptoms existed. Out of 120 cases of tonsillitis reported by Roeger,[29] 24 developed a cardiac murmur, 14 commenced and terminated with the tonsillitis, ten persisted later.

The following case occurred in my own practice:

A girl, aged 8, complained of a headache, with severe chill and sore throat. On examination the tonsils presented the yellowish plugs and were quite edematous and reddened. Temperature 105.2 F., pulse 120. Under treatment the temperature fell to 101 F. in twenty-four hours. On the third day all local symptoms had seemingly disappeared, but on examining the heart a loud systolic murmur was heard distinctly at the apex and transmitted to the left. On the fourth day, articular symptoms appeared in the left knee and ankle joints, and on the tenth day a marked case of chorea had developed. On the mother's side a family history of rheumatism existed, although the child had never suffered from articular pains or any heart murmurs previous to this attack.

B. Abrahams[30] reports 248 cases of corea, of which 53.4 per cent. had a family or personal history of sore throat.

Heddaeus[31] reports a case of metastatic pleurisy following an attack of acute tonsillitis, due to staphylococcus pyogenes aureus, and Jessen[25] mentions a case of wandering pneumonia, pleurisy, and nephritis following a streptococcus tonsillitis.

Baduel[32] reports 4 cases of tonsillitis due to the diplococcus of Fränkel, which was found in the blood, nephritis following later.

Hollick[33] reports a fatal case of tuberculous meningitis following tonsillo-glossitis, and Fagge[34] mentions a case somewhat similar.

Zilgien [35] reports 4 cases of tonsillitis, followed by angina pectoris.

Troquart[36] mentions 2 cases of suppurative adenitis, and Vergely[36] one case after an attack of acute tonsillitis.

Delavan[15] reports a case of edema of the glottis following peritonsillar abscess, which proved fatal.

Hamilton[37] reports a case of convulsions in a 7-year-old girl following a case of acute suppurative tonsillitis.

Sendziok[38] reports a number of cases of laryngitis and bronchitis complicating acute lacunar tonsillitis.

Buschke[39] and Jessen[25] mention cases of osteomyletis following streptococcus and staphylococcus tonsillitis.

Ward[40] reports a fatal case of septic thrombophlebitis following a peritonsillar abscess. Bosworth[41] reviews the literature of the complications following peritonsillar abscess and mentions a number of investigations whose cases are somewhat similar to those reported under lacunar tonsillitis.

The proofs presented in this paper establish the etiologic factors of some of the infectious diseases as well as other sequelæ and complications arising from an acute attack of tonsillitis. Our duty is to prevent such infections, to investigate carefully each case of tonsillar disease, to reconsider and classify them as more than innocent affections, and in future to treat the attack energetically, and assiduously apply the proper local general and operative treatment in the interim.

At the onset of acute catarrhal tonsillitis, administer a saline purgative; spray or brush the tonsils and pharynx every hour with a solution of:

R. Formalin ....m. xv-xx
Potass. chlor...............................ʒi
Liq. ferri. chlor...............................ʒi
Aquæ menthæ pip. q. s. ad.................℥iv
M. Sig. Use as spray.

Early in the disease cold applied internally in the form of gargles or cracked ice in the mouth, and externally in the form of cold compress or ice bag is of invaluable aid. The patient should drink frequently of equal portions of cold milk and vichy. For the febrile condition administer anitpyrin, and in conjunction give a capsule containing:

R. Quinin hydrobromat.......................gr. i
Sodii benzoatis.........................gr. ii
Salol ....gr. v
M. et. ft. cap. No. i. Sig. One every three hours.

If the inflammation extends to the deeper tissues, the tonsils and surrounding structures become edematous and interfere with deglutition. Multiple punctures and scarifications are then indicated in order to produce free bleeding, and at this stage heat applied internally, in the form of gargles and hot drinks, and externally, in the form of poultices and fomentations, is indicated.

In the remaining forms of tonsillitis, much depends upon the stage of the disease. If we begin treatment within twenty-four hours of the onset, we can frequently abort the attack by administering at once a tablet containing calomel, gr. ¼, and sodium bicarbonate, gr. 1, every thirty minutes for eight doses, followed later by a Seidlitz powder. Remove with a curette the yellowish exudate from the crypts, and apply on a cotton-tipped probe to the surface and into the crypts of the tonsils every two hours the following:

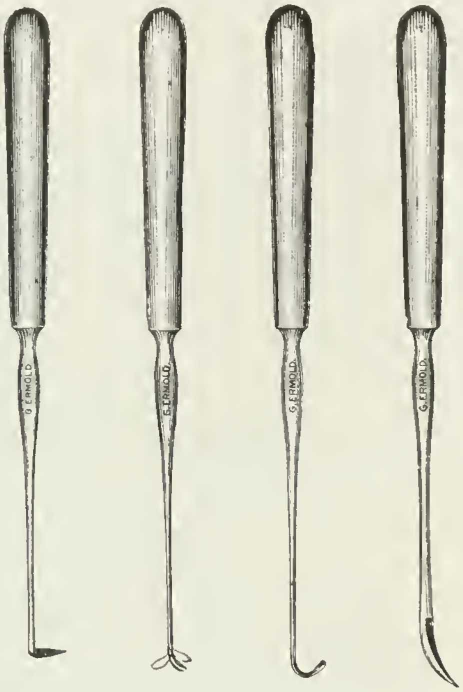
R. Menthol ....ʒss
Guaiacol ....ʒiss
Glycerin ....ʒii
Alcohol Absol. q. s. ad.......................℥i
M. Sig. Apply locally.

Cold should be applied immediately. Administer every half-hour half a drop of tr. aconite and watch carefully for the physiologic effects of the drug, stopping immediately upon their appearance. Give internally every two hours, in a little milk or water:

R. Guaiacol carb.............................gr. i
Sodii benzoat..........................gr. ii
Sodii salicylat..........................gr. v
M. ft. Pulv. No. i. Sig. In milk or water every two hours.

Pus should be evacuated as early as we can diagnose its presence; tonsillar abscesses should be incised with a sharp-pointed knife and sprayed with the compound formalin solution. A peritonsillar abscess should be opened with a sharp-pointed curved bistoury protected with a piece of cotton or adhesive plaster, so as to expose only the cutting surface, the incision being made where the abscess points or at the most dependent portion. The direction of the incision should be from above downward and slightly outward parallel with the anterior pillar.

The isolation of all cases of acute lacunar tonsillitis is advisable. In adults and children recurring tonsillitis and inflamed and hypertrophied tonsils are positive indications for a radical procedure. When all acute symptoms have subsided, subsequent attacks should be prevented by a partial or complete removal of all tonsillar tissue. Hypertrophied tonsils with numerous crypts, and spongy surface, that we so often see in children or young adults, should be amputated, either with the tonsillotome or with the galvanocautery wire or knife. If the former instruments are employed, I invariably cauterize the cut surface in from ten to twenty days with a galvanocautery knife, so as to form a dense cicatrix and to eliminate the remaining crypts. Hypertrophied tonsils in adults, with a ragged surface, enlarged crypts and broad base should be removed entirely. The adhesive fold of mucous membrane which is frequently attached to the anterior faucial pillar and inner surface of the tonsil should be incised with the right-angled knife, and the tonsil removed with a gouge. The after-treatment consists in keeping the parts thoroughly cleansed with the compound formalin solution.



The conclusions to be derived from a study of these affections are: 1. All cases of acute tonsillar disease should be considered more than trivial affections. 2. Acute lacunar tonsillitis is an infectious disease. 3. Isolation should be practiced in all cases of acute lacunar tonsillitis. 4. Recurring attacks of acute tonsillitis are an indication for the partial or complete removal of the tonsils. 5. A careful systemic examination and treatment should be applied during and after an attack of acute tonsillitis.

132 West 144th Street.

BIBLIOGRAPHY.

1. Monats. für Ohrenheilk., April, 1898.
2. Arch. f. Laryngol., Bd. vii.
3. Am. Jour. of the Medical Sciences, ci., 1891.
4. The Throat and Nose, 5th Ed., London, 1899.
5. Arch. f. Laryngol., No. iv, 1896.
6. Annales de l'Institut Pasteur, Jan., 1897.
7. British Medical Journal, March 20, 1897.
8. Presse Méd., April 16, 1898.
9. Arch. f. Kinderheilkunde, B. xx.
10. Diseases of the Nose and Throat, Vol. i, p. 49, 1880.
11. Lancet, London, June 12, 1897.
12. Medical News, March 4, 1899.
13. Thèse de Paris, 1895.
14. Gaz. Hebdom. de Méd., Paris, 1895.
15. Ref. Handbook Med. Sci., Vol. vii, 1889.
16. British Medical Journal, Oct. 26, 1895.
17. Practice of Medicine, iii, 452, 1898.
18. Muenchener Med. Woch., 1898.
19. British Medical Journal, April 4, 1896.
20. Trans. Am. Laryn. Assn., 1895.
21. Kronika Lekarska, No. 15, 1895.
22. Berliner Klin. Woch., No. 24, 1894.
23. American Medical Journal, 1900.
24. British Medical Journal, Jan. 2, 1897.
25. Muenchener Med. Woch., March 17, 1899.
26. American Medical Journal, 1900.
27. Ibid., Dec. 2, 1899.
28. Diseases of Infants and Children, p. 1088, 1897.
29. Muenchener Med. Woch., Feb., 1900.
30. Medical Press and Circular, London, 1899.
31. Muenchener Med. Woch., May 4, 1897.
32. Revue Hebd. de Laryngol., d'Otol. and de Rhinol., 1897.
33. British Medical Journal, April 30, 1897.
34. Principles and Practice of Medicine, i, 646, 3 ed.
35. Rev. Méd. de l'Est., Oct. 15, 1897.
36. Journal de Médecine, Bordeaux, 1895.
37. British Medical Journal, Jan. 7, 1899.
38. Arch. f. Kinderheilkunde, B. xx, Vol. vi.
39. American Journal of the Medical Sciences, 1898.
40. N. Y. Medical Journal, Oct. 14, 1899.
41. The Throat, p. 109, edition of 1892.

SARCOMA OF THE STOMACH.*

BY GEORGE DOCK, M.D.
Professor of Medicine in the University of Michigan.
ANN ARBOR, MICH.

T. J. W., a male, married, merchant, 55 years old, was admitted to the University Hospital Jan. 18, 1900, on account of loss of strength and weight, and distention, burning pain and tumor in the region of the stomach.

The family history is negative. In early life, he had whooping-cough and measles, and while in the army during the Civil War, he had several attacks of intermittent fever, and was jaundiced four months. Ever since then he has been constipated. Up to two years ago he had every summer an attack of pain in the abdomen, with vomiting, fever, pain in the head and back, ending with diarrhea, but he has never had jaundice after these attacks.

During the last four years, he was postmaster and had long hours. He ate hurriedly and heartily, almost without mastication; and thinks that this has aggravated his present disease. He uses tea and coffee in moderation, and smokes, but does not use alcoholics.

The present disease began in December, 1897. Constipation was very troublesome and he lost weight. Soon after this, he noticed a heavy sensation in the stomach region. In the spring of 1898, he had an attack of pain in the right hypochondrium, moving down toward the hip; it was cutting and of short duration, but was followed by pain and tenderness in the liver region, in the back and in the right side of the abdomen. He never had nausea in the attacks, but the pain made him double up. He had a number of very severe attacks of this kind, and gall-stones were suspected, but were never found in the stools. In April, 1898, he began to vomit, and at first only what had been last eaten; but later, articles eaten a day or so before, but never blood or dark material. He had regurgitation of an irritating fluid.

In July, 1898, a tumor was discovered just below the ribs in the right nipple line. This he thinks grew smaller, but during all this year the abdomen was distended more or less. In December, 1898, at the advice of a friend, he began to use the stomach-tube, washing out the stomach three times a week before breakfast. This gave much relief, but was associated with great loss of weight. By the end of three weeks he had lost from twenty-five to thirty pounds, had no appetite and could take nothing but milk. He was then treated by a physician, who stopped the lavage, gave strychnia, laxatives, etc., and looked after the diet. He then improved, gaining thirty-five pounds in four months, and the pain almost disappeared. In October, 1899, he began to vomit after almost every meal, lost weight and strength and his appetite failed. The stomach became greatly distended, and a sour, burning fluid was regurgitated. Food-remains of the day before were found in the vomitus, but there was never any blood. He thinks the tumor is no larger than when first noticed.

---

*Read before the Association of American Physicians, Washington, D. C., May 3, 1900.

Present state.—Jan. 18, 1900. The patient is 5 ft. 6 in. in height; weighs 110 pounds; the frame is of medium size; panniculus is absent; the muscles are small and flabby; the skin is loose, inelastic, rough, dry and sallow; and there is marked nodular myoidema. The mind is clear, but the expression is languid. There is marked arcus senilis. The visible mucous membranes are pale; there is no edema; no enlarged glands, and the joints are normal. The tongue is not large, and the papillæ are not enlarged, while the surface is moist and covered with a thin, white coat. The teeth are defective, and he has an upper plate. The thorax is of medium size and well-formed. Auscultation and percussion of lungs and heart are negative. The radial arteries are tortuous, and the walls uneven. The pulse is 64, and regular, with moderate tension. The abdomen in general is below the level of the ribs; but above the umbilicus, tumors of considerable size form and disappear, move from right to left, back to right and downward. They can easily be brought out by tapping on the abdomen. Auscultatory percussion shows change of note an inch below the navel. There is succussion to the line of the umbilicus. Just below the edge of the ribs, between the right nipple and parasternal lines, is a mass about the size of a hen's egg, hard and smooth; it moves down with inspiration and is retracted with considerable force in expiration. Liver dulness extends from the sixth interspace to the edge of the ribs, and the organ can not be felt. The splenic dulness is small, and the spleen can not be felt. but the right kidney can be in deep breathing. The blood flows freely and is of good color. The red corpuscles number 4,960,000; the leucocytes 7250; the hemoglobin (Fleischl) is 75; the sp. g. is 1056. The differential count of leucocytes shows lymphocytes 7 per cent., polymorphonuclear 89, transition 2, and degenerates 2.

Jan. 18, 10. p. m. The stomach was prepared for Boas' gruel. At same time 700 c.c. of fluid was aspirated; the first part was light, but later was darker, with acid odor, much foam, and gas bubbles breaking after standing. The lower layer was of white granular material, with undigested meat, potatoes and milk; the middle one was of a clear, pale yellow fluid; and top of foamy mucus with sarcines and yeasts, fat, muscle-fibers and starch. There was no blood; no pus; and no tissue.

Jan. 19. Boas' breakfast was aspirated after 45 minutes. The findings were: 200 c.c. of a pale yellow, cloudy fluid, with an odor of apples; reaction, acid to litmus; congo, dark blue; Günzberg, negative; dimethyl, positive; Uffelmann, negative; total acidity, 51 = .18615; combined acid, 7 = .02555; free HCl, 28.5 = .10402; organic acids and acid salts, 15.5 = .05657. Digestion in a test-tube was very slow, even with the addition of HCl. The sediment consisted of food remains, a few leucocytes, and some very small bacilli (not Oppler-Boas).

The stomach was distended with CO_2. The lesser curvature was just above the umbilicus; the greater one, four inches below; the stomach was perpendicular; the tumor was behind the right end of the distended stomach.

The urine examination showed an excess of indican; otherwise it was negative; and the examination of the stools was also negative. The patient was given special diet for dilatation.

Jan. 21. Boas' meal was given and was aspirated after one-half hour. The findings were: 400 c.c. of a dark yellowish-brown fluid, containing food particles and sarcines; Günzberg, positive; the quantitative tests about as before; digestion in test-tube slower than before.

Lavage was repeated every two or three days, according to the indications, and there was always more or less fermentation, with sarcines. Hydrochloric acid was always present, but lactic, never. The patient gained three pounds in ten days, and the tumors ceased forming in peristalsis.

The diagnosis was dilatation from tumor at the pylorus, probably the scar of an old ulcer. When admitted, the patient laid much stress on the history of a paroxysmal pain, with a soreness in the epigastrium, vomiting, etc. Although there was no history of hemorrhage, the symptoms in the early stages had not been carefully observed. There was evidently an adhesion between the liver and the stomach tumor, and on account of the history, long duration and absence of more positive evidences of malignancy, I thought this pointed rather to a hypertrophic scar than to a new growth. Largely on the ground of probability, the likelihood of a carcinoma being present in the tumor was represented to the patient; and other possibilities, especially sarcoma, were considered, but the features of the case were not considered to admit a differential diagnosis.

The patient was advised to submit to an operation, with a view to carrying out the best treatment permitted by the local conditions when examined directly. He consented, and pylorectomy was made by my colleague, Dr. C. B. Nancrede, professor of surgery in the University of Michigan. The operation, having been unavoidably postponed, was done Feb. 5, 1900. The part removed represented about one-third of the long axis of the stomach and about 2 cm. of the duodenum, while the tissue seemed to be well clear of new growth at its extremities. No metastases could be found, and uninterrupted recovery followed the operation. The patient sat up in three weeks and was discharged in five, having gained the weight lost after the operation, and his weight was still increasing rapidly.*

The piece of tissue removed measured 6 cm. along the lesser curvature. The pylorus was almost closed, and projecting into the lumen was a tumor of oval shape about 6 by 4.5 cm. in diameter, occupying the posterior wall of the stomach. The serosa behind the mass was covered by stringy adhesions which had been separated at the operation. The tumor was smooth and elastic, and on section showed a grayish white, almost homogeneous surface, yielding few cells on scraping. Near the main mass were several smaller nodules having similar macroscopic characters. The mucosa in the uninvolved part of the stomach was thick and uneven, while over the tumors it was smooth, and in some places red, but nowhere eroded or ulcerated. Section showed the new growths to be chiefly in the submucosa and muscularis. Microscopically, the tumor was a lymphosarcoma, with a well-developed reticulum containing small cells in its meshes.

The new growth invades the muscularis, but does not show a tendency to affect the mucosa, which, in parts distant from the tumor, shows interstitial infiltration without evidences of sarcomatous formation.

Sarcoma of the stomach is not often reported. Schlesinger,[1] who made a careful study of the subject in 1897, was able to find references to only 33 cases, to which he added 3 of his own. I have found records of 10 other cases in periodic literature, 3 of which (5, 10 and 13) I have not been able to obtain, besides a few briefly mentioned in text-books. I refer to three of the latter.

---

*Note on revision of proof, June 30, 1900: I have just examined the patient, who weighs 140 lbs., or more than ever before. He is free from symptoms, can eat anything. Physical examination shows slight induration at the seat of the operation, apparently only the remains of the operation scar.

One of the cases cited by Schlesinger (Hardy) seems to have been carcinoma, as Tilger has suggested. On the other hand, it is probable, as Brooks says, that cases of sarcoma have been incorrectly reported under the name of cancer.

The absolute rarity of the affection is beyond question, and the only reason for calling attention to it again is to ascertain whether recent additions make it necessary to revise the older views. This is all the more needful because the present case differs in certain respects, notably in the results of the analysis of the stomach contents, from those previously reported.

In the following it is unavoidable that I follow Schlesinger closely, since my examination of the literature largely confirms his conclusions. I cheerfully acknowledge my obligation to his excellent article, and refer to it for the earlier literature.

Sarcoma of the stomach may be primary or secondary, and the latter is perhaps more frequent than secondary carcinoma, but it is rarely of clinical interest. Sarcomata of several varieties have been found as primary growths in the stomach, i. e., spindle-celled, fibro-, myo-, myxo-, angio-, and round-celled sarcomata. The majority of the latter were probably lymphosarcomata.

The primary growth may originate in any part of the stomach. Schlesinger found the greater curvature often involved, especially by the varieties that form tumor-masses rather than flat infiltrations. In several recent cases, the round-celled or lymphosarcomata developed in the pyloric region, and some of the others in the posterior wall. The reported cases are too few to establish rules regarding location, such as are admitted in the case of cancer.

As regards size, the tumors vary greatly, but a rather large proportion reached a size unusual for gastric tumors. In Brodowski's case and also in Cantwell's,[11] the tumor weighed 12 pounds. In Baldy's[8] the mass filled the abdomen from the ensiform to the pubis. The growth begins in most cases in the submucosa, or less frequently in the muscularis.

Primary lymphosarcoma of the stomach sometimes produces extensive flat infiltrations or local thickenings, or as in the present case, circumscribed tumors. The mucosa is rarely involved early, but may be stretched or its nutrition injured by pressure, causing it to ulcerate. In some cases, the tumor projects outward. Softening is not unusual, especially in the larger tumors. Suppuration may also occur, and in either case, peritonitis from rupture may follow, but in some cases rupture has occurred into the cavity of the stomach.

Metastases occur, as in other sarcomata, and may be found in the neck, pharynx, or in other parts of the abdomen. In some cases, even with primary lymphosarcoma, the disease has lasted a long time without metastases.

As regards age, Schlesinger found lymphosarcoma of the stomach most frequent between 20 and 35; other varieties, somewhat later. In Finlayson's case[10] a rickety and feeble child was affected at 3 years of age and died 6 months later, while in Westphalen's case[2] of myxosarcoma the patient was 28.

Men are more frequently affected with this disease than are women. The study of it throws no light, as yet, on the cause. In Brooks' case[9] the disease began, apparently, in the scar of a bullet wound, acquired many years before.

Our knowledge of the clinical features is even more meager than that of the anatomical facts, since only a small proportion of cases were carefully examined during life.

The mode of onset varies, but is often insidious. Thus, in Baldy's remarkable case[8] the stomach had "never given the patient a day's trouble," the appetite was voracious and there was no vomiting; in Cantwell's also, there were no gastric symptoms. In both the disease began in the posterior wall. Later, such symptoms as loss of appetite, vomiting, and pain of various kinds and various degrees of intensity occur. The pain may be referred to the epigastrium or the back. Hemorrhage is almost never an early symptom, but when it occurs may have the different characteristics that present themselves in cancer—the blood resembling coffee-grounds, or being fresh or clotted. In Hartley's case[4] there was a history of coffee-ground vomiting five years before, after long-standing dyspeptic symptoms. A year before the operation, at which the mucosa was found not ulcerated, there was vomiting of coffee-ground material and also clots. Blood, more or less altered, may also appear in the stools.

If there is a tumor it presents the same variety of physical conditions as carcinoma except in cases with colossal growth, when the relations may be impossible to make out clinically and difficult to understand at an exploratory operation. If in the pyloric region, obstruction, dilatation, increased peristalsis, stagnation and decomposition, lessened diuresis, concentration of the blood, even tetany, may result. Dilatation may occur without obstruction, in the case of wide-spread infiltration.

Examinations of the stomach contents have been made in only a few cases, and in all but the present one —nine others reported—free HCl was absent, and in most of them lactic acid was present. In one of Schlesinger's cases, there was free HCl in the beginning, but it disappeared. Sarcines were absent from the others as a rule, and in one of Schlesinger's, long bacilli were present. In some cases, there was no blood in the stomach contents, but in others there was, so that the resemblance to the findings in carcinoma is very close. As far as the present case is concerned, the presence of free hydrochloric acid and sarcines does not materially weaken the conclusion that the stomach contents in both carcinoma and sarcoma have the same characteristics, since it has long been known that absence of hydrochloric acid and presence of lactic acid are not due to the carcinoma as such. In fact, the conditions observed in my case are found in some of carcinoma of the pylorus up to a late period.

The blood in the cases of sarcoma of the stomach hitherto examined showed diminished red cells and hemoglobin and usually leucocytosis. No examinations seem to have been made regarding digestion leucocytosis.

The average duration of the disease is 1 to 1½ years.

The diagnosis of sarcoma of the stomach has rarely been made during life. In the case of Westphalen, it was based on the microscopic examination of a bit of tissue; and in one of Schlesinger's, the diagnosis of lymphosarcoma was made, based on supposed metastatic growths in the intestine and lymphatic glands and enlarged spleen. Autopsy revealed myosarcoma with suppuration and perforation of the stomach. There were a few retroperitoneal metastases. Riegel mentions[14] a case in which a large sarcoma nodule was vomited and the diagnosis made. There were in the same case metastases in the skin, but the danger of depending on such co-existing tumors is made clear by von Leube,[15] who found, in one case, sarcoma in the skin and an epithelial tumor in the stomach.

This symptom is probably as little reliable as two others mentioned by Schlesinger—enlargement of the spleen and swelling of the follicles of the tongue, both thought by Kundrat to be common in lymphosarcoma. They may sometimes enable one to correctly recognize gastric sarcoma in a late stage, but so far as the earlier stages are concerned we have no specific symptoms of sarcoma of the stomach, and even when tumor is present it can not be positively differentiated from cancer. It is important to discover the affection of the wall early, and if possible to carry out either radical or palliative operative treatment, without taking time to make a histological diagnosis from the clinical features. If discovered too late for this, the treatment must follow the same general lines as for other tumors of the stomach. The results of operations compare favorably with those for other malignant stomach diseases. In Cantwell's case, a spindle-celled sarcoma involving five inches square of the stomach wall was removed. The patient was free from symptoms for six months after the operation, and then a secondary tumor was discovered.

REFERENCES

1. Klinisches über Magentumoren nicht carcinomatöser Natur (Magensarkom). Schlesinger, Hermann. Festschrift Herrn Hofrath Prof. Dr. L. von Schroetter, Zeitschrift f. Klin. Med. Bd. xxxii, Supplement-Heft. 1897.

2. Westphalen. H.: Ein prim. Sarcom des Magens. St. Petersburger med. Woch., 1893, p. 403.

3. Krüger, Friedrich: Die prim. Bingedewebsgeschwülste des Magendarmkanals. Inaug. Dissert., Berlin, 1894.

4. Hartley: Sarcoma of Stomach; Annals of Surgery, 1896, p. 609.

Weiss: Myosarcom des Magens. Jahrb. der K. K. Wiener Krankananstalten. Bd. iii, 1896.

6. Strauss. Aron: Sarcomatosis der Haut und des Magens. Inaug. Dissert., Würzburg, 1896

7. Hayem and Lion: Traité de Méd. et de Thérapeutique. Tome iv, 1897.

8. Baldy, J. M.: Removal of Stomach for Sarcoma. THE JOURNAL 1898. 1. p. 523.

9. Brooks. H.: A Case of Primary Multiple Sarcoma of the Stomach, following Gun-shot Wound. Medical News. 1898, 1 p. 617.

10. Cappello, P. and P. E.: A proposito di un raro caso di miosarcoma cistico dello stomaco. Bull. d. r. Accad. Med. di Roma. 1898-9. xxiv, 321-342.

11. Cantwell, F. V.: Sarcoma of the Stomach. Annals of Surgery, Nov., 1899.

12. Finlayson, Jas.: Case of Sarcoma of the Stomach in a Child aged 3½ years. Brit. Med. Jour., 1899, 2. p. 1535.

13. Welsch, Carl: Ueber Sarkom des Magens. In. Dissert., München, 1899.

14. Riegel, F.: Die Erkrankungen des Magens. ii. Theil. p. 847. Nothnagel's Specielle Path. u. Ther. Bd. xvi, Th. 2.

15. Von Leube, W.: Spec. Diag. der inn. Krankheiten., Bd. i.

VALUE OF THE ANGIOTRIBE IN VAGINAL CELIOTOMY.*

J. H. CARSTENS, M.D.

DETROIT, MICH.

When Battey first suggested the removal of the normal ovaries in cases of otherwise incurable dysmenorrhea, he performed his operations through the vagina; Hegar and Tait at the same time performed a similar operation but by means of abdominal section; the latter especially perfected the operation by the abdominal route for the removal of the uterine appendages in pus cases. This was the beginning of modern abdominal surgery, and the gynecologists of the past few years became pelvic surgeons, removing tubes and ovaries for all kinds of conditions and symptoms; but the extreme swing of the pendulum has been reached; conservative surgery predominates, and efforts are made to preserve half or at least a part of the generative organs.

The state of perfection to which American surgeons brought celiotomy caused the neglect of the original route suggested by Battey, until, by the effort of the French surgeons, especially, the vaginal route was again brought forward, not only for the relief of cancer, but also for inflammatory and suppurative conditions of the pelvic organs. The extreme French suggestions have in turn reached their limit; and cases are now carefully selected for one route or the other by all able and experienced surgeons.

Battey called his original operation "normal ovarian section," with the idea that the ovaries he removed were normal, but modern investigation has shown that while the ovaries may appear normal macroscopically, sections under the microscope show abnormal conditions. This accounts for the pain, distress and symptoms produced by these structures; we find a good many cases where a woman will complain of a great deal of pain in one ovary, continuing for years and causing a great deal of distress, when by palpitation we can not find anything. Experience has taught us that the removal of that ovary will cure the patient; and the microscope will show that the ovary was diseased. To remove the diseased ovary by abdominal section, with the acompanying dangers and sequelæ, seemed to me poor practice; so I followed the Germans, performing, in selected cases, what they call vaginal celiotomy. But I have encountered one great trouble, and that is to tie the broad ligament and control the hemorrhage, especially in cases of narrow vaginæ. If the abdomen be entered between the uterus and bladder, or behind them, it is not easy to remove the diseased tube and ovary when they are in the cul-de-sac; and it is very difficult to apply the ligature to the broad ligament and tie it sufficiently tight to control the hemorrhage; so that I have been obliged, in some cases, to apply a clamp and leave it on forty-eight hours. This, of course, frequently causes sloughing of the compressed part and adhesion posteriorly, and prolongs convalescence.

When the angiotribe was first brought forward by Tuffier I was sure here was the instrument which would enable us to frequently perform vaginal operations, where formerly we would have been obliged to do an abdominal section. Take, for instance, the case of a young girl who has fallen from a swing or bicycle and has dislocated the ovary into the cul-de-sac: there it is: you can not get it back; and if you do, it will soon drop again into the abnormal position; with every defecation there is pain; every month a few days are spent in bed, and there is constant misery and suffering.

I have tried all kinds of treatment and the only thing I see to do, as a rule, is to remove the ovary. To do that by abdominal section and leave a scar is certainly not desirable. With a small opening in the cul-de-sac, you can pull down the ovary and tube, apply your angiotribe, crush the tissue, and cut off the diseased parts. It takes only a few minutes, and in a few days the patient is well with nothing to show that she ever underwent an operation, while the danger is virtually *nil*.

When I went to Europe last year, I thought I would investigate the subject and select whatever instrument I thought best. I examined the Tuffier, Doyen, Heftler and Thumin—of Berlin—and the latter instrument I have selected as the best. It has a narrow blade of great strength, and instead of a wheel, where your power to crush is limited, it has a small handled lever, which gives you an immense power and is less trouble to apply and hold in exact place than the others; at least it seems so to me. With a little practice you soon get the knack of it and can use it without trouble. I have used this in abdominal hysterectomy without ligatures, and I have used it in vaginal hysterectomy without using a single ligature, so that I consider it perfectly safe to control hemorrhage, but ocasionally, if I had a bleeding point that I could not reach and was suspicous of, I would apply an extra ligature. I would not endanger my patient's life by taking any chances, but as a rule I have been able to perform these various operations without the use of a single ligature or clamp, simply by the use of Thuman's angiotribe.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I mention these cases to impress you with the perfect safety of the instrument; its greatest use, however, has been in the removal of small ovarian tumors, of diseased ovaries in the cul-de-sac, and of pus tubes which were between the uterus and rectum. All these could be readily pulled out, the angiotribe be applied to the pedicle, and a strip of gauze introduced, which was allowed to remain for four or five days.

I will not burden you with a report of a number of cases. I simply want to urge a further trial, so that the real status of this instrument may be fixed. I am sure that it will be found to lessen the period of convalescence in pelvic surgery and to save more lives than any instrument hitherto devised.

Therapeutics.

Vulvitis.

R.	Liquoris plumbi subacetatis	ʒi
	Tinct. hyoscyami	ʒii
	Aq. camphoræ, q. s. ad	℥viii

M. et. ft. letio. Sig. Apply with saturated cloth.—*Waring: Medical Record.*

Superficial Burns.

Rectus recommends the following ointment:

R.	Iodoformi	gr. 7½-15
	Antipyrini	
	Acidi borici, āā	gr. 75
	Vaselini	gr. 600

M.

Wertheimer applies to burns, especially in children, the following liniment:

R.	Thymol	gr. 1½-2
	Aquæ calcis	
	Olei lini, āā	gr. 1500

M.

Starr, to allay the pain and prevent the formation of bullæ, applies instantly to a superficial burn the following ointment:

R.	Ferri perchloridi,	gr. 90
	Vaselini	gr. 360

M.

Haas uses an ointment made by dissolving from 150 to 300 grains of aristol in 600 grains of lanolin and the same quantity of vaselin.

Landolt and Gygax employ the following formulæ:

FOR BURNS OF THE FIRST DEGREE.

R.	Cocainæ hydrochloridi	gr. 22½
	Vaselini	
	Aquæ destil., āā	gr. 150
	Lanolini	gr. 45

M.

FOR THOSE OF THE SECOND DEGREE.

R.	Cocainæ hydrochloridi	22½
	Salol	gr. 75
	Vaselini	gr. 375

M.

FOR THOSE OF THE THIRD DEGREE.

R.	Europhen	gr. 22½
	Olei olivæ	gr. 52½
	Lanolini	gr. 225
	Vaselini	gr. 450

M.

This ointment is said to be especially serviceable in burns of the eyelids.—*N. Y. Med. Jour.*

Some Uses of Pilocarpin.

S. Harnsberger notes some uses of this drug not mentioned in recent text-books. He cites three cases illustrating its benign effects in orchitis; it is given in 1/8-grain doses of the hydrochlorate, repeated every two to six hours, with ½-grain doses of codein, as may be necessary to produce copious sweating and relieve pain. The same drugs, in similar combination, are of great service in cholelithiasis and nephrolithiasis. In both hepatic and nephritic colic the pilocarpin is best administered subcutaneously. It deserves a trial in tonic spasm of the diaphragm in certain cases of hiccough; in cases of stricture and obstruction of the intestine when iced-poultices and wet-compresses are ill borne, codein and pilocarpin may be used with benefit. The easiest and quickest way to remove ranula is by means of one-sixth grain of pilocarpin hypodermically. —*Medical Review.*

Topical Use of Quinin in Leucorrhea.

Dr. Hardwicke speaks as follows about the topical application of quinin to the mucous membrane of the cervix uteri and vagina in cases of leucorrhea:

A patient, the mother of six children, who had been a sufferer from the above complaint for some years, having used the various remedies usually prescribed in such cases, but with only temporary benefit, her trouble sooner or later recurring, adopted the use, from prudential motives, of what proved to be quinin pessaries. Since using them not only had her leucorrhea disapeared, but her general health had improved. I have since used quinin topically, in several cases of simple leucorrhea, always with great success—in fact, I do not know of a single instance in which it has failed or in which quininism has been produced. It may be used in the form of douche or pessary. I adopt the latter form as being obviously the better one; the drug has a better chance of closer and more continuous contact with the congested membrane. I prescribe three grains of the hydrobromate in a ½-dram pessary in combination with oleum theobromatis, but the pessus quininæ of the "Extra Pharmacopeia," containing the hydrochlorid, answers just as well. One insertion a day is generally sufficient. —*Canadian Pract. and Review.*

Copper Phosphate in Tuberculosis and Chlorosis.

R.	Cupri acetat (neutral)	gr. 1/6
	Sodii phosphat. (cryst.)	gr. 5/6
	Glycyrrhizæ	
	Glycerini, āā q. s. ad. pil. i.	

M. Sig. two pills to be taken daily.

R.	Cupri phosphat	gr. xv
	Aquæ destil.	
	Glycerini puræ, āā	gr. xxxviii

M. For hypodermic injection.—*Le Progrès Méd.*

Senile Pruritis.

Upon the principle that senile pruritis is dependent upon intestinal autointoxication, it is recommended that after purging the patient, a milk diet be ordered and an intestinal antiseptic (2 gm. benzonaphthol daily) be administered. Even in severe and obstinate instances, good results have been obtained within twenty-four hours.—*Parisot: Semaine Méd.*

To Create a Distaste for Drink.

Jergolski claims that eight drops of tincture of strophanthus three times a day will create a distaste for drink.

The following prescriptions have been recommended for alcoholism:

R.	Auri et sodii chloridi	gr. 1/24
	Strychninæ nitratis	gr. 1/60
	Nitroglycerini	gr. 1/100
	Atropinæ sulphatis	gr. 1/200
	Digitalini	gr. 1/60
	Sodii chloridi	gr. 1/8

M. ft. tab. No. 1. For hypodermic use. —*Dunham.*

℞. Spir. ammonii aromatici	ʒii
Tinct. camphoræ	ʒiss
Tinct. hyoscyami	ʒiiss
Spir. lavandulæ comp., q. s. ad	℥ii

M. Sig. One teaspoonful every hour.

TO PREVENT ADYNAMIA.

Tyson recommends the following to prevent the adynamia which may follow the sudden withdrawal of alcohol:

℞. Spir. ammonii aromat	ʒss
Strychninæ	gr. 1/30

M. Sig. For one dose. Repeat every three hours.

TO RELIEVE GASTRITIS.

To relieve the symptoms of gastritis and the craving for alcohol, the following is recommended:

℞. Decocti althææ	℥v
Aq. chlori.	
Sacchari, āā	ʒii

M. Sig. Tablespoonful every two or three hours.—*Zedekauer: Ex.*

Pruritis of the Scrotum.

℞. Acidi phenici	ʒv
Glycerini	fl℥iiiss
Proof spir	flʒvi
Aquæ	℥x

M. Sig. From one to four tablespoonfuls to be added to a glass of hot water, and applied locally three or four times daily. In addition, quinin sulphate with sodium bicarbonate may be administered internally.—*Brocq: Phila. Med. Jour.*

Hemostatics in Threatened Abortion.

In hemorrhage resulting from threatened abortion, the custom is, after providing the means destined to calm the uterine contractions—opium, rest, ice to the hypogastrium—to prescribe a hemostatic agent which will not provoke tetanic contractions of the organ, such as hydrastis canadensis, viburnum prunifolium, or hamamelis virginica. According to Professor Bossi, these agents prescribed alone are not always to be relied upon, on account of the difference of temperament so frequently witnessed in patients. Much disappointment would be obviated if these agents were prescribed together, according to the following formula:

℞. Fl. ext. hydrastis canadensis	
Fl. ext. hamamelis virginica	
Fl. ext. viburnum prunifolium	
Tinct. piscidia erythrina, āā	ʒii
Laudanum	m xxx

M.

A teaspoonful of this mixture to be given every eight hours if necessary.—*Paris Cor: Med. Press and Circular.*

Whooping-Cough.

Dr. R. B. Gilbert, of Louisville, in *Practitioner and News,* says regarding the treatment of whooping-cough:

The remedies I use are not new, nor do I claim originality in their application. I may claim that I push the dosage to its full effect faster than is deemed advisable by others. The great danger to life, especially in the young infant with whooping-cough in hot weather, fully justifies the procedure.

The moment the disease is recognized I order an average dose of belladonna given once every eight hours, the dose to be increased by one drop daily until the full physiological effect is obtained, viz.: widely dilated pupils, flushed cheeks, dry fauces, etc., the maximum dose being reached in five or six days. The maximum dose is continued until there is a decided lessening of the severity of the cough, which may be confidently expected within ten days from the beginning of treatment. In addition to the belladonna, I give, every three hours during the night, full doses of potassium bromid combined with phenacetin, which insures prolonged, tranquil sleep, and fewer coughing spells.

For a child 1 year old I write thus:

℞. Tinct. belladonnæ	℥i

Sig. One drop every eight hours, increasing one drop each day till the tenth day. Label bottle "No. 1."

Also:

℞. Potass. bromidi	ʒii
Phenacetini	gr. x
Mucil. acaciæ	
Aquæ, āā	℥i

M. ft. tal. Sig. Teaspoonful every three hours during the night. Label bottle "No. 2."—*Med. Jour.*

Simple Acne.

McKinney advocates as the remedy par excellence for simple acne, calcium sulphid. The proper dose is ¼ grain twice daily, and this dose should be steadily increased until four tablets are taken each day. If the taste is objected to, it may be disguised by sugar-coating or the drug may be given in capsules. In case of excessive gastric irritation, it may be desirable to begin treatment with 1/10 or 1/5 of a grain. In the acute stages of the trouble arsenic does no good. The physician should expend a little time at each visit in gently squeezing out the larger comedones, and curetting the smaller ones with the comedone-extractor. The pustules should be lanced at the base in a slanting direction and the point of the needle or lancet swung around in the abscess cavity to break up its contents. An antiseptic can best be applied in the form of a soap containing sulphur or mercury bichlorid, with which the face can be washed at night.

The following are other good antiseptic preparations:

LOTION FOR ACNE.

℞. Sulphur precip	ʒi
Ether	flʒiv
Alcohol	flʒxii

M. External use.

The lotion should at first be applied only at night, but after the skin becomes accustomed to it, it may be used advantageously several times a day.

ACNE OINTMENT.

If an ointment is desired, it may be prescribed as follows:

℞. Sulphur precip	ʒi
Rose water ointment	
Lanolin, āā	ʒiv

M. External use.

Another good combination is:

℞. Potassii sulphid	
Zinci sulphatis, āā	ʒi
Aquæ, q. s. ad	℥iv

M. External use.

If the skin remains discolored after the papules and pustules have subsided, an ointment of tar and sulphur or ichthyol and sulphur should be used, rubbing it into the skin for half an hour each night. The use of very strong stimulants, as naphthol, resorcin, caustic potash, etc., is to be avoided, as their effect is often very injurious to the skin.—*Merck's Archives.*

Salicylic Acid Administered Cutaneously.

Cullen says that Combemalle and Sigalas, of Paris, have called attention to the fact that if salicylic acid is mixed with some oily vehicle and applied to the skin, it may be detected in the urine in five minutes.

A favorite recipe is the following:

℞. Acidi salicylici	ʒiiss	10
Alcoholis	℥xiiss	50
Olei ricini	ʒxxv	100

M. Use locally.

A tablespoonful of this mixture is poured into the palm of the hand and rubbed into the affected part for a few minutes; the part is then covered with oiled silk or rubber, and again enveloped in several thicknesses of flannel or cotton. The effect is marked. The pain disappears in a few minutes. This does not exclude the administration per os, but the drug may be given in smaller doses than usual. If the oil of wintergreen be substituted for the salicylic acid, the effect will be still better.—*Merck's Archives.*

Hydrochloric Acid in Sciatica.

Hydrochloric acid was applied over the course of the sciatic nerve or to the heels and feet, for the relief of pain in these parts in twenty-six cases. Sixteen had sciatica, which in most instances had defied every other treatment. Of these, two were completely cured, eleven were considerably relieved, and three were not improved. The remaining patients were suffering from intractable pain in the heels and plantar region, the sequelæ of acute rheumatism, many gonorrheal. Of these, four were quite cured, one was very much relieved, and five were not improved. The average number of applications for all the cases was fifteen. The strong acid of the British

Pharmacopeia was painted on the skin at bedtime, with a glass brush, in a series of lines about two or three inches long over the tender spots in the thigh and calf. When dry, the limb was enveloped in cotton-wool loosely bandaged, and so left till the morning, when the patient was allowed to get up as usual. The acid may be applied every night on the skin, but it should be discontinued directly if there is any sign of redness or irritation of the parts.—*Bayliss: British Medical Journal; Monthly Cyclopedia of Practical Medicine.*

Disorders of Puberty.

The entrance upon her reproductive life in woman is almost invariably accompanied by a certain amount of disturbance of the general health: its cessation is not rarely, if not usually, accompanied by a certain amount of erotic excitement, a period of active recrudescence of the generative instinct. Both periods commonly produce such disturbances as necessitate the calling in of medical aid. The first change, or puberty, is frequently accomplished under the cirumstances of rapid growth; and the double tax upon the system produces in many cases a distinct debility, which may lead ultimately to tuberculosis or other wasting disease. Commonly there are recurring periods of lassitude, weight, and sense of dragging in each groin, before the menstrual flow is actually established. Under these circumstances it is advisable to counsel the patient to sit over a vessel containing hot water, or, if that be not sufficient, to stay in bed and have warm cloths applied to the vulva; the last is a powerful means of exciting a flow from the genitals, and is useful not only at puberty, but at other times when the catamenia have been checked, as by cold; and it is especially useful in any arrest of the lochia. (In the last case the application of hot cloths without delay, on the arrest of the lochial discharge will often avert a grave condition.) If these measures are insufficient, it is usual to give iron with aloes.—*Fothergill: Med. Rec.*

Treatment of Pneumonia.

Latchford (*Brit. Med. Jour.*, May 5, 1900, p. 1084) reports successful results from the following mode of treatment in a number of severe cases of influenza complicated by pneumonia: During the initial congestive stage, a combination of quinin and mercury with chalk, and concurrently, fluid extract of ergot in twenty-minim doses, is regularly administered. During the second or exudative stage, when the expectoration is profuse and sanguineous, a mixture containing digitalis, tincture of ferric chlorid, quinin, and dilute hydrochloric acid is given at regular intervals. If the case is asthenic, small quantities of stimulants are also administered from time to time.

Therapeutic Applications of the X-Rays.

Schriff (*Brit. Med. Jour.*, May 5, 1900, p. 1082) refers to a case in which an extensive pigmented hairy nevus was removed by exposure to the X-rays, and also to cases of lupus vulgaris, in which similarly good results were secured by the same means. Other indications for this method of treatment are afforded by abnormal growth of hair, and all cutaneous diseases caused or prolonged by the presence of hair, such as sycosis, favus, wounds of the hairy parts of the body, nodese trichorrhexis, furunculosis, acne, lupus erythmatodes, eczema, and elephantiasis. Striking improvement takes place also as a result of the treatment when the face is disfigured by scars, pustules and comedones. The treatment should be persisted in for some time after the disease has disappeared in order to prevent recurrence. Scholefield (*loc. cit.*, p. 1083) also reports a case of lupus vulgaris of the nose, in which cure was effected by means of the X-rays.

Medicolegal.

May Waive Medical Examination.—In Watts. vs. the Equitable Mutual Life Association of Waterloo, where the latter absorbed another mutual insurance company and agreed to assume all liability on its certificates or policies, the Supreme Court of Iowa holds that a contract of reinsurance made with a member of such other company by the Association named was not void because no medical examination was made as required by the Association's by-laws, because it holds, a corporation may waive the provisions of its by-laws, and the Association must be held to have done so in this case.

Physician Carelessly Accelerating Death.—The Supreme Court of North Carolina holds erroneous an instruction to the effect that a jury can award a man no more than nominal damages where it finds that the death of his wife was only hastened or accelerated by the acts or omissions of the practicing physician and surgeon called to attend her, as, for example, in childbed sickness, and charged with carelessness and inhuman and cruel treatment accelerating her death. The error in the instruction, it points out, in the case of Gray vs. Little, is in considering the act expediting death as a mere technical injury. That, it says, is not the language of the law nor of the text-books on criminal matters. There are instances in the common law reports where the accelerator paid the severest penalty known to law. And the court says that it knows of no decision of a final appellate court in this country declaring otherwise. To this the court practically adds the suggestion that where the evidence sustains such a charge against a physician as that above stated, he may consider himself fortunate if he is not brought to trial for a high criminal offense, as well as to answer in an action for damages.

Knows Whether His Rupture is Cured.—In Wray vs. Warner, an action on a promissory note for $500, given as part payment for the right to sell a rupture cure in certain territory, where one of the defenses was that the note was without consideration, complaint was made that witnesses who had been treated with this cure were permitted to answer whether they were cured or not. It was argued that these were ignorant men, possessing no information or competency to answer the question, and that the answer was a conclusion. But the Supreme Court of Iowa sees no prejudical error in this. It says that it certainly requires no special skill or learning for a man who has been suffering from a rupture to know whether or not it has been cured; and to say that it has or has not been cured, it holds, is the statement of a fact. Moreover, the court thinks a jury warranted in finding a cure worthless, and of no value, and therefore no consideration for a note, and that the originator of the cure knew what the consideration for the note was when he took the latter, where, notwithstanding he testified to the merit and effectiveness of the cure, and that over 12,000 persons had been treated and cured with it, no one of these was called to corroborate the statement, while several persons treated with it testified that they had not been cured by the treatment.

Agreement Not to Practice Construed.—A physician, it was alleged, agreed to sell his residence house and lot in an incorporated town, and his practice as a physician, good-will, and location in said town, and was, as it was averred, to turn over and deliver to the purchaser his location, good-will, and practice in the territory surrounding said town, and was never to practice as a physician at any time in said territory. Now such contracts, the Supreme Court of North Carolina holds, Hauser vs. Harding, do not fall under the head of contracts for the restraint of trade, and are not, as such, contrary to public policy, and void. But, even so, it was argued that the contract was uncertain, both as to the time during which it was to continue and as to the territory over which it extended, and therefore void. Not exactly so, thinks the court. As to the uncertainty as to time, it says that it has heretofore held that where no time is mentioned in such contracts they are to endure during the lifetime of the grantor. Yet the language of that part of the contract which undertook to restrain the purchaser from practicing medicine outside the town mentioned, it states, was not sufficiently definite to mark and define any certain territory. Wherefore, taking the limits of the incorporated town as well defined, but the reference to territory surrounding it being too uncertain to be capable of being marked out or identified, the court holds that the seller should be enjoined and restrained during his life from practicing medicine within the corporate limits of said town, but that for uncertainty the contract could not be enforced as to the so-called surrounding territory.

Supposing Death from Violence.—Section 1221 of the Revised Statutes of Ohio provides for an inquest by the coroner whenever the death of a person, whose body has been found within the county, is supposed to have been caused by violence. In construing this, the Supreme Court of Ohio holds, State vs. Bellows, that a death "caused by violence" is a death caused by unlawful means, such as usually call for the punishment of those who employ them. A body "is found" within the county when it is ascertained by any means that it is within the county. "Death is supposed to have been caused by violence" whenever from such observation as he may be able to make, and from such information as may come to him, the coroner is, for reasons of substance, led to surmise or think the death has been so caused. In this view, it holds that it is the duty of the coroner to hold an inquest, and to perform the other duties enjoined upon him in this connection, whenever a dead body is found within his county, and he knows or may reasonably believe that death was caused by unlawful means. To hold that, within the contemplation of the statute, death can not be supposed "to have been caused by violence" if persons other than the coroner may know that it was so caused, the court thinks, would defeat the purpose of the statute, since murderers and their accomplices always know that the deaths of their victims were so caused. On the other hand, Mr. Justice Davis maintains, in a dissenting opinion, that the statute does not authorize a coroner to hold an inquest when the death is not "supposed" to result from violence, but is known to be the result of a murderous assault openly perpetrated in the presence of a number of persons. He insists that the coroner can not take the place of a prosecuting attorney, examining court, or grand jury, under the pretext of an inquest.

Private Not "Charitable Institutions."—All must admit, says the Court of Appeals of New York, that the term "charitable institution" does not include every corporation or society that has some charitable feature or is engaged in some good work, but that its meaning must be limited. Assuming this proposition to be beyond dispute, the court seeks to determine, in the case of People ex. rel. State Board of Charities vs. the New York Society for the Prevention of Cruelty to Children, where the line is to be drawn. In other words, it had in this case to settle the construction to be put upon this term as used in the state constitution, and, based upon the latter, in the statute creating and conferring on the state board of charities the right of visitation and inspection of all "charitable institutions." As a result, it holds, denying a motion for reargument, that a charitable institution must be one that in some form or to some extent receives public money for the support and maintenance of indigent persons. By "public money" it means money raised by taxation, not only in the state at large, but in any city, county, or town. The adoption of this principle, it says, will permit the board to visit, inspect, and regulate every institution in the state, public or private, where children or adults are supported or maintained, in whole or in part, by the use of public money, and every institution, public or private, where children or adults are sent or detained for support or maintenance in pursuance of any law. And it declares it not very easy to see how the state can examine into the evils or correct the abuses in a purely private unincorporated institution, to which no one could be sent, or in which no one can be detained, by any law, and where the inmates may come and go at pleasure. Suppose that a private individual is wealthy and benevolent enough to found and endow a private hospital. When complete, the building and everything in it is his private property. No one is compelled by any law to go there or remain there, and the founder is under no legal obligation to receive patients. It is purely a private concern, and it is difficult, the court insists, to understand upon what legal ground the state can claim the right to inspect his books, or to make rules and regulations for the transaction of the business. There must be some limit to the power of government to interfere in purely private affairs, and what is true of a hospital is equally true of many other private institutions. But when any of these institutions become, in any form or to any extent, the recipients or beneficiaries of public money, as charity, there is a just and reasonable ground upon which the state may claim the right of visitation. And it thinks that it is safe for the courts to assume that private institutions, or such as admit or care for children or adults without any compensation from the public, and where the inmates are in the institution solely by their own volition, depending on the patronage of the public, will be interested to merit it by such a management of their affairs as will commend them to the confidence of their patrons, and that, if they fail to treat the inmates properly, they will not go there voluntarily, or remain when there. If they are detained there against their will, the process of the courts is open to them to secure their enlargement or liberation. In short, the court thinks that the perfect liberty of action which the inmates enjoy, and the promptings of self-interest on both sides, will regulate private charity without any governmental interference.

The Kentucky Decision on Osteopathy.—The decision of the Court of Appeals of Kentucky, in Nelson vs. State Board of Health, is very largely one of statutory construction. First, the statute regulating the practice of medicine in that state requires the State Board of Health to issue a certificate to any reputable physician having a diploma from a reputable medical college, without any discrimination against any peculiar school or system of medicine. The term "physician," as used therein, the court holds, refers to those exercising the calling of treating the sick by medical agencies, as commonly practiced throughout the state at the time the act was passed. The term "medical college" refers to those schools of learning teaching medicine in its different branches, at which physicians at that time were educated, or schools of that character organized since. At such an institution an essential part of the instruction was in teaching the nature and effects of medicines, how to compound and administer them, and for what maladies they were to be used. Surgery was also an essential part of the instruction. But osteopathy teaches neither therapeutics, materia medica, nor surgery. Bacteriology is also ignored by it. Hence, the court holds that a school of osteopathy which teaches neither of these branches can not be regarded as a reputable medical college, within the meaning of the statute. The title of this act is, "An act to protect citizens of this commonwealth from empiricism." The act, the court therefore holds, is "an act to protect the people of this commonwealth from the practice of medicine founded on mere experience, without the aid of science, or a knowledge of principles." And as the board is only authorized to issue a certificate to a reputable physician having a diploma from a reputable medical college, and no discrimination is allowed against any peculiar school or system of medicine, the court holds that the penalties provided by the last section of the act must be limited to that which is referred to in the title and previous sections—the practice of medicine in some of its branches in this state (Kentucky); and the words, "who shall practice medicine or attempt to treat any sick or afflicted person by any system or method whatsoever, for reward or compensation, without first complying with the provisions of this law," must be held to refer to physicians or surgeons belonging to some school or system of medicine practicing or desiring to practice medicine in Kentucky, as provided in the preceding section. In other words, taking the statute as a whole, the court does not think that it was designed to do more than regulate the practice of medicine by physicians and surgeons, while an osteopath, it holds, is in no proper sense a physician or surgeon, and does not practice medicine. He is rather, it holds, on the plane of a trained nurse. Services in kneading and manipulating the body, it says, are no more the practice of medicine than services in bathing a patient to allay his fever or the inflammation of a wound. And if by kneading and manipulating the body of the patient he can give relief from suffering, it sees no reasons why he should not be paid for his labor as other laborers. So it holds that so long as he confines himself to osteopathy, kneading and manipulating the body, without the use of medicine or surgical appliances, he violates no law, in Kentucky, and the State Board of Health should not molest him. But, it at the same time declares, he may not prescribe or administer medicine or perform surgery.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, JULY 21, 1900.

THE PATHOLOGY OF FIBRINOUS BRONCHITIS.

Fibrinous casts are formed in the bronchial tubes under several conditions, such as the presence of diphtheria and pneumonia, and blood-casts may appear in connection with hemoptysis; but apart from these, there occurs an independent disorder, in which bronchial casts are expelled in paroxysms attended with dyspnea and cough. Of this last-named condition, the etiology and the pathology are obscure. The disorder is generally chronic and characterized by recurring paroxysms. Opinions differ as to the nature of the casts expelled, which are believed by some to be really fibrinous, and by others mucinous. It has also been suggested that the bronchial casts result from chylous exudation, but this view has not received acceptance. A case presenting several interesting features was demonstrated a short time ago by Strauss[1] at a meeting of the Association of Charité Physicians at Berlin. The patient was a man, 58 years old, with a history of syphilis, who, two months before coming under observation, was seized with shooting pain, and a sense of pressure in the chest and the epigastrium, together with cough and dyspepsia. The cough was aggravated in paroxysms, in which inspiration was not embarrassed or attended with wheezing. These spasmodic attacks of cough were associated with the expectoration of thick, viscid mucus, containing tough grayish-yellow filaments, which were found to be tubular in structure, dividing dichotomously, and containing numerous Charcot-Leyden crystals. The chest was enlarged, the percussion-note resonant, the respiratory murmur vesicular, with numerous sibilant and sonorous râles. The sputum contained no tubercle bacilli, the urine, neither albumin nor sugar, and examination of the nose disclosed no abnormity. Except for arteriosclerosis, the circulatory system also exhibited no enormity. The attacks occurred principally at night, and especially toward morning, and were lacking in the characteristic features of bronchial asthma. Inspiratory wheezing was absent, and dyspepsia and cough were present in the intervals between the attacks. The usual therapeutic measures were without noteworthy influence, but the expectoration of coagula ceased in the sequence of a febrile attack of influenza, although Charcot-Leyden crystals persisted in the sputa. A diagnosis of fibrinous bronchitis was made on account of the absence of typical attacks of bronchial asthma, and of the occurrence of paroxysms of cough limited to the expiratory phase of respiration. The size of the casts, also, seemed to favor this diagnosis, although casts of large bronchi are occasionally expectorated in cases of asthma. While Charcot-Leyden crystals are most commonly observed in the sputum in cases of asthma, they have also been observed in cases of fibrinous bronchitis.

The differential diagnosis between fibrinous bronchitis and bronchial asthma would be easier if the casts expectorated could be distinguished chemically, but this can not be done, and in cases of each disease they sometimes consist of fibrin, and at other times of mucin. In the present case the coagula were hollow and laminated, and yielded the reactions of fibrin. As, however, it appears that mucinous coagula are capable of inducing similar attacks, the chemical character of the exudate would seem to be less important than the mechanical obstruction of the branches of the bronchial tree. It was found, further, that the Charcot-Leyden crystals took the same stain as the fibrin. Mononuclear leucocytes predominated in the casts, and 20 per cent. of the leucocytes in the sputum were eosinophile cells. The number of esinophile cells in the blood, however, was not increased. Among the various cocci present were diplococci resembling pneumococci.

Schittenhelm[2] reports two carefully studied cases of fibrinous bronchitis, with the post-mortem findings in one that terminated fatally. In these, as well as in a considerable number collected from literature, it was found that the physical signs indicated a localization of the morbid process in certain portions of the lungs, always the lower lobes, and its reappearing with the formation of the casts. The rapid onset, and the equally rapid subsidence of the physical signs after expectoration of the coagula, were noteworthy in several cases, together with the cyanosis and the sudden development and the rapid progress of the dyspnea, immediately ceasing with the expectoration. The coagula yielded the reactions of fibrin. In the case studied post-mortem, evidences were found of desquamative catarrh of the alveoli, together with exudation into the bronchi, the bronchioles, and the alveoli.

A PLEA FOR CONCISENESS IN WRITING.

In a recent issue of *Virchow's Archiv* there appeared a communication from its venerable editor asking contributors for greater condensation and conciseness in their writing, and pointing out how, from an editor's point of view, German medical literature could be improved in substance and in style. Virchow deprecated especially the useless fullness of clinical and post-mortem details, the tendency to make elaborate tabulations where comprehensive statements would be better, and the space given to useless and generally very incomplete résumés of the literature, often at second and third hand, but quoted as from the original sources, thus lowering the moral tone of the article. "How often," he says, "is valuable space taken up by piling up citations that the author has never thought it necessary to verify." He emphasizes the need of greater condensation and limitation of space to what is actual and, if possible, new, to restore German medical literature to the old standing. The editor of the *Deutsche Medicinische Wochenschrift* reproduces the larger part of the editorial, and modestly says that—*si parva licet componere magnis*—he also would like to express his "long-suppressed but profoundly felt irritation" on account of this condition of affairs. The reputation for thorough work of German medical literature, it thus appears, has come to hide a multitude of sins some of us have more or less appreciated, but which are here set forth by one whose words carry more weight in this matter than those of any other of his countrymen. The insufficiencies of the references in German medical papers to American contributions have been very obvious to every one, but the charges contained in Professor Virchow's editorial will come as a sort of shock to the reverence for everything German that is so widespread in this country.

---

[1] Berliner Klin. Woch., 1900, No. 19, p. 407.

[2] Deutsches Archiv f. Klin. Med., Bd. lxvii, H. 3 u. 4, p. 336.

For purposes of general information it is well sometimes to know of others' faults as well as our own, although there is no special reason for self-congratulation in this country on account of this fact. Here we stand between two evils, as far as medical literature is concerned: on the one hand the exceedingly superficial, and on the other the sciolistic and pedantic following of the bad German model above reprobated. The overburdened clinical descriptions, elaborate tabulations and the immoral second and third hand references purporting to be from the original text, can all be found in some articles published in this country. The reform needed in Germany is needed here also, and the tendency to make medicine, like law, a study of precedents and citations of authorities, sometimes without rhyme or reason, also needs a check. American as well as other medical writers should learn that there is ability shown in condensation and concise statements as to what is new or valuable as deduced from known facts or new facts presented. Two-thirds of the American medical literature is not especially valuable, and it is small consolation that the same is the case in Germany, which some look to as a model in this respect. We need not go so far as Professor Virchow when he says that he will refuse all articles of more than three forms in length, but we can certainly say we sympathize with him from the editorial standpoint as well as from that of a reader. There is, perhaps, less in Germany of what might be called graduation thesis literature, made up of long-known facts and possessing nothing new, than in this country; there may be a few more cases recorded and a show of experimental study and work, but we are all made of the same flesh and share the same faults. There is room for improvement here, as we have long been aware, but would not of ourselves have thought of taking Germany's deficiencies as a text had it not been so aptly furnished us.

THE CURE OF TABES DORSALIS.

In the records of quacks, as well as in the minds of neurologists at large, there is a wide margin devoted to the uncertainties of the diagnosis of locomotor ataxia. Many of the former class wax wealthy on the reputations, honestly acquired, of a single case, pronounced locomotor ataxia by the ablest nervous experts, and many patients pursue the phantom of beef and hot water which has been incident to the getting well of certain cases pronounced incurable by the specialist. The neurologist is sometimes treated to the shock of finding such a cure in one of his formerly classified incurable cases, and immediately goes over his notes to find out where he made his blunder. In the light of our present knowledge there would seem to be no doubt—and this is recognized in our text-books—that there exists a form of neuritis, often of alcoholic origin, which gives rise to many of the typical symptoms of locomotor ataxia. It is in this category that the charlatan reaps his harvest and the neurologist his mortification.

We are indebted to Leyden for the first accurate and thorough portrayal of the picture of polyneuritis, from a clinical as well as from a pathological standpoint. Before his time it was the fashion to follow Charcot's dictum, laid down in 1880, that atrophic paralyses were always associated with changes in the ganglion-cells of the anterior horns, and it was reserved for Eichhorst, Joffroy and Eisenlohr to demonstrate that such muscular conditions might arise and yet the anatomical changes in the spinal cord be wanting. But it was Leyden's critical instinct that enabled him to make a distinction between the symptom-complex of a polyneuritis and an anterior polymelitis, with which latter affection the former was so persistently associated in the minds of the neurologists. At the present time there is little ground for confusing these pathological entities.

In a recent paper, v. Hönig[1] outlines the history of the development of our knowledge bearing on the subject of polyneuritis, and considers in particular the ataxic form of alcoholic polyneuritis. He believes that from a clinical point of view etiological classification is the most satisfactory one, and distinguishes, as do most modern writers, three types of polyneuritis: Primary polyneuritis, having its origin from exposure to cold or from overstrain; secondary polyneuritis, following many of the infectious diseases, and toxic polyneuritis from lead, arsenic, mercury, alcohol, etc. There is no doubt that of these alcohol plays the most important rôle. Of the different types of alcoholic polyneuritis Hönig characterizes three, motor, sensory and ataxic, the first being characterized by paralytic phenomena, the second by modification of the sense organs, and the third typified by marked inco-ordination of the voluntary movements of arms and legs. With reference to the frequency of occurrence of these, statistics indicate that the paralytic form is the most common; the sensory type the least, and the ataxic type occupies a middle ground.

The author's search through literature—and from his bibliographical references, it must have been a most superficial research, since hardly any mention is made of American writers, notably Dana—permits him to collect reports of forty cases of ataxic alcoholic polyneuritis or false tabes. In most of these, all the extremities were more or less involved; in many, although not all, the symptoms developed with rapidity; Romberg's symptom was present, and in all save two the patellar reflex was abolished. One symptom—diminished or absent light reflex associated with the accommodation reflex, the Argyll-Robertson pupil—was noted to obtain in three cases. This symptom has been held to be absolutely differential in the diagnosis of tabes, and it is of import to note its presence in three of these patients with neuritic tabes—all of whom recovered. Other signs present in tabes, such as the girdle sensation, double vision, and the disturbances of the bladder, were uniformly absent. A symptom considered of almost pathognomonic importance was the occurrence of the reaction of degeneration in some of the affected muscles; this, with the absence of the bizarre sensory changes of tabes, should always be borne in mind in the diagnosis of these cases.

---

[1] Deutsches Archiv f. Klin. Med., vol. lxvii, p. 123.

In the matter of treatment, much stress is put upon the action of strychnin. This alkaloid, in the hands of the author, given in very large doses, has been of much value in the treatment of this condition, and the reports of the cured cases in literature seem to point much in the same direction.

The contribution is timely, and the caution, that exact diagnosis of this alcoholic pseudo-tabes would deprive the charlatan of his much-vaunted superiority in the cure of locomotor ataxia, is worthy of consideration.

MEDICAL DEPARTMENTS OF STATE UNIVERSITIES.

Not a few of our state universities have more or less prosperous departments of medicine, as for instance, the Universities of Michigan, Minnesota and Iowa. The number of medical students in these and other institutions of similar character is large; in some cases undoubtedly larger than the facilities for proper clinical instruction warrant, so that actual overcrowding has resulted. Difficulties in securing sufficient material for adequate clinical teaching of the large classes have arisen from time to time. Gradually these shortcomings are being more or less satisfactorily met by the erection of state or university hospitals under the management of the medical faculties.

Undoubtedly, one potent reason for the large number of students in many medical schools of this character is the relatively small fees demanded. Presumably on the theory that the state should furnish its citizens with opportunities to secure medical education at as reasonable cost as possible, the medical fees have been kept at comparatively low figures. At the same time the requirements for entrance and for graduation have not, as a rule, been higher in the medical departments of state universities than in schools without state support. We doubt whether it may be claimed with justice that the state universities have taken a conspicuous lead in the gradual advancement in the requirements for entering the profession of medicine, that is such a conspicuous and gratifying feature in the recent medical history of this country. We do not wish to discuss at this time the advisability of the state giving its citizens fairly good opportunities for acquiring professional knowledge at small cost. There is much to be said both for and against this policy. But it is surely not unreasonable to look to the state universities to take an active and decided lead in bringing to a high standard the requirements for entering medical study and the quality of education given.

The medical departments of state universities surely ought to be wholly independent of the number of students in attendance upon their courses. Numbers and commercialism should not have a decisive influence upon the general educational policy of a state university. Numbers are wholly unnecessary in order to have state medical schools. They are unnecessary in order to have a university in the true sense. Excessive numbers of students seriously hamper the real work of all schools so afflicted. It may be a potent argument with parsimonious legislators and regents to point to continued increase in the number of students in the professional schools of a state university when asking for increased appropriations—in fact, it may be the only argument that will carry the necessary weight with men enslaved by the commercial spirit of our times. In the true interests of medical education, however, it is hoped that the governing bodies of state universities may yield to better reasons than the argument of numbers when it comes to the setting aside of public money for the proper building up of medical and other professional departments; and the more so when it is recalled that the increasing number of students not infrequently largely depends upon insignificant fees and liberal, not to say mediocre, requirements for entrance and for graduation.

DANGERS FROM THE USE OF PROPRIETARY REMEDIES.

In an admirable address on "Progress in Therapeutics," delivered recently before the Philadelphia County Medical Society, Dr. S. Solis-Cohen dwelt on "the great flood of proprietary remedies, secret or half secret, that has been let loose upon the profession and the public," as one of the dangers arising from the great power over symptoms residing in modern synthetic remedies and from the great improvements constantly being made in the art of pharmacy. "The practitioner who is lazily contented to give the mixture exploited by some manufacturing firm, rather than to use his own brains to find a remedy or a combination of remedies suitable for the case of the individual patient loses the faculty of selecting or combining remedies. In so far as these remedies are secret nostrums, they threaten to destroy all therapeutic science; for ignorance, which is the aim of secrecy, is the very antithesis of science. The physician who uses an alleged remedy of the composition of which he is ignorant can have no scientific basis for his action.

can add nothing to his own knowledge for guidance in future cases, can add nothing to the general store of knowledge of the profession."

MARRIAGES BETWEEN INDIVIDUALS OF THE SAME SEX.

As a rule, there is no difficulty in determining the sex of an infant, while, as growth and development progress, even such doubt as may arise in rare instances is gradually dispelled. Nevertheless cases have been recorded in which individuals of the same sex, or at least of doubtful sex, have entered upon the marital relation. In recent numbers of the *Revue de Gynécologie et de Chirurgie Abdominale,* Neugebauer publishes the notes of 53 cases of marriage between persons of the same sex, collected from various sources, together with 11 in which marriage-engagements were broken off on discovering that an error in the sex of one or the other of the contracting parties had been committed, and 15 in which individuals leading the lives of prostitutes were found to be of the male sex. In two instances the victims of the mistake committed suicide. Among the 53 cases of marriages 49 men had passed as women and 3 women as men, while one of the individuals was said to have been a hermaphrodite. Most of the cases are probably instances of peno-scrotal hypospadias. The question is an important one, both from the medicolegal and the sociological standpoint, and great care should be exercised in reaching a decision, and this at as early a period as possible.

COMPULSORY VACCINATION OF CHILDREN IN PUBLIC SCHOOLS DECLARED LEGAL IN PENNSYLVANIA.

An important decision as to the legality of compulsory vaccination of school-children in Pennsylvania has just been rendered after a month's advisement by President Judge Pennypacker and Judge Sulzberger in the Court of Common Pleas in the City of Philadelphia. In order to test the question whether or not children must be vaccinated before entering the public schools, a citizen had brought a mandamus proceeding against the principal of one of the schools to compel the admission of his daughter, who had never been vaccinated, as a pupil. The respondent filed a return, in which she averred that she was required to refuse admittance under the rules of the Board of Education and an Act of Assembly, both of which require the vaccination of children prior to admission to the public schools. To this a demurrer was filed, alleging its insufficiency at law. After argument, in which the merits of vaccination and the right of the Legislature and of the Board of Education to make such a regulation as the one in question were discussed at length, a decision was rendered overruling the demurrer and entering judgment for the defendant. While to an open and unprejudiced mind there can be no room for any other opinion, the decision just rendered is a most important one, and it should have a widespread and salutary influence. It not only concedes to the State and to boards of education the authority of protecting those who have been entrusted to their care from a virulent and loathsome disease, now almost entirely eradicated, by means of one of the most beneficent discoveries ever conferred upon mankind; but, more than this, it again stamps with deliberate judicial approval the preventive practice of vaccination.

PERIODIC EXAMINATIONS AND MEDICAL PRESCIENCE.

Dr. Gould's article in this issue pleading for the collection and preservation of accurate medical data—a more complete form of vital statistics—is one that will bear consideration on the part of the profession. The tendency of specialism to consider the patient only in connection with his particular disease, and not as a diseased individual, is, to a certain extent, not a factor for progress; there is, as he suggests, a danger of our losing the co-ordinating sense and oversight of the organism as a whole. The old-fashioned country practitioner, if adapted to his work, was, and still is, within his limits, a nearer approach to the ideal, as Oliver Wendell Holmes in one of his books has so happily described. He works largely by rule of thumb; the instruments of precision in diagnosis may be to a great extent ignored, but he learns to know his patients, their condition, their strength and their weakness, their heredity, the local causes of disease, and so on to the end. Of course this is not accurately tabulated knowledge, but it is equally useful; there may be a possible danger of becoming too dependent on formulated statements and instrumental tests. If we could only generalize the experience of the family doctor with all the aids that science can supply, we might reach that point of scientific prescience in medicine that Dr. Gould makes his ideal. And to do this we have, after all, at our command only the general methods he has pointed out.

SUITS FOR DAMAGES AGAINST PHYSICIANS.

One of the dangers to which medical men are exposed in the performance of their duties is illustrated by a recital in *The Lancet*[1] of the case of two physicians who were sued for false imprisonment by a coachman presenting symptoms of suicidal mania, to whose insanity they had, after careful investigation, certified, and who, in consequence, was detained in the lunacy-ward of a workhouse-infirmary. Recovery soon took place, and the man was discharged, cured. The jury rendered a verdict in favor of the defendants, but apart from the annoyance and the inconvenience attendant upon the suit, they were subjected to a great expense—about one hundred pounds—in their defense. In another case, also related in the same number of *The Lancet*, damages of one hundred pounds were assessed against a medical practitioner for libel in writing to a relieving officer, certifying to the insanity of a woman who had passed examination for certification as a dispenser, and who, therefore, would be dangerous to the community in which she pursued her profession. According to the evidence, the woman suffered from hallucinations, and there could be no reasonable doubt in intelligent minds as to her mental condition. While it is true that the rights of the community can not be too jealously safeguarded, it is likewise true that it is far too easy to sue for, and not rarely to secure, damages against medical men who are acting wholly and strictly within the line of their duty.

---

[1] June 23, 1900, p. 1809.

CARBOLIC ACID GANGRENE.

That carbolic acid, applied externally in weak solutions, may cause gangrene of parts of extremities has been known for something like thirty years, but unfortunately this knowledge is not general, either among the lay or medical public. Harrington's article[1] on this subject is therefore a timely and also a valuable one. The cases he reports, added to those recorded in the literature, make a total of 132 examples; and Harrington thinks it probable that many hundreds of fingers have been destroyed from this cause. The popularization of carbolic acid as a household remedy for the treatment of small wounds and bruises is undoubtedly largely responsible for many such results, but in not a few cases the treatment has been instituted at the suggestion of physicians, and, we doubt not, by the advice of druggists as well. "An aqueous solution of carbolic acid (1 to 5 per cent.), if applied to an extremity, as the fingers or toes, for a number of hours, in the form of a moist dressing or poultice, may produce gangrene or total destruction of the part." This may result without the effect of compression, merely from wrapping a cloth wet with the solution around the member. The length of the application need not exceed 12 to 24 hours, if the cloth is kept moist during this time. The explanation of this untoward result is not clear. It has been suggested that the gangrene results from the action of the acid upon the nerves of the part; from the production of thrombosis and prevention of nutrition; from direct chemical action on all parts of the tissues. Lévai—cited by Harrington—showed that dilute solutions of other acids and of alkalies—hydrochloric, nitric, sulphuric, acetic and caustic potash—may have the same effect when similarly applied. It is plain that the public, including druggists, should be taught to use other substitutes for wet dressings for trivial injuries. Harrington suggests tincture of hamamelis or solutions of borax or boracic acid. The fact that gangrene does not always result from the application of carbolic acid makes this agent the more dangerous.

THE LYMPH-NODES IN BUBONIC PLAGUE.

It is proper that our pathologists and physicians should study the various problems in connection with a disease like bubonic plague, even though an invasion by this terrible scourge may seem to some afar off. As shown by the recent experiences in New York and in San Francisco, there is no telling the day when the grim specter may stare us directly in the face; and at such times it is of the greatest importance to have close at hand men who are personally familiar with the various aspects of the disease, and its powerful bacillus—men in whose opinion and judgment we may place full confidence. That scientific work of this kind is being carried on is shown by the recent communications to the Pathological Society of Philadelphia. At the meetings of April 12, and May 24, 1900,[1] papers were read, by McFarland, on "The Bacillus of Bubonic Plague," and by Harris, on "Pathologic Alterations of the Lymph-Nodes in Bubonic Plague." McFarland's paper gives the principal characteristics of the plague bacillus, based upon personal study of this dreaded organism. Harris describes the changes in the lymph-nodes produced by the disease. In about one-half of the cases the inguinal glands are first affected; of the remaining half about 50 per cent. first show enlargement of the axillary glands. In a short time the other lymph-nodes become swollen and hemorrhagic, especially those in the pharynx, intestines, and mesentery. The glands principally involved may at first be hard, but in violent cases they soon become soft, often showing a mucilaginous or lard-like center. The dilated vessels contain many bacilli; in advanced cases the normal structures are converted into a granular material containing among the cellular debris "countless myriads" of bacilli. Hyalin phagocytic cells containing thirty to forty bacilli are present. Numerous basophile cells—mast cells—are also found, and Harris traces these cells to changes in the hyalin cells just mentioned. The mast cells are not phagocytic; they are surrounded, however, by a zone that is free from bacilli, suggesting the setting free of an antitoxin. In fact, the number of mast cells is so marked as to be of much diagnostic importance, according to Harris. In view of these results it is hardly correct to speak of the uncomplicated bubo of pest as suppurating.

"MARCHAND'S ADRENALS"—A NEW MAMMALIAN ORGAN.

In an extensive article upon the comparative embryology of the adrenals, Otto Aichel[1] considers at some length the so-called accessory adrenals in man—their location, frequency, structure and origin. He places the accessory adrenal masses occasionally found in the immediate neighborhood of the adrenals in the same relation to the main organs as accessory spleens and accessory pancreas, namely, as the result of separation of small pieces from the main organs. The adrenal structures that occur in the broad ligaments of women and in the neighborhood of the testicle and the spermatic cord in men, he regards, however, as having an entirely different significance. These structures are of so constant occurrence that they may be regarded as normal organs and ranked with mammalian organs in general. Having been first described by Marchand, Aichel suggests for them the name, "Marchand's adrenals," in order to distinguish them from the ordinary accessory or misplaced adrenals only occasionally present near the adrenals proper, suprarenal capsules. "Marchand's adrenals" are situated a little inside the free margin of the broad ligament in woman, and in man in the neighborhood of the spermatic cord between the testicle and the epididymis. Aichel found them in the broad ligament of every woman examined; generally, however, they are so small as to require uninterrupted serial sections for the successful demonstration of their presence. In man they are generally detected with the naked eye; Schmorl found them in 92 per cent. of the cases in which he looked for them. These organs are said to be constant in animals also. They can not therefore be regarded as accidental, pathological findings. Aichel derives their origin from the transverse tubules of the epoophoron, and he thus gives them an origin independent of that of

---

1. Am. Med. Jour. Med. Sci., July, 1900. (See Current Medical Literature, No. 42.)

[1] Proceedings Philadelphia Pathological Society, 1900, iii, 189 and 195

[1] Arch. f. Mikr. Anat. u. Entwickelungsgesch., 1900, lvi, 1.

the suprarenal capsules, to which they correspond histologically. Whether "Marchand's adrenals" are of functional importance remains to be learned. Removal of the suprarenal capsules in animals has been shown to be followed by their enlargement, generally regarded as of compensatory nature. In man it would be well to study these minute structures in Addison's disease, in which we are accustomed to find the main adrenals the seat of destructive lesions.

TUBERCULOSIS AND PHYSICAL DEGENERACY.

The question as to the heredity of tuberculosis, in the strict sense of the term, may be considered as fairly settled; it is hereditary only in the very exceptional cases in which the direct transmission of the germ takes place in antenatal life. It is equally well established, however, that there is a tendency to weakness that makes its bearer especially susceptible to the infection of this disease, and that this heredity is often observed in those whose direct ancestors have been its victims. The popular notion, therefore, of the heredity of tuberculosis has a rational origin, and, using the term in a wider sense than is literally scientific, may be said to have its basis in fact. It is, however, not the descendants of the tuberculous only that possess this heredity; the degenerative tendency may start in other diseased conditions, just as tuberculosis itself may give rise to special weakness toward other and not apparently related affections. It is the depraved constitutional tendency with which we have to deal, and not its particular cause. The tendency of modern studies of tuberculosis seems to be to show that its malignancy largely depends upon extraneous conditions, and that to a large extent it is a curable disease. Indeed facts are developing all the time that point to a very general infection of our species, and a spontaneous cure, so to speak, in by far the large proportion of cases. The researches of Naegeli we recently noticed[1] are most striking, as they seem to show that healed or latent tuberculosis is almost universal in adults. The germ makes its way into the system, but is unable to complete its mischief in the vast majority of cases. Whether or not we accept such a condition as generally true, it can not be denied that the infection is by no means the fatal one that it is often assumed to be, and the question naturally arises: Are we to attribute the first importance to the resisting powers of the human organism or to the virulence of the infection? Dr. Charles Denison, in our columns last week, emphasized the first of these alternatives: the necessity of attention to the soil and not too exclusively to the seed. The chances of tubercle infection are well-nigh universal, and while it may be well to give our attention to its prevention, it must not be at the expense of other matters even more important. These last, the proper care of the health of the predisposed, the hygiene of the masses, as well as of the pulmonary cripples, are the weightier matters of the law, and, as he holds, the real strategic points in our combat with tuberculosis. That he is in a large measure correct is proved by the sanatorium treatment, which shows that under proper conditions the disease can be checked or cured in any climate, provided abundance of fresh air, scientific hygiene and rational medical treatment for the general conditions and symptoms are secured. It is well to keep this aspect in view, as the tendency is, perhaps, at present to dwell too exclusively on the almost impossible task of eradicating the ubiquitous germ.

HYDRIATRICS IN THE PROPHYLAXIS AND TREATMENT OF PULMONARY TUBERCULOSIS.

The use of water as a therapeutic agent is probably not as general as it should be, and it would appear that this measure would be especially indicated in cases of chronic disease attended with impaired nutrition and wasting. The problem in the treatment of tuberculosis is essentially one of nutrition. While the tubercle bacillus is the exciting cause, the conditions must be rendered favorable for its invasion and multiplication. The prophylaxis will, therefore, consist principally in measures directed toward rendering the conditions unfavorable, and the treatment should have the same aim. To this end it is believed that hydriatric measures, intelligently employed, are capable of materially contributing. They find an ardent advocate in this connection, in Professor Winternitz, of the University of Vienna, who has had an enormous experience in this field of therapeutics, and who discusses (*Berliner Klinische Wochenschrift,* 1900, No. 18, p. 384) some of the indications for, and the rationale of, their employment. He points out that tuberculosis does not develop suddenly. Deficient innervation, impaired circulation, various nutritional disturbances, especially gastric and intestinal disorders, anemia, etc., predispose to its occurrence, and every agency that antagonizes these conditions possesses prophylactic value. Ordinary cold water acts as a powerful tonic, improving the appetite, increasing the weight, enriching the blood, augmenting muscular power, stimulating innervation, and accelerating metabolism. It antagonizes retrogressive and favors constructive metamorphosis. It fortifies the body against the undesirable effects of cold. The systematic training of the sensory peripheral nerve-terminations and of the vasomotor nerves overcomes the great susceptibility on the part of the tuberculous patient to catarrhal affections. Cold water exerts a beneficial influence upon the local morbid process in the lungs, inducing increased activity in the flow of the blood to and from these parts, and improving the circulatory conditions generally. These results are brought about by invigorating the action of the heart, improving the tone of the vessels and the tissues, inducing collateral or active hyperemia in the affected organs, and strengthening the entire organism, particularly innervation and circulation. Hemoptysis, hectic fever, and night-sweats are also favorably influenced by hydrotherapeutic measures. The plan of procedure pursued by Winternitz is directed to securing prompt and complete reaction from temperature as low as can be borne, in conjunction with appropriate mechanical and chemical irritation. Stimulating affusions are also applied over the diseased parts, and thermic and mechanical symptomatic treatment is directed toward the fever, the night-sweats, hemoptysis, and cardiac and circulatory manifestations.

The Danish Government has appropriated 400 kroner for the expenses of the delegates to the International Medical Congress.

---

[1] The Journal, June 30, p. 1672.

Medical News.

Dr. Max Nordau will visit America soon.

The American hospital ship *Maine* has sailed for China, for the purpose of caring for the wounded among the Americans and English.

The centenary of the Royal College of Surgeons of England will be celebrated on July 25 and 26. There will be a conversazione at the college on the first day, and on the second a meeting in the theater of the University of London and a banquet in the hall at Lincoln's Inn.

A hospital for children has recently been opened in Athens. It is called "Saint Sophia," in honor of Princess Sophia of Greece, and was opened in the presence of the royal family and the high officers of the state and city. There are twelve buildings, four of which are isolated for contagious diseases.

The students of Paris have organized a series of fetes in honor of visiting students, August 5 to 12. The mornings will be reserved for the Students' Congress, the afternoons for visits to the exposition in groups, and the evenings for the theaters. The minister of public instruction and the president of the *Association générale des étudiants* will preside at the general meeting at the Sorbonne the first day.

The Plague.—During the week ending June 2, 746 deaths were reported in India from the plague, as compared with 975 in the previous week. In Bombay, 205 deaths occurred, and in Calcutta, 167. In Rio Janeiro, there were 27 cases and 13 deaths during the first week of June. The Propaganda at Rome has received intelligence that the plague is spreading with alarming rapidity in Pekin, and that early in June, four Italian missionaries had died from the disease.

Physicians in China.—A list has been published of the Americans in China from whom no word has been received and who either have been murdered or are in grave peril. The list includes the following four physicians: John M. Inglis, Pekin; Cortlandt Van Rensselaer Hodge, Maud A. Mackey and G. Yardley Taylor, Pao-Ting-Fu. Six physicians in China are reported to be safe, namely, Charles Lewis and Edna B. Parks, Sinan-Fu; W. R. Faries, Wei-Hein; C. F. Johnson and Miss E. E. Fleming, Ichow-Fu; and Edna U. Terry, Tien-Tsin.

PENNSYLVANIA.

Two deaths from lockjaw, resulting from injuries on July 4, have so far been reported; one in Altoona and the other in Philadelphia.

BOARD OF HEALTH.

The forty-sixth regular meeting of the State Board of Health was held at Mt. Gretna, July 12. The secretary, Dr. Benjamin Lee, made his report, expressing appreciation of the Philadelphia Board of Health in authorizing the physician in charge of the Municipal Hospital to give instructions to students attending the medical colleges there. It was found that some of the water-supply of Philadelphia was contaminated at Norristown. Dr. Samuel T. Davis, Lancaster, was elected president of the Board.

DISEASES AMONG CATTLE.

At the last meeting of the State Live Stock Sanitary Board, held at Harrisburg, July 8, Dr. Leonard Pearson, state veterinarian, stated that, during the past month, 31 tuberculous cattle were condemned. Blackleg was reported from a farm in Franklin County, and also from a farm in Somerset County. Anthrax was found in a herd at Kennett Square and also in Jefferson County. Most of the cattle exposed to the disease have been rendered immune. A large number of suspected outbreaks of contagious diseases were reported, but on examination it was generally found to be due to other causes.

MEDICAL DEPARTMENT, PENNSYLVANIA NATIONAL GUARD.

Dr. John V. Shoemaker, Surgeon-General of Pennsylvania, has published a circular for the government of the medical department of the national guard of the state, which consists of a surgeon-general, one surgeon with the rank of lieutenant-colonel, not more than twenty surgeons with the rank of major and not more than forty assistant-surgeons with the rank of first lieutenant. The assistant-surgeons who have served continuously for five years and are recommissioned within six months from the expiration of their former commission, will receive commissions as captains. The appointments of the medical department are made by the Commander-in-Chief, upon recommendation of the Surgeon-General and after the applicant has passed satisfactory examinations regarding his character, personal ability and physical fitness. The applicant must have been in active practice for four years before filing application. All the appointments to duty will be made by the Commander-in-Chief. The appointments of the medical department are as follows: On the staff of division commander, one surgeon with the rank of lieutenant-colonel; on the staff of regimental commander, one surgeon with the rank of major; to each regiment of infantry, one surgeon with the rank of major and two assistant-surgeons with rank of captain or first lieutenant; to each battalion of artillery and to each troop of cavalry, one assistant-surgeon with rank of first lieutenant. Medical officers will be appointed to commands within the territorial limits of which they reside.

HOSPITAL CORPS OF PENNSYLVANIA.

The hospital corps for each regiment of infantry consists of a hospital steward and one man from each company detailed for that purpose. The men detailed should be intelligent, should have had experience in caring for the sick and wounded, and preference should be given to men who have had military training. Each private of the hospital corps is furnished with a pouch containing a small flask of aromatic spirits of ammonia, six first-aid packages, a penknife, wire gauze, rubber bandage, gauze bandages, hemostatic forceps, pins and scissors. Acting hospital stewards are chosen from the privates of the hospital corps by their medical officers. Hospital stewards are selected from acting hospital stewards who have served not less than three months, are appointed by their medical officer and approved by a board of not less than three medical officers. Members of the hospital corps should receive instruction from a medical officer for at least eight hours in every month. The instruction will consist of lectures and demonstrations of methods of rendering first-aid to the sick and wounded, of drills in ambulance service and the duties of litter-bearers. The practical demonstrations should include the methods of arresting hemorrhage, applying first-aid dressing, extemporizing dressings for fractures, revival of those apparently drowned, the location of principal blood-vessels, treatment of faintness, heat exhaustion, sunstroke, etc. They should be taught how to take and record temperatures, make and apply poultices and plasters, and prepare sterilized dressings. They should also receive instruction in the art of preparing food for the sick.

Philadelphia.

Dr. W. W. Keen sailed for Europe, July 11.

Dr. S. MaCuen Smith will spend two months in Europe.

Dr. Arthur V. Meigs will spend the summer at Northeast Harbor.

Dr. Orville Horwitz expects to go to Bar Harbor at an early date.

Dr. George M. Gould, editor of the *Philadelphia Medical Journal*, started for Europe, July 18.

The Children's Country Week Association has sent about five hundred children to different portions of the country during the past few days.

Through the bequest of Elizabeth R. Blight, the sum of $10,000 has been left the Episcopal Hospital. A provisional bequest was also made to the St. Vincent's Home and Maternity Hospital.

Dr. F. Savary Pearce, instructor of physical diagnosis in the University of Pennsylvania, has been elected clinical professor of nervous diseases at the Medico-Chirurgical College, to succeed Dr. Charles W. Burr, resigned.

The experimental filtration plant built by the city at an expense of $10,000 is now almost ready to undergo proper tests. The water will be tested both bacteriologically and chemically several times a day.

OLEOMARGARIN LAW.

Many dealers who sell oleomargarin without license did not take the government at its word when the announcement was made that a crusade would be started to prevent this fraud. In one day, 10 men were arrested charged with this offense, later 5 more were added, and on July 14, 8 others. Several are serving terms in the penitentiary for their acts.

MORTALITY STATISTICS.

The number of deaths occurring during the past week was 633, an increase of 89 over last week, and an increase of 151 over the corresponding period of last year. The principal causes were: Apoplexy, 21; nephritis, 23; cancer, 21; cholera infantum, 96; tuberculosis, 65; pneumonia, 26; marasmus, 38; sunstroke, 33; diphtheria, 17; scarlet fever, 3; typhoid fever, 11.

BABY FARM.

Another so-called "baby farm" has been discovered in this city. It is said that some time ago there were several children placed at this house, but some of these have mysteriously disappeared. A short time since, dead infants were found on a vacant lot and the circumstances were such as to place the "baby farm" under suspicion. It is now believed that there may be more than one of these institutions in this city and a thorough search is being made.

FORTUNE TELLING.

Another crusade of a beneficial character to any community has been undertaken here. This is a warfare against what is known as "fortune telling." The mental impressions made on the minds of ignorant people by these impostors would doubtless startle one if the real facts were known. In this city, there is a law against the practice, and District Attorney Rothermel is pushing the charges against some of the guilty ones. Some time ago "Madame Dreyton" was sentenced to one year's imprisonment and also to pay a fine of $100 for this offense and it seems likely others will follow her. In one instance it is said a swindler of this character obtained $130 from a single victim.

ILLINOIS.

Dr. George N. Kreider, Springfield, assistant surgeon-general to the Second Brigade, I. N. G., has resigned. Dr. Charles B. Fry, Mattoon, has been appointed his successor.

The medical staff of the Moline hospital was organized July 10. The following officers were elected: president, J. W. Morgan; vice-president, E. A. Edlen; secretary, C. E. Whiteside.

Dr. E. W. Weis, chairman of the committee on publication of the *Illinois Medical Journal*, has gone to Europe, and Dr. Geo. N. Kreider will assume the editorial management of the *Journal* during his absence.

ILLINOIS PHARMACEUTICAL ASSOCIATION.

This Association met at the Chicago Beach Hotel, July 17, for its twenty-first annual session. The first day's proceedings were enlivened by Prof. C. H. Hallberg's attack on the present state pharmaceutical laws, which elicited a heated discussion. Professor Hallberg's contention is that the members of the state board of pharmacy should be named by the Association and not by the Governor.

DIPHTHERIA AND FAITH CURE.

A community in Whiteside County, which has started up a sort of Dowieite or similar faith-cure establishment seems likely to get into trouble with local authorities. The head of the concern, one Abram Zook, has lately claimed supernatural powers of healing and has started up a sort of orphanage. Diphtheria having broken out amongst the inmates, he refused any medical aid and there have been several deaths and nothing done until doctors were ordered there by the authorities. Three children had died up to last week and several more were in imminent danger at last accounts, according to newspaper reports.

Chicago.

Dr. Truman W. Brophy sailed for Europe on the *St. Paul* July 18.

Dr. George B. Dyche has returned from Europe, where he has been for the past year.

Dr. Harold K. Gibson, who has been studying in Europe for the past two years, has returned.

The will of the late T. B. Blackstone devises $25,000 to the Passavant Memorial Hospital and $25,000 to St. Luke's Hospital.

Dr. Nicholas Senn, who is now in Denver, is reported to have telegraphed the War Department, offering his services for the Chinese campaign.

The Home for Crippled Children has arranged for a new school building and hospital. The latter structure, which will cost $10,000, is the gift of Mrs. R. H. McElwee. It will be devoted to the surgical and medical care of destitute crippled children.

Dr. Adolph Gehrman, the city bacteriologist, has made a careful examination of the corned beef that was supposed to be responsible for the poisoning of so many last week, and has found ptomains in one specimen. An inspector has been sent to the different meat shops in that vicinity and a thorough investigation will be made.

TETANUS.

The tetanus statistics dependent on the national holiday are rather startling. Since July 4, twenty-five deaths from tetanus have been registered in Chicago. The majority of the cases were due to the "deadly toy pistol," but the gas-pipe cannon," blank cartridge and gunpowder each contributed its proportion. The deaths from tetanus during the same period in 1899 did not exceed fourteen.

HEALTH DEPARTMENT.

The bulletin for the week ended July 14 shows a death-rate of only 12.6 per 1000, which is the lowest rate for any week in July since the weekly record has been made. The corresponding week of 1899 had a mortality of 17.6 per 1000. The principal reduction is among infants and children under five years of age: In 1899, 281 died; in 1900, 149; a reduction of 47 per cent. The deaths from "impure water diseases" were 132 in 1899 and only 80 in 1900, a reduction of 56 per cent. This the Health Commissioner considers due to the generally good sanitary quality of the water. The intensely hot and humid weather of the past week was directly responsible for 17 deaths from sunstroke. The total deaths from all causes for the week was 423—242 males and 181 females—which compares favorably with the corresponding week of 1899, when 559 died. The principal causes of death were: Acute intestinal diseases, 77; Bright's disease, 23; consumption, 46; cancer, 15; heart diseases, 30; nervous diseases, 39; pneumonia, 22; suicide, 7; violence, 27. Seventy-nine cases of contagious disease were reported, namely: Scarlet fever, 33; diphtheria, 40; measles, 2, and smallpox, 2. The department laboratory made 48 bacteriological examinations of ice, meat, water and milk, and 25 for suspected disease; 478 samples of milk and cream were analyzed, 1.90 per cent. of which were found to be below grade.

IOWA.

Sioux City has arranged for a quarantine hospital, and work will be commenced on it in a few weeks.

The *Iowa Medical Journal*, formerly published in Fort Dodge, by Dr. J. W. Kime, will hereafter be published in Des Moines, and Dr. E. E. Dorr will be editor.

The Burlington hospital has received a gift of $5,000 from Mr. E. Hageman of that city. The money is to draw interest during his life, and at his death go unconditionally to the hospital.

MICHIGAN.

Work has been commenced on a forty-room sanitarium in Detroit that will cost $15,000.

A MEMORIAL tablet was dedicated at Mackinac Island, July 10, to Dr. William Beaumont. The inscription on the stone reads: "Near this spot, Dr. William Beaumont, U. S. A., made those experiments upon Alexis St. Martin, which brought fame to himself and honor to American medicine. Erected by the Medical Society of the Upper Peninsula of Michigan, July 10, 1900."

MORTALITY STATISTICS.

There were 2993 deaths recorded in the state during June. This is a decrease of 515 deaths from the previous month and represents a death-rate of 11.7 per 1000 population, as compared with 13.8 for May. There were 390 deaths of infants under one year of age, 158 deaths of children, aged 1 to 4 years, and 628 of persons aged 65 and over. The important causes of death were as follows: Pulmonary consumption, 149; other forms of tuberculosis, 44; typhoid fever, 31; diphtheria and croup, 25; scarlet fever, 15; measles, 25; whooping cough, 21; pneumonia, 152; diarrheal diseases of children, 82; cerebrospinal meningitis, 31; influenza, 18; puerperal septicemia, 15; cancer, 106; accidents and violence, 174; 1 death from smallpox in Springwells township. As compared with the preceding month there is a decrease in the number of deaths returned from pulmonary consumption, measles, whooping-cough, pneumonia and influenza, and a slight increase in the number of deaths returned from accidents and violence, largely due to the increased number of deaths from drowning. The death-rate of June, 1899, was slightly lower than that for the present year, being 11.5 per 1000.

CONNECTICUT.

DR. EDWARD G. FOX, Wethersfield, has been appointed prison physician, to succeed Dr. Walter N. Thayer, Jr., resigned.

THE MIDDLESEX County Hospital Association has purchased a site for the building of a hospital, at Middleton, for which $12,000 has already been pledged.

Hartford.

AT THE meeting of the Board of Health, held July 6, Dr. Chas. S. Stern was elected medical inspector, and Dr. Chas. P. Botsford, assistant.

DR. FREDERICK T. SIMPSON has been appointed consulting physician in insanity at the state prison, to succeed Dr. Melancthon Storrs, deceased.

MARYLAND.

SCURVY AT THE HOUSE OF CORRECTION.

Dr. C. P. Carrico, physician of the Maryland House of Correction, at Jessups, reports an outbreak of scurvy among the inmates, due to lack of proper vegetable diet. Of the 375 patients, 50 are affected. The affection is characterized by spongy gums and great muscular weakness; in many the teeth have fallen out, and others have contraction of muscles and swollen joints and limbs. The trouble seems to be too much economy. The chief food has been meat, and soup made of only beans and water. This condition of affairs, so discreditable to the public authorities, would not probably have been made known had not the institution lately gone into the hands of a new board, which is now investigating affairs.

Baltimore.

DR. THOMAS S. CULLEN sailed July 14 for Paris.

DR. J. W. LORD, secretary of the Medical and Chirurgical Faculty of Maryland, while descending a hill last week, fell from his bicycle and sustained a fracture of a clavicle.

DR. HOWARD A. KELLY entertained the Deer Creek Farmers' Club, of Hartford County, at his country seat, "Liriodendron," near Belair, July 7.

DELAWARE.

THE DELAWARE Hospital fund has reached $19,000, and the buildings will soon be commenced at Wilmington.

AN INVESTIGATION is being made in regard to an institution chartered some time ago under the name of the "University of Delaware." It is charged that this institution has been granting degrees in foreign countries. The institution, according to the charter, has a right to teach philosophy and dental surgery; and it is further provided that graduates in medicine, dental surgery or philosophy may become members of the institution. The "university" has no office in the State of Delaware. The corporators named are Dr. Charles Forster, a dentist, and Christian Plosser, a saloon-keeper of Wilmington.

CALIFORNIA.

DR. F. C. E. MATTISON, Pasadena, has gone to Paris as a delegate to the International Medical College.

AT THE commencement exercises of the College of Physicians and Surgeons, held July 5 in San Francisco, degrees were conferred on thirty-three by Dr. Winslow Anderson, president of the college.

WISCONSIN.

AT THE meeting of the State Board of Medical Examiners of Wisconsin, held in Madison, July 11, J. R. Current, Two Rivers, was elected president and H. M. Ludwig, Richland Center, secretary. One hundred and twenty-five licenses to practice medicine in the state were granted.

KANSAS.

DR. F. M. THOMAS has resigned as surgeon of the federal prison at Leavenworth, to take effect Aug. 1.

WASHINGTON.

THE ELECTION of officers of the State Board of Medical Examiners was held July 5 and resulted as follows: President, P. B. Swearenger, Tacoma; vice-president, C. E. Grove, Spokane; secretary, W. G. Tucher, Port Townsend; treasurer, J. H. Dumon, Centralia. The next examination will be held in Seattle the first Tuesday of January.

MISSOURI.

DR. CLARENCE MARTIN, of St. Louis, has been appointed an assistant-surgeon in the United States army and assigned to duty in the Philippines.

DR. J. HARVEY MOORE, of St. Louis, has been appointed a member of the Board of Managers of the State School for the Blind, and will take charge of all the general work of the school, as well as pass on all applications for admission.

LOUISIANA.

THE NEWSPAPERS had a sensational report a few days ago to the effect that a new and terrible plague had broken out in Louisiana. However, Dr. Edmund Souchon, President of the Louisiana State Board of Health, reports that the disease is smallpox. An expert was sent to Caldwell parish, where fourteen cases were found, two deaths having already taken place. All proper measures are being taken to prevent the spread of the disease.

CANADA.

DR. J. J. MACKENZIE, bacteriologist to the Board of Health of Ontario, has been appointed professor of pathology in the University of Toronto; and Dr. J. A. Amyot, associate professor of pathology in the same institution, will become provincial bacteriologist.

ADULTERATION IN DRUGS.

An unusual kind of adulteration in drugs has recently come to the notice of the chief analyst of the Inland Revenue Department at Ottawa. It consists in the substitution of sodium nitrate for saltpeter, and seems to be very prevalent among grocers and general dealers, and even in drug shops. Particular attention will be paid by the department to the stoppage thereof in the drug trade. Samples of saltpeter are now being collected, and no doubt prosecution for contravention of the adulteration act will follow in those cases in which the sodium salt is sold under this name.

ONTARIO ASYLUM DOCTORS TRANSFERRED.

Dr. R. H. Robinson, assistant superintendent at the Toronto Asylum for the Insane has been granted three months' leave of absence on account of ill-health, and Dr. J. F. Ross, assistant physician at the Brockville Asylum has been transferred to the Toronto institution in the same capacity. Dr. Herriman, who has been assisting at the Toronto Asylum, returns to Hamilton. Dr. D. D. Smith, assistant physician at Hamilton, has been transferred to Brockville, where he will be assisted by Dr. Wilson, assistant physician at the Mimico Asylum, who has been transferred to that institution; and Dr. McNaughton, second assistant physician at Brockville, assumes the duties formerly taken by Dr. Wilson at Mimico.

TINEA FAVOSA IN THE MARITIME PROVINCES.

Dr. George C. Melvin, St. John, N. B., has recently been looking into this disease with the idea of preventing its introduction to any extent into the provinces down by the sea. The recent action of the United States Government in excluding immigrants from landing at any of their ports of entry, and the ever-increasing importance of St. John as a port of entry, has prompted Dr. Melvin to issue a note of warning to local immigration officers. Although the immigration authorities of Canada have not yet taken any steps toward prohibiting the landing of these afflicted immigrants, it is altogether likely, now that their attention has been drawn to the danger of the introduction of this disease into our midst, that they will take the proper steps and precautions to prevent it. Dr. Melvin has recently been in New York, making a special study of the disease, as no large experience could be gained from private practice in St. John. He mentions a case in the service of Dr. T. G. Roddick at the Montreal General Hospital, where nearly the whole cutaneous surface was involved.

Montreal.

THE FOLLOWING have been appointed resident physicians at the Montreal General Hospital: Drs. E. R. Secord, C. K. P. Henry, W. G. Turner, J. W. T. Patton, W. H. P. Hill, L. M. Murray, W. E. Rowley, A. R. Hall and H. R. D. Gray.

TROPICAL AND SUB-TROPICAL DISEASES IN CANADA.

In *The British Medical Journal* of June 23, Professor Adami, of McGill University, addressed a letter to the secretary of state for the colonies, the Right Hon. Joseph Chamberlain, on this subject. This was in response to circular letters addressed to the Dominion Government which were by them forwarded to the medical faculty of the university. In his letter, Dr. Adami deals with malaria, dysentery, cholera nostras, typhoid fever, leprosy, mycetoma pedis, and some diseases of cattle, beri-beri, blastomycetic dermatitis and rabies. On three of these notes have already appeared in this correspondence to THE JOURNAL, namely, on malaria, rabies and leprosy. As regards dysentery, Professor Adami knows of only one case in which this disease occurred in a native who had not been outside the limits of the Dominion. He believes that in the southern part of the province of Ontario, investigations will show this disease to exist. Cholera nostras is much more common and more fatal in the large towns in Canada than it is in the British Isles; this is explainable by the changes of temperature in the summer months. There have been a few cases of beri-beri in one of the asylums outside of Montreal, clinically unrecognizable from this disease. Dr. F. Shepherd, Montreal, he states, has within the last few weeks studied and described two cases of blastomycetic dermatitis, in "habitants" of that district. As to mycetoma pedis or madura foot, Professor Adami says that Dr. Kirkpatrick of Montreal and himself were the first to report a certain case of this in America. This case occurred in a young French Canadian of Montreal, who had never traveled.

DIPLOMAS IN PUBLIC HEALTH AT M'GILL UNIVERSITY.

At the annual convocation of McGill Medical Faculty diplomas of Public Health were granted to four who took this special course: Drs. W. W. Ford, J. E. Laberge, H. S. Shaw and J. E. Williams. This is the first occasion on which these diplomas have been granted at McGill, which, so far as known, is the first medical school on this continent to carry out a diploma course of this nature. These graduates have taken special courses in sanitation and laboratory work on hygiene and have passed a special examination. Considering the paramount importance of the sanitary physician at the present day, McGill has no doubt inaugurated a move in the right direction in higher medical education; and in order that work of this character and scope shall prove eminently and fully successful, the importance of boards of health insisting in the public interest, that applicants for official positions should possess these qualifications, will assuredly be fully appreciated. This new diploma of McGill has been fashioned after similar qualifications given by some of the institutions of Great Britain. The outside sanitary work performed by the four graduates has been under the supervision of the medical health officer of Montreal, while the faculty work has been under the supervision of Dr. Wyatt Johnson.

LONDON.

THE ARMY MEDICAL SCANDALS.

The one department of the army which we have been assured on the highest authority is above criticism has now, in its turn, to defend itself against a very severe attack. Sir William MacCormac and Mr. Frederick Treves, on their return from South Africa, where they acted as consulting surgeons to the army, have only recently declared that never before in the wars of the world were such ample arrangements made for the care of the sick and wounded. The long, able, and exceedingly graphic and circumstantial description of scenes actually witnessed, published in the *Times* by Mr. Burdett Coutts, M. P., gives a very different picture, and has created a profound sensation. It appears that there are 20,000 sick and wounded soldiers in South Africa, of whom more than half are ill from typhoid fever. In a field hospital which had accommodation for 50 patients, Mr. Burdett-Coutts says that he found 250. Men lay with their faces covered with flies in black clusters, too weak to brush them off, and with no one to do it for them. There were not enough orderlies at night to prevent delirious patients from wandering about the camp half naked in the bitter cold. Then the camp had to be evacuated, and patients suffering from typhoid hemorrhage were jolted across the veldt on rough ox-wagons. Near Bloemfontein hundreds of men in the worst stages of typhoid fever lay on the ground, some of them in three inches of mud, with only a blanket and a thin waterproof sheet. They had no milk, hardly any medicines, no beds, stretchers, mattresses, nor pillows, and not a single nurse, but only a few soldiers to act as orderlies. This was not at the time of a forced march; the neighboring town of Bloemfontein had been occupied six weeks. Along the railway countless trainloads of stores of all kinds passed for every one except for the sick. At this time many large buildings in Bloemfontein, which might have been used as hospitals, were occupied by officials.

The reply of the government in the House of Commons to these serious charges is that every possible arrangement has been made for the care of the sick, and that money has been lavishly spent. There are now 900 medical men serving with the troops in South Africa, and 18,840 beds have been provided, which are in excess of the number required. The case mortality from typhoid fever has been 21 per cent., which is less than that of many other campaigns; in the Nile campaign of 1898 it was 28 per cent., and in the Dongola campaign of 1896, 50 per cent. At the request of the government, Lord Roberts points out that the difficulties of transport were very great. He had to obtain supplies from a distance of 900 miles. He suggests that the government should appoint a committee to come to Africa and investigate the working of the medical service. No attempt has yet been made to answer Mr. Burdett-Coutts' charges, and therefore the matter remains in a very unsatisfactory state.

"FINSEN'S LIGHT TREATMENT" AT THE LONDON HOSPITAL.

A department for the treatment of lupus and other skin diseases, by the methods of Prof. Finsen, of Copenhagen, has been organized at the London Hospital. The apparatus in use is exactly similar to that employed by the Danish professor. Sun or electric light is passed through hollow lenses containing solutions which absorb the caloric rays; the ultra-violet or chemical rays are focussed on the affected part, which is rendered anemic by pressure. Dr. Bie and others have shown that these rays have considerable bactericidal power. The patients are photographed before, during and after treatment. A diseased area is selected by pressing on the reddened skin with a glass spatula, which renders the comparatively healthy tissues anemic and reveals any yellow lupoid nodules present. The skin is cleansed with oil of sesame, the diseased area marked with an aniline pencil and a piece of moistened lint with a hole corresponding to this area, applied. A spot of light about 3-5 of an inch in diameter is allowed to fall on the skin. After an hour's treatment a dressing of zinc carbonate and lanolin is applied. There is then no redness, swelling or pain, but from six to twelve hours later redness and swelling occur. After twenty-four hours bullæ often form, and some serous weeping, but rarely pustulation, occurs. If the area of disease is large, the periphery is first attacked with a circle of rings overlapping the healthy skin, and these are afterward carried concentrically inward. The tubercle bacilli are destroyed but the healthy skin is unaffected. This daily treatment may have to be continued for months. The results can not yet be stated.

NOMENCLATURE OF TRANSVERSE PRESENTATIONS AND VERSION.

At the Edinburgh Obstetrical Society, Dr. Berry Hart read a paper on "The Nomenclature of Transverse Presentations and of Version: Choice of the Leg Seized." He said that the best nomenclature in transverse presentations was that which divided them into dorso-anterior and dorso-posterior, and each of these into left acromio-iliac and right acromio-iliac, according as the acromion was directed to the left or the right in the mother. The positions were named after the acromions because this was often the presenting part. The nomenclature of version is very confusing. The terms used are descriptive either of the method or the aim. "Bipolar" and "External" are applied to the former; "Podalic" and "Cephalic" to the latter. There are three great varieties of version: 1, combined external version—cephalic—now seldom used, practically performed by external manipulation, its aim being to get the head to present; 2, Simpson's combined version (podalic) carried out by means of one hand over the abdomen and the other passed deeply into the uterus, the aim being to get the lower limb to present; 3, Braxton Hicks' bipolar version (podalic), performed with one hand external and the other internal, but not deep, that is, not passed beyond the presenting part. In the choice of the leg both the seizure of the further knee and the nearer foot have been advocated. In a simple case either leg might be seized. In difficult cases, with the liquor amnii drained off, it is important to seize the knee which gives the safer operation. Dr. Hart's directions are: "Seize the knee or leg which maintains the dorso-anterior position or converts the dorso-posterior into dorso-anterior—that is, take the further limb in dorso-posterior cases, the nearer in dorso-anterior. When, however, in dorso-anterior cases, the breech is in the fundus, traction on the nearer leg may convert the case into a dorso-posterior one, and when the breech is near the os, in dorso-posterior position, traction on the farther leg may not alter the posterior position of the back after version, owing, again, to want of the necessary obliquity in the pull."

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

The enterprise of the Liverpool School of Tropical Medicine, which has been founded only a year, is most extraordinary and quite puts to shame older institutions. It had not been founded two months before it sent an expedition under Major Ross to West Africa to investigate malarial fever. Soon a second expedition was sent, and now a third has started for America, with the principal object of investigating yellow fever. The expedition will visit, by invitation, the Army Medical Department at Washington and the Johns-Hopkins University at Baltimore, and confer with the bacteriological experts there. It will then sail to Para, Brazil. Advantage will be taken of the opportunity to test still further the work of the school in malarial fever carried on by Major Ross, and to study dysentery and other tropical diseases from which British sailors suffer so much. That expeditions of this kind have never been undertaken by the government but are left to the private enterprise of a provincial medical school is a startling example of the neglect of science by the authorities, which is so proverbial in Great Britain. At one of the meetings held in support of the expedition, Major Ross said that the want of intelligence and enterprise, the sluggishness of thought and action as regards tropical sanitation are worthy rather of the Chinese Empire than of any civilized nation. The German government voted £6000 two years ago for a commission to study tropical diseases and yet the greatest tropical power in the world has never voted a penny for this purpose.

Correspondence.

Colored Tents for Hospital Corps.

Mobile, Ala., June 28, 1900.

To the Editor:—A medical officer of the British Army, operating in South Africa, has recently pointed out the difficulty of distinguishing the red cross as now displayed, at distances even of three or four hundred yard during calm weather, when the Red Cross flag hangs limp from the flagstaff.

Recent reports of opposing forces firing on the Red Cross have been published, and no doubt, in some instances, these attacks might be accounted for by this fact.

Would it not appear advisable to equip the hospital corps with tents of different color from those of the troops in the field, and to uniform the members of the corps in a color so distinctive that they could be recognized at a distance. If the hospital tent were of solid green color, and the hospital corps wore a red jacket, it would be possible to readily distinguish this branch of the service from combatants, at much greater distances than is possible with the present equipment.

T. B. Perry, M.D.

Department of Ethnology and Archeology, Pan-American Exposition.

Buffalo, N. Y., July 3, 1900.

To the Editor:—The Pan-American Exposition has seen fit to entrust the care of the Department of Ethnology and Archeology to a practicing physician. I should be very glad if you would allow me to reach your readers with the following request for assistance: Many members of the medical profession are interested in the study of American Ethnology and Archeology, and not a few have valuable collections of Indian relics and skeletons from Indian graves. Those not directly interested in this study are so circumstanced as to be aware of the hobbies of their neighbors and could doubtless furnish the address of collectors. I should be greatly obliged for information and for the loan of collections for the use of this department of the Exposition. Exhibits which represent study in some special line of American Ethnology and Archeology will be particularly suitable. A. L. Benedict, Superintendent.

A Model Society.

Hartford, Conn., July 18, 1900.

To the Editor:—Medical societies and their progress are always subjects of interest. The Thurber Medical Society is a model and in some ways an object-lesson of great value. The town of Milford, in Worcester County, Mass., had a very noted physician many years ago. He was not only a physician of eminence, but one who made friends, and was literary in his tastes. In 1853 a little group of physicians formed a society for medical improvement and the cultivation of good fellowship, and named it after him. They soon began to collect a library, and received donations from outside, and became incorporated by an act of the legislature. This society has been in existence up to the present time. One hundred and eleven persons are numbered among its members during these years. The average attendance at each meeting is from fifteen to thirty, and this in a country village where many of the members must drive from five to ten and fifteen miles to reach the meeting. During all these years meetings have been held every month for at least eight or nine months during the year, and at each meeting from one to four papers have been read and discussed. Many of these papers have been published; others have been filed away in the library. During the last few years the interest has increased and also the number of papers offered, until now it is looked forward to as an afternoon holiday and post-graduate school for all the physicians in that neighborhood. Often patients are brought into the room and examined and commented on. Every year a dinner is added to the attractiveness of the occasion. These members coming from their active work meet at 2 p. m., and leave at 5 or 6, rarely spending longer time. The business of the society is not touched with politics nor personal considerations for its honors. The secretary has been continued for many years, and the president serves his year without ambition to be continued. Each one seemingly has the central object before him to learn something new and be sustained by the good opinion of his fellows. Two generations of physicians have come and gone as members of the Thurber Medical Society. The library and records have steadily grown with the value of the meetings. It is doubtful if there is any other country local society in the United States which has gone through forty-seven years of persistent activity and usefulness equal to this. All the members belong to the Massachusetts Medical Society, but have no affiliation with other societies and send no official representatives. I think this record is unsurpassed and should be given a wide publicity.

T. D. Crothers, M.D.

Varicose Veins.

Wilkesbarre, Pa., July 11, 1900.

To the Editor:—In the Aug. 7, 1897, issue of The Journal was a short description of an unusual case of varicose veins, together with a photographic cut of the patient. The case was one of compensating dilatation of the superficial epigastric and superficial circumflex iliac veins on both sides of the abdomen, following an attack of phlebitis involving both the right and left femoral veins, which permanently obliterated the lumen of both vessels.

The patient died a few days ago from hemorrhage of the stomach. During the past two years he had suffered from dropsy in both legs, the scrotum and abdomen, ulcers on both legs and many other symptoms due to obstruction to the return circulation from the lower limbs.

Thinking there might be others who would be interested in knowing how the case has terminated, I submit the above.

B. J. Wethersby, M.D.

Cocain Habit Among the Negroes.

Memphis, Tenn., June 27, 1900.

To the Editor:—I have just read your editorial in The Journal concerning the cocain habit in the negro. It is safe to say that two-thirds of the negroes who are addicted to the use of cocain use it by the "sniffing" method. We have here in Memphis "dives" called drug stores, whose sole trade is to sell cocain to the negroes at night. The sign, placed in a conspicuous place in one of these resorts, "Open all night," is an index to what they dispense—cocain. I see a great many of these "cocain sniffers" in my outdoor clinic and my observation is that the habit leads up to acute mania. I have been reliably informed by a night clerk in one of these drug stores that he has dispensed as high as one hundred and fifty packages of cocain during the night. The cocain habit is one of the greatest evils to which the negro is addicted. Frequently in the police court when arraigned for cutting, shooting, or running "amuck," his plea is "*C-o-a-c had me.*" The "cocain sniffer" is found among the lowest and most ignorant class, both white and black. The evil is growing all the time in Memphis. The following ordinance has recently been enacted:

Hereafter no person, firm or corporation shall, within the limits of the city of Memphis, sell or give cocain, or any preparation, compound or mixture of cocain, or its salts, to any person in any quantity less than one pound, unless the person offering to purchase shall produce a certificate from a practicing physician stating that such person needs cocain for his or her physical welfare, and a separate certificate shall be produced for each purchase. Each certificate shall bear the date on which it is issued, and no sale shall be made on such a certificate except on the date on which said certificate is issued, and the certificate shall be delivered to the person making the sale, and filed by him, and such certificates shall be open to the inspection of the Police Department of the city at any time.

Any person violating this ordinance shall be fined not less than $2 nor more than $50 for each offense, and each sale shall constitute a separate offense.

Frank A. Jones, M.D.

Scandinavian Leprosy.

New York City, July 2, 1900.

To the Editor:—Referring to your encouraging remarks on "Leprosy in Wisconsin," which appeared in The Journal of June 30, will you permit me to say that no one disputes the proposition that if time enough be given, leprosy will eradicate itself by death of the patient. Hansen said in the Berlin Leper Conference: "Wait fifteen years and your German lepers of Memel will be dead." But why did it require so much longer to eradicate leprosy from his own country? Because his isolation there was two-thirds in families and but one-third in hospitals. Had he instituted perfect isolation, perhaps his fifteen years' limit would have been sufficient.

You state that Dr. Wingate said that the germ of the disease appears in his climate to find little suitable soil in the native-born population, at least up to date, etc. Let me inform you—perhaps you know it already—that immigration of lepers into a new country of those predisposed through inheritance—and as great a man as Besnier believes in inheritance—to leprosy will retard the outbreak of the disease, perhaps one or two generations, in the family line. Hereditary predisposition and some other still unknown cause peculiar to sea climates are the two principal factors, it is believed, in the development of leprosy. I believe that it is a certain insect life of the climate, together with another factor, perhaps a double intermediary-host one, which produces the eruption of the disease.

It is a curious fact that up to the twelfth and thirteenth centuries leprosy advanced northward through Europe; that is from a hot to a cold climate, and there was no difference between the disease in the cold climate and in the hot—in fact, it has disappeared from the hot countries of Europe more completely than from the cold. If Wisconsin, a cold climate, is inimical to the germ, why has this occurred in Europe?

Now, for some interesting facts: Some years ago I sent back to Japan a native in whom there had developed in New York what I had diagnosed as vitiligo. Both his hands had turned white, commencing at the tips of his fingers. To-day that man is an anesthetic leper. In Nagano Ken the silk district of Japan, a young Japanese woman was about to be married. It was said that her brother was a leper, and, in consequence, the bridegroom's relatives insisted that he should give her up. He refused and they ostracized him and his wife. The popular opinion in Japan is that leucoderma or anything resembling it is degenerate leprosy, or an abortive type of the disease occurring in certain families, and that true leprosy will reveal itself in some later generation.

In the Scandinavian population of the Northwest leucodermatous afflictions are plentiful, as I am told. May not this fact have something to do with the non-occurrence of real leprosy in the second generation of lepers' blood there, and may not a third or fourth generation reveal the true type of the disease?

At any rate, let us be on our guard until we are sure of it. Even without leprosy, immigration of families whose European relatives were lepers may breed lepers in the third or fourth generation, and even in so dry a climate as that of Wisconsin.

Albert S. Ashmead, M.D.

Typhoid Fever in Camps During the War with Spain.

War Department:
Chickamauga and Chattanooga National
Park Commission.
Washington, July 12, 1900.

To the Editor:—Allow me to congratulate you on having published the most interesting and valuable article which has yet appeared regarding typhoid fever in the camps during the war with Spain. Every official of the government who has any military duties to perform, and every officer who served with troops should procure this article and give it careful study. I refer to the paper of Major Victor C. Vaughan, of the University of Michigan, late division surgeon, U. S. V., published in your issue of June 9.

The report of the board of surgeons of which Major Vaughan was a member, with Major Walter Reed, U. S. A., chairman, and Major E. O. Shakespeare, U. S. V., has been awaited with deep interest, not only by all medical officers of the service, but by all the general, line, and staff officers charged with the organization of troops in the various camps of the recent war. While this paper does not purport to be a synopsis of the forthcoming report, it doubtless presents many of its main points, and at the same time sharpens the general desire to see the official report. All who had occasion to observe the exhaustive work of Major Reed's board in the great camps are confident that its report will be not only of national but of international importance.

The chief object of this communication is to ask space for a brief corrective and explanatory statement concerning the following paragraph in Major Vaughan's paper:

> Official statements that certain commands escaped typhoid fever have been made. Gen. H. V. Boynton, chairman of the Chickamauga and Chattanooga National Military Commission, in his report to the Secretary of War, under date of Oct. 17, 1899, makes the following statement:
>
> "At the time the camp was abandoned, it is true that there was much sickness, and that a condition approximating panic prevailed with many officers and surgeons. There were large numbers of fever patients in the hospitals. Seven battalions of troops—four colored, under Col. E. L. Huggins, of the Eighth United States Volunteer Infantry, and three white, under Col. L. D. Tyson, of the Sixth United States Volunteer Infantry—were left at the camp. The strictest sanitary measures were at once adopted by these officers, and were also rigorously enforced, both as to the camp sinks, the cooking of food, and the eating of trash, and the drinking of slop. The result was that, notwithstanding they were encamped in the same sections of the Park (Chickamauga) where the departing troops had been, not a case of fever developed in either of these forces, nor did a death incident to camp disease occur."
>
> This positive statement from one so high in authority needs careful investigation.

This was a report made to the Secretary of War in regard to typhoid fever, and it had no reference to other forms of fever. Quite naturally, and in the absence of information on the subject, Major Vaughan in his comments has considered the above report to the Secretary as covering for the Sixth United States Volunteers the period from August 24—the date when the first case of typhoid fever was found in the regiment, to October 4—the date when the command left Camp Thomas for Porto Rico. As a matter of fact, the report related only to the period from September 16 to October 4—the camp having been broken up on September 15, and the rigid sanitary measures to which reference is made having been put in force in part on September 16, under my general command, and completed September 19, by promulgating in orders specific and most excellent suggestions received from the board of which Major Vaughan was a member, then in session in Knoxville.

The sickness, therefore, between August 24 and September 16, which was very considerable, upon which Major Vaughan comments, and which apparently shows serious error in my report, does not belong to the period to which the report relates.

The statement that no deaths incident to camp disease occurred from the time the rigid sanitary measures were adopted is shown by the official records of the two regiments involved to be strictly true for the time which the report to the Secretary covers: the case of typhoid fever which Major Vaughan cites as having developed October 25, in the Eighth Regiment having been rediagnosed as malaria, and the patient subsequently returned to duty.

The following official report of the Surgeon of the Eighth United States Volunteers, covering a period more than three months later than my own, as well as the entire time to which that refers, is sufficiently explicit as to the health conditions in that regiment:

> Office of the Post Surgeon,
> Camp George H. Thomas.
> Chickamauga Park, Ga, Jan. 28, 1899.
>
> *Sir:*—I am directed by the commanding officer, Col. E. L. Huggins, Eighth Vol. Inf., to reply to your inquiry with reference to the sick report of the troops stationed at this post, and in compliance with these directions, I have the honor to state that the average number of troops from Oct. 9, 1898 (date of arrival), until Jan. 20, 1899, was 1150; and since the latter date, 950. During the 111 days of the present encampment, there were treated in the post hospital a total of 118 separate cases, of which 31 were measles, 7 gunshot wounds, 40 were due to the imprudence of the patients, and the remainder were nearly all due to grip. Since the first day of the organization of the first company of this regiment—June 1, 1898—there has not occurred a single death from disease in this regiment, nor among the troops attached to the regiment for service, and the only death from any cause was the accidental drowning of a man in the Ohio river last July.
>
> Not a single case of typhoid fever has developed among the men since their encampment at Chickamauga.
>
> None of the diseases treated here can be traced to the water.
>
> Very respectfully, Your obedient servant,
> James H. Hepburn,
> Major and Surgeon Eighth Vol. Inf., Post Surgeon.

In regard to the Sixth United States Volunteers, the records in the War Department show that there were no deaths from typhoid fever within the dates covered by my report except two where the fever had been contracted the week before the camp was broken up, and so properly belonged to that period, and one from an attack which originated within the period covered by the report to the Secretary, namely on September 25. This death occurred at Sternberg Hospital, October 6, two days after the regiment had left for Porto Rico, and no report of it was received previous to the date of my report to the Secretary of War. From the date of its development even this case can be properly referred for its incipiency either to the last days of the general encampment, or to the very first days of the period when the more rigid sanitary measures were undertaken, and before they could have operated to materially change conditions.

My statement to the Secretary that no cases of typhoid developed, was based, so far as it related to the Sixth regiment, upon verbal statements by two of the field officers. The official medical reports did not pass through my hands, as they were sent direct to the brigade headquarters at distant camps to which the regiments, left at Camp Thomas as a guard to the stores, belonged. This will account for the error of my statement in regard to fever cases in the Sixth regiment, which Major Vaughan clearly points out.

The total absence of the development of typhoid fever in the Eighth United States Volunteers, during their encampment at Chickamauga Park from October 8 till January 28, certainly shows the good results of the rigorous sanitary precautions adopted, which included, as the most important, the enforcement in orders, of the suggestions received from Major Reed's board.

As contributory to the subject which Major Vaughan so ably discusses, it may be of interest to state that the Park Commission began the restoration of the Park August 15, and from that time until the latter part of December a force of 150 laborers was engaged in filling sinks, over 3000 in number and very filthy, in filling camp and tent ditches, and clearing up and restoring hospital sites. They drank the water from the same sources which the troops had used. Careful observation was made of the sanitary condition of this force by the park authorities, with the result that no typhoid fever developed among the laborers during the entire period in which they were engaged in park restoration.

It may also be of interest to know that, in spite of the sensational reports which were current at the time declaring Camp Thomas to be a "pest hole," the deaths among the 75,000 soldiers who were encamped there, first and last, as shown by the muster-out rolls, where every death is accounted for, were a little less than .5 per cent.

The regulars who were encamped there, embracing seven regiments of infantry, six of cavalry, and ten batteries, lost but one man from disease, that being a case of pneumonia contracted through carelessness and not in the line of duty.

H. V. BOYNTON,
Chairman of Commission.

Rambling Notes of a Roving Doctor.

PARIS, FRANCE, June, 1900.

To the Editor:—The Vienna school of medicine probably represents the most perfect type of the conservative treatment of the sick, of any school in existence. Years ago, when Bamberger was chief of the first medical clinic here, although he taught all the fine points in symptomatology and pathology, and took his students to the dead-house nearly every day to illustrate on the cadaver the correctness of his diagnoses, he said but little about the treatment of the sick. Nothnagel, who now fills this chair, although he gives more medicine than his predecessor, is still very conservative in his therapeutics. He says, "When you are called to see a patient, examine it well, make the best diagnosis that you can, and when you have done this, never ask yourself first, what medicine you shall give, but always precede it by the question, 'shall I give anything at all?'" He says that when he began the practice of medicine he used nearly every remedy contained in the pharmacopeia, but as years passed by he dropped one after another as unreliable, until now he can count on the fingers of both hands the remedies that he employs.

TREATMENT OF CHILDBED FEVER IN VIENNA.

Few cases of this disease are found among the patients who come to either of the three sections of the Allgemeine Krankenhaus to be confined. Most of the cases one sees are those who are taken in labor outside and, on account of some complication in the case, are brought here for relief after they have been in labor for some hours.

If a woman, after labor, is taken with a chill followed by a rise of temperature, that does not fall again to nearly normal within from 12 to 24 hours, the patient is put under the influence of an anesthetic and a thorough examination of the whole genital tract is made. Abraded or unhealthy spots in the vagina are touched with a mixture of one part each of tincture of iodin and carbolic acid and two parts of alcohol.

If the womb be closed up so that it will not admit the index finger, it is dilated with a Hegar dilator and thoroughly examined. If there be any decidua or placenta found within the uterine cavity, it is removed with the finger. This done, the womb is either swabbed out with the above-mentioned mixture, or irrigated with a 1 to 2000 carbolic-acid solution. Sometimes a small piece of gauze is packed into the womb, and left for a few hours as a drain.

No curetting is done, and no treatment of an intrauterine character is afterward resorted to. Dr. Schmidt, the chief assistant of Professor Schauta, told me that they had given the antistreptococcus serum a thorough trial, and had found it not only worthless,but absolutely harmful and had abandoned its use entirely. The internal medication is of an entirely supporting character, consisting of alcoholic stimulants and a nutritious and easily digested diet.

Ice bags are kept constantly over the lower abdominal walls, and if the temperature be very high, they are made to include all the bowels and lower part of the chest. Speaking of the dilation of the womb reminds me that during a period of two months I saw in the dead-house three cases where death had been produced by a rupture of the lower segment of the uterus in doing this operation. Two of these cases were those in which the patients suffered from puerperal eclampsia, and the other was one in which a rapid dilatation was being done to remove a placenta after an abortion.

Steel dilators, such as we often use in the United States, are never used in Vienna. The Hegar is used in all ordinary cases, and when these do not dilate the os sufficiently, the Barnes bag is resorted to.

GYNECOLOGY IN BUDAPEST.

While in Vienna I made a side trip down the Danube to Budapest. If the weather is fine, the day's sail down this historic and picturesque stream is a most enjoyable one. Then again, the Hungarian capital is one of the most beautiful cities I have ever seen, and I wonder that so many tourists leave it out of their European itinerary.

While there I visited the two gynecologic clinics that are connected with the National Medical School. These institutions, like nearly all the public buildings I saw there, seemed to be constructed after an ideal model in which beauty and architectural taste were the only things taken into consideration, and where the question of cost seemed to be entirely ignored. The first clinic had suffered from a fire a few days before my arrival, and hence, I did not see it at its best. In the second, however, I found an institution in which the theory of antisepsis was carried out more perfectly than I ever before saw attempted.

The operating-room was simply one huge marble compartment. After every operation, sterilized water was turned in a perfect flood on this room, washing every part of its surface from ceiling to floor.

Dr. Katzmarzky, chief of the first clinic, was out of the city at the time and I did not see him, but his first assistant, who is a graduate of the Paris School of Medicine, showed me everything of interest in the place, and answered all my questions with a true Parisian politeness.

The plan of treatment they adopt here in cases of puerperal fever, is essentially the same as that pursued in Vienna, and their experience with the antistreptococcus serum has been equally unfortunate.

Dr. Tauffer, chief of the second gynecologic clinic, received me as if I had been a long-absent brother, and I never spent a more agreeable or profitable three hours than I did in his company. I saw him do some good abdominal work, the peculiarity of which was that he closed the peritoneum and next adjacent tissues with a row of buried silkworm-gut sutures, using silver wire to close the muscles and integument.

Dr. Tauffer takes a bath before operating, changes all his clothes, and requires all persons who witness his operations to array themselves in tightly fitting, sterilized gowns. After all these precautions I was surprised to have him bring a patient before us for an abdominal section in which nothing had been previously done to disinfect the field of operation. The parts were washed with brush and soap, then shaven, and after that washed alternately with alcohol and ether. All this process occupied less than ten minutes' time.

As far back as 1889, Dr. Mikulicz, of Basle, recognizing the fact that the skin through which the surgeon must cut and the cuticle of his own hands could not be made thoroughly aseptic, introduced the wearing of rubber gloves by the operator, a practice that is being adopted by an increasing number of surgeons. I had a long talk with the Doctor on the management of puerperal sepsis, a subject to which he has given a good deal of attention. He says that he always looks early after the inside of the womb, and if any source of infection can be found upon its surface, he removes it, but with as little violence as possible.

From whatever point your infection may originate, he believes that from 48 to 72 hours after the first symptoms have manifested themselves, the *materia morbi* has gained access to the lymph-channels and through them into the blood, so that after that period you must consider your case as one of general infection. He says that in his hands the antistreptococcus serum has never done any good, but often harm. He says that microscopic research has convinced him that the whole theory upon which the use of the antistreptococcus serum is based is a false one, for you never have a simple streptococcus poison, but always a mixed one in which it is impossible to say which element plays the most important rôle in your morbid process.

In Professor Winckel, of Munich, I found a true type of the German, as well as a warm friend of America. In fact, all foreign physicians of any note who visit the United States are astonished at the warm reception they receive, and are always warm friends of ours ever afterward. Professor Winckel lives in a building located within the same enclosure as that of his Frauen Klinik, and devotes his entire time to his duties as a teacher and a writer. He will do outside practice under special circumstances, such as, for instance, attending royalty in childbed, and a few others who will pay him a couple of thousand dollars for his services. I saw him do some abdominal work, in which he sits on a high stool between his patient's legs, a la Martin, of Berlin, and operates with most consummate composure and skill.

In closing the abdomen he uses only catgut, burying the first two rows of stitches that close the peritoneum and muscles. The worst feature of all the surgical work I see done on the Continent is the unskilful manner in which they administer an anesthetic. It would seem that if an assistant is too stupid to do anything else, they allow him to give the chloroform. I was standing at the head of the woman that Winckel was operating on. The woman had her head bent forward and soon began to breathe hard. The anesthizer caught her tongue with a great heavy pair of forceps and began to pull upon it.

The patient breathed worse and worse, and grew black in the face. I could stand it no longer, and, seizing the angles of her lower jaw pulled them well up, throwing her head back, and in a moment she breathed better. Winckel chided the young fellow and told him I had taught him something; but why he had never been taught that simple procedure before I could not understand.

Winckel's treatment of the septic processes that follow childbearing is pretty much in line with that I have before quoted. The antistreptococcus serum that he has tried has never done any good, but often harm. He attributes its bad effects to the impure quality of the article used. In teaching his class on the management of the after-birth at term, he dwelt on the tendency of many accoucheurs to be in too much of a hurry. He advised waiting at least two hours before trying to produce uterine contractions, unless some urgent symptoms arose in the case.

GYNECOLOGY IN STRASBURG.

I stopped for a few days, while on my way to Paris, at Strasburg, where I saw some good surgery, and had a couple of long interviews with Professor Freund, whose acquaintance I made many years ago in Berlin.

Professor Fruend, though growing old, does all his surgical work himself, with the aid of very few assistants. The Professor is exactly of my own age; we received our medical teachings mainly from the same source, pursued an expectant plan of treatment with our early cases of puerperal disease, then grew more meddlesome and lost more of our patients, and later drifted back to nearly where we first began.

I was highly pleased to find a man of such eminence as Professor Freund, whose experience had been like my own, and who had arrived at the same conclusions as myself. He says, "If I have a case of peurperal fever on my hands I clear out the womb and cleanse it once, and then let it alone. Remedies of all kinds, save those that sustain the patient vitally and enable her to continue to battle with the disease, are perfectly worthless. I tried the antistreptococcus serum, but found it to do more harm than good."

CLINIQUE BAUDELOCQUE.

At the service of Professor Pinard, at the Clinique Baudeloque, in Paris, I found the only place where they still continue to use the antistreptococcus serum as a remedy for childbed fever.

Professor Pinard tells me that his first experience with this remedy was an unfavorable one, the patients often developing abscesses at the point of injection, as well as other symptoms of an unfavorable character. Latterly, however, he has gotten his serum from the Pasteur Institute, and since using this has had no bad effects from the remedy, though he can not yet say that he gets any benefit from it.

Besides the use of the antistreptococcus serum, they use a constant irrigation of the womb with sterilized water for from two to four days, and have more faith in this than any other remedy. When I asked Professor Pinard how he treated childbed fever, he replied at once: "We have none to treat." In fact, the statistics at the Baudelocque for ten years show this disease to be extremely infrequent. During that time the largest mortality during any year was .42 per cent, and the lowest .15 per cent.

W. S. Caldwell, M.D.

Association News.

Is Your Address Correct?

A list of members of the American Medical Association will be published in an early number of The Journal. It is important that this list be correct, and we would, therefore, ask each member to examine the label on his wrapper and, if not correct, notify us immediately so that the name may be correctly printed in the list. Subscribers who are eligible for membership and desire to be enrolled are requested to make application at once so that their names also may appear in the published list.

Deaths and Obituaries.

John Ashhurst, Jr., M.D., L.L.D., Philadelphia, died July 7, at the age of 61 years, after suffering for nearly two years from the effects of a stroke of apoplexy. He was born in Philadelphia, in 1839; at the age of 14 years he entered the department of liberal arts in the University of Pennsylvania, from which he was graduated in 1857. Three years later he received his degree in medicine from the same institution. During the Civil War, he was resident physician of the Pennsylvania Hospital, and acting assistant-surgeon in the Chester Hospital and the Cuyler General Hospital at Germantown, where he served as executive officer until 1865. He had also been surgeon of the Episcopal Hospital and of the Children's Hospital and a member of the surgical staff of the University of Pennsylvania Hospital and had acted as consulting surgeon to the Hospital of the Good Shepherd, to the St. Christopher's Hospital for Children, and the Woman's Hospital. In 1877, he was elected professor of clinical surgery in the University of Pennsylvania, in 1888 was made Barton professor of surgery, and in 1890, president of the College of Physicians. He was president of the Philadelphia Pathological Society from 1870 till 1877 and had served as vice-president of the surgical section of the International Medical Congress, of the American Surgical Association and the Philadelphia Academy of Surgery. He was a member of the American Medical Association, the Academy of Natural Sciences, the Philadelphia Academy of Surgery and numerous other medical and scientific societies. Among his most important books are "Injuries to the Spine" and "Principles and Practice of Surgery." He also assisted in the compilation of a medical dictionary and was the editor of the "International Encyclopedia of Surgery." He was also a frequent contributor to different medical journals. Notwithstanding the exacting duties of his profession, he found time to take an active interest in the affairs of the Episcopal church and in many charitable and religious enterprises. Dr. Ashhurst was one of the best-read physicians of the present day. As a diagnostician he had few equals. His knowledge of medicine covered a wide range and his remarks always commanded the closest attention.

Henry F. Hereford, M.D., Kansas City, Mo., died July 5, aged 72 years. He was born in Tecumseh, Ala., but spent most of his youth in Missouri. In 1849 he was graduated from the St. Louis Medical College. After spending two years in Mexico, he located in Westport, Mo., where he remained until the Civil War began. At its close he located in Kansas City, where he practiced his profession until his retirement in 1886. He was one of the organizers of the University Medical College of Kansas City and was president of the faculty and professor of obstetrics until 1886, when he retired on account of poor health.

Gerald Freeman, M.D., surgeon of the Allan Line steamer *Carthagenia*, was lost overboard July 6, while entering Halifax harbor, on that vessel's return voyage from Liverpool. He was a graduate of the Royal College of Physicians of Ireland.

Chas. P. Judkins, M. D., Cincinnati, Ohio, died very suddenly of heart disease, July 2, aged 57 years. He was graduated from the Miami Medical College of Cincinnati in the class of 1867.

Chas. D. Wall, M.D., died at his home in Columbus, Ga., June 28, aged 32 years. He was graduated in the class of 1894 from the Louisville (Ky.) Medical College, and had practiced in Columbus, where for two years he was city physician. He was also secretary of the Columbus Academy of Medicine.

Franklin Gauntt, M.D., Burlington, N. J., died July 8, from blood poisoning contracted while performing an operation. He was graduated from the medical department of the University of Pennsylvania in 1841. He was a member of the State Board of Health, and of the New Jersey and Burlington County medical societies.

Frank T. Lincoln, M.D., died at his home in Savannah, Ga., June 28. He was a graduate of Trinity College, Hartford, Conn., and of the University of Maryland Medical School. He was a yellow fever immune, and during the epidemic at Brunswick, was station by the government at Jesup.

J. T. Heaps, Delta, Pa., died in Johns Hopkins Hospital, Baltimore, Md., July 1, after an operation for abscess. He was a graduate of the College of Physicians and Surgeons, Baltimore, in the class of 1878.

Mahlon C. Dix, M.D., Hinsdale, N. H., died June 27, aged 56 years. He was born in Vermont, and was educated at the Albany Academy in that state. In 1875 he received his degree in medicine from the University of Vermont, and the same year located in Hinsdale.

H. M. Crawford, M.D., St. Charles, Ill., died June 28, aged 80 years. He was a graduate of the Royal College of Surgeons, Ireland, from which he secured his degree in 1848, and the same year came to America as a ship's surgeon. Soon afterward, he located in St. Charles, where he remained uninterruptedly.

Samuel H. Birney, M.D., a graduate of Rush Medical College, 1861, died at his home in Urbana, Ill., July 5, from malignant disease, aged 66 years. He was twice made vice-president of the Illinois State Medical Society and was at one time president of the Champaign County Medical Society.

Thomas P. Edwards, M.D., died at his home in Newark, N. J., July 4. He was graduated from the University Medical College, New York City, in 1885.

DEATHS ABROAD.

We note the deaths of:

J. Icard, M.D., editor of the *Lyon Médical*.

Maximino Tejhero, M. D. rector of the University of Santiago, Chili.

Prof. de Bonis, of Naples, author of numerous works on pathology.

Willy Kuehne, M.D., professor of physiology at the University of Heidelberg.

F. Rubinstein, M.D., a younger member of the profession in Berlin, whose name is familiar as a frequent contributor to scientific literature.

Dr. Silva Araujo, Rio Janeiro, who was the first to use the term "filariosis." The National Academy of Medicine has ordered a bust of the deceased, and organized a movement to found "a cancer hospital to be called the Dr. Silva Araujo Hospital." It also voted to retain his name as perpetual president of the academy.

Julius Althaus, M.D., who died in London, June 11, was born in Detmold, Germany, in 1833, and received his degree in medicine from the University of Berlin 1855. He settled in London shortly after and has been prominent among English physicians for many years, especially as a consultant in disorders of the nervous system. He is best known perhaps by his work on "Medical Electricity," but has published many other works and papers.

Raw Meat in Experimental Tuberculosis.—Richet and Héricourt announced at the meeting of the Paris Société de Biologie, June 2, that they inoculated a number of dogs with tuberculosis more than six months ago. One-third were fed with ordinary food and all died in three to four weeks; another set, with cooked meat, with about the same results, while the third group was fed exclusively with raw meat, and all have survived to date and are in good health.

Miscellany.

Tomb of Avicenna.—A Russian confrère, passing from Teheran to Bagdad, visited the tomb of Avicenna, in ancient Ecbatana, the capital of Media. He writes that the mausoleum is of brick, guarded by three dervishes, and visitors come there every day for relief from diseases; cures are by no means rare among them.

Prizes for Essays.—The *Medical Mirror* of St. Louis offers $1,000 in prizes, to be distributed as follows: $500, $200 and $100, and four prizes of $50 each. Entries close Oct. 1, 1900, and the award is made Jan. 1, 1901, giving the contestants three months in which to prepare their papers and to include clinical reports.

Centenarians.--According to the *Indian Medical Record*, more people over one hundred years old are found in mild climates than in the higher latitudes. According to the last German census, in a population of 55,000,000, only 78 have passed the hundredth year. France, with a population of 40,000,000 has 213 centenarians. In England there are 146; in Ireland, 578; in Scotland, 46; in Sweden, 10; in Norway, 23; in Belgium, 5; in Denmark, 2; and in Switzerland none. Spain with a population of 18,000,000 has 401 persons over one hundred years of age. Of the 2,250,000 inhabitants of Servia, 575 have passed the century mark. It is said that the oldest person living is Bruno Cotrim, born in Africa and now living in Rio de Janeiro. He is 150 years old. A coachman in Moscow has lived for 140 years.

Individual Signs of Pregnancy.—O. Naegele has observed that women who have previously suffered from phlebitis or thrombosis of the veins of the lower limbs, especially in the saphena, have a prompt and reliable pregnancy-barometer in their varix. Some multiparæ can affirm their pregnancy in eight days after conception from the condition of their varix. Women who have had puerperal complications with exudates and formation of adhesions, frequently experience a revival of symptoms at these points immediately after conception, the *locus minoris resistentiæ* proving an index of pregnancy. In two cases a thrush formation was noted on the external genitals, causing pain on urinating. He concludes his article in the *Muench. Med. Woch.*, of June 12, calling attention to the valvular formation at the external orifice of the urethra in women, which forms a right-angled closure with a slit in the middle. It is most pronounced in virgins and in persons who have never masturbated.

Causes of Typhoid Fever in South Africa.—The appalling amount of typhoid fever among the British army in South Africa is accounted for by a writer at the seat of war, in the *British Medical Journal*, July 7. He says that the alarming prevalence of typhoid fever among young soldiers and civilians in the far East is well recognized, but it is not so generally known that the disease prevails in a like manner among young emigrants to South Africa during the first two or three years after their arrival until they become immune like the older residents. South Africa is a country with a somewhat peculiar water-supply, living springs are scarce, the water channels are receptacles of all the drainage and refuse and in the neighborhood of the settlements, are used by the natives as privies, and the sanitary arrangements and drinking-water supply of the Dutch villages is generally bad. Besides this ready facility for taking waterborne typhoid, the chance of the aerial dissemination of the germs by the dust storms is to be considered and this is generally credited as an important factor by the South African practitioners. The fact that typhoid did not apparently develop among the British troops during the long voyage from England also supports the view that it is, as it occurs among them, entirely a South African product. The association of large bodies of men together in camps seems from our own Spanish-American war experience to be a very important favoring factor in the spread of typhoid, and it is probable that some of the errors in camp sanitation from which our troops suffered were repeated also to some extent at the Cape.

Plague in Manila.—Capt. John S. Kulp, asst.-surgeon, U. S. A., in command of Hospital No. 3, Manila, reported May 21, 1900, that at 2 p. m., May 18, a teamster belonging to the quartermaster's department was admitted into his hospital in a semi-comatose condition, temperature 103, face flushed, but without apparent adenitis. His temperature rose to 104.5, with stuporous delirium. Examination of the blood was negative for malaria, but showed marked leucocytosis. Under quinin he improved steadily. As a tenderness in the right inguinal region was afterward noted, a member of the Board of Health was summoned, and, upon his recommendation, the patient was removed to the plague hospital, where he died at 4 a. m., May 21. The ward in Hospital No. 3, in which the case was treated, was isolated and all precautions were taken to prevent infection. Next day the chief surgeon, Division of the Philippines, issued the following circular of instructions to the commanding officers of all Manila hospitals except the Corregidor Hospital, on the island of that name, near the entrance to the bay:

> In view of the possible occurrence of bubonic plague among the white population, especially civilian employes of the government, you are directed to prepare and place on the grounds occupied by the hospital, where it may be completely isolated, a hospital tent into which all cases of fever among civilian employees, who may apply for hospital accommodation, shall be placed and detained until a diagnosis is made. Blood examinations should be made at once in all these cases. If a case is determined to be one of bubonic plague or there is good reason to suspect it, the Board of Health should be promptly notified by special messenger and the patient transferred to its care. Arrangements have been made by the Board for the care of both suspected and defined cases of this disease. The Board will also give directions for or personally superintend the sterilization of the ward, clothing, etc., in the event of a case occurring within the hospital, and will direct the necessary quarantine regulations, which must be strictly followed.

Yellow Fever in Havana.—Major W. C. Gorgas, surgeon, U. S. A., chief sanitary officer of the city of Havana, Cuba, has filed in the office of the Surgeon-General a table of the mortality from yellow fever for citizens and soldiers by months from January, 1890, till May 31. From this table it is seen that the large mortality in 1896 and 1897 was caused by the ravages of the disease among the non-immune Spanish soldiers of the garrison. In 1896 there were 1153 deaths of soldiers and only 129 of civilians, and in the following year 813 of soldiers and only 45 of civilians. In 1898 111 soldiers and only 25 civilians died. The civilian deaths during these years were few as compared with the losses suffered by the Spanish garrison. In 1899, however, during the occupation of the city by United States troops this was reversed; 92 civilians died and only 11 soldiers. Major Gorgas considers it creditable to the army medical corps that the deaths among the troops during this year were so few while so many civilians lost their lives. Up to the time the volunteers left there were in and about Havana over 20,000 troops, and although at the present time there are more than 1000 men within the city limits occupying four or five old Spanish posts, no death from yellow fever has occurred among them during the present year. The great fatality of yellow fever among the Spanish troops was the result of a want of knowledge on the part of their military surgeons of the methods of care and prevention. Their garrisons appear to have been left where they were until the disease had spent itself by using up all those who were not immune. The method of moving the troops from the infected locality, so successfully carried out by American military surgeons, does not seem to have been practiced by the Spanish authorities.

Yellow Fever Among Troops at Santa Clara, Cuba.—Chief Surgeon Valery Harvard, Division of Cuba, reported, June 26, 1900, the results of a medical and sanitary inspection of posts made by him with a view to determine the status of yellow fever in the commands. He found Matanzas, Cardenas and Puerto Caballo free from fever, but at Santa Clara a case was discovered on May 16, and since then thirty-three cases have been reported; 1 medical officer (Dr. Wheate), 27 enlisted men, and 5 quartermaster's employees. Six of the enlisted men belonged to the hospital corps. So far seven deaths have occurred. The first three cases were clearly traceable to the houses in which the men lived, near the barracks, houses in which many cases were treated in 1898. Subsequent cases were contracted from these first cases, from other infected houses and possibly from the barracks. Although it is probable that the barracks are infected, the fact can not be positively established. Dr. Wheate and the hospital corps men contracted the disease while caring for the sick. The command left the post on June 1 and moved into camp four or five miles out of town. No new cases occurred after June 6. The command returned to the barracks on June 10, but on June 15, and subsequent days, the occurrence of new cases necessitated a return to camp on June 18. As cases continued to occur in the camp after June 23, it was decided to bring each company separately to the barracks to undergo disinfection prior to removal to a permanent camp.

A virulent epidemic of yellow fever prevailed in Santa Clara in 1898, during which 1400 persons died, half of whom were civilians and half soldiers. The inference is therefore warranted that many houses and probably also parts of the barracks are still infected, although the latter were thoroughly overhauled and disinfected prior to occupation by our troops. Major Havard considers that, were the troops to return to town, under the circumstances, they would be a constant and easy prey to the contagion. He therefore recommended their continuance in camp until November. It is worthy of note that up to the date of Dr. Havard's report, not a single case had been reported among the inhabitants of the town, showing how thorough had been the immunizing process of the epidemic of 1898.

Resuscitation by Manual Compression of the Heart.—Tuffier calls upon surgeons who witness accidents from the use of anesthetics to make a special study of this subject, to determine the length of time that must elapse before manual compression of the heart becomes the last resort. He reported a case May 28, at the Académie des Sciences, in which he succeeded in restoring arterial pulsation after apparent death of a young man from syncope, four days after appendectomy. The pulsations ceased in a few minutes but were re-established three times in succession, when the only sign of life was a fibrillary trembling in the heart. Sixty to eighty compressions were made of the ventricular mass, through an incision in the third intercostal space, combined with rhythmic tractions of the tongue. The autopsy showed a clot in the pulmonary artery which had prevented permanent resuscitation.

Concentration of Serum in Uremia.—Lindemann publishes (*Deutsch. Arch f. Klin. Med.*, lxv, 1 and 2) the conclusions of extensive research regarding the concentration of the urine and of the blood in renal affections. He finds that uremia is constantly accompanied by increased concentration of the serum, and consequently increased osmotic pressure. The retention in the organism of the neutral salts is sufficient to cause this syndrome, without the necessity of the presence of any special toxic substances.

Official Commendation of Sanitary Work in Porto Rico.—On June 28, the War Department received from Gen. Geo. W. Davis, commanding the Department of Porto Rico, a special report concerning the conditions that have grown out of the efforts of the United States to relieve the suffering and destitution among the people of that island. It concludes as follows:

> A summary of the conditions in Porto Rico would be incomplete without a reference to the improvement in sanitation and health which has been effected under the supervision of United States officers. At the time of our occupation the prevalence of smallpox was so general that quarantine was declared in the neighboring islands against the seaports. The disease existed in every direction and was a constant menace to the people and the material interests of the island. A genral vaccination of the whole population was systematically carried into effect, the vaccin being provided from a farm established at Coamo Springs. This extensive work was finished June 30, 1899. The disease was suppressed. No death from smallpox has been reported in the island for the past eight months. Again, while much of the emaciation and weakness ending in anemia and death so prevalent among the native population is certainly due to an impoverished diet of rice, beans, a little dried fish and plantation fruits, it has

been shown by assistant-surgeon B. K. Ashford, a recent graduate of the Army Medical School, that a great deal of the prostrating diarrhea and progressive emaciation, which has usually a fatal ending, is due to the irritating presence in the intestines of a number of minute worms, which can be easily got rid of by appropriate medication. This disease has been extremely fatal, but its ravages will now be controlled under the supervision of local boards of health. These boards, acting under the instructions of the supreme board at San Juan, have done much to improve sanitary conditions and lessen sickness and mortality among this poverty-stricken people.

The Proposed North American Medical Association.—We understand that a number of representative men among our Canadian brethren have expressed their readiness to enter the American Medical Association in case membership in that body were accorded to them, and that Dr. Reed, the newly elected president of the Association, favors their admission. We see no reason why the profession in the two countries should not have a common organization, and we think many advantages would result from its establishment. Such a body would be a North American association, whatever its name might be. Useful as the Pan-American Medical Congress has been and promises to be, it must always, after all, have the inconveniences that are inseparable from a confusion of tongues and from the meetings occurring at long intervals. Moreover, its particular field would not be encroached upon by an association of the physicians of the United States and Canada. The Canadians are more like ourselves than they are like their kindred beyond the sea—not, perhaps, politically, but in their daily life. So far as we have observed, they speak the English language as we speak it; they use a currency that is practically identical with ours; their pursuits in the main are ours; in short, they live as we live. Nowhere on earth is there a people more congenial to us than the people of Canada. The patients of the Canadian physicians are men, women and children of the same general stamp, with the same varieties, as our own; the diseases prevalent in Canada are those that prevail in the United States, and the differences between the United States Pharmacopeia and the British Pharmacopeia are so slight that when a Canadian physician mentions a British official preparation there is to us no obscurity as to what he means, and vice versa. We believe, therefore, that there would be much profit from joint discussions by representatives of the two countries.

Our national special societies, several of them, have Canadian members, and nothing but benefit has resulted from the fact. Indeed, if we are not mistaken, one of those societies has held an annual meeting in Canada. Several of the Canadian cities are quite capable of accommodating large conventions, and an occasional meeting in Montreal, Toronto or Quebec would be in the highest degree enjoyable. There are, of course, matters connected with medical registration and the like that a body drawing its members from the two countries might find it awkward to deal with so far as action was concerned, but joint discussions of even such affairs would naturally familiarize the profession of each country more and more with the problems encountered by that of the other, and so strengthen the bond of sympathy, already a close one. We hope that a way will be found to provide for annual meetings of representatives of the medical profession of the whole of North America.—*New York Medical Journal.*

Book Notices.

A Handbook for Nurses. By J. K. Watson, M.D., Late House-Surgeon Essex and Colchester Hospital. American Edition under the supervision of A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania. Cloth. Pp. 413. Price, $1.50. Philadelphia: W. B. Saunders. 1900.

This production of the American Edition of Watson's Handbook for Nurses, which has taken the place of a standard work on the subject in Great Britain, hardly needs an apology, as the editor states in his preface. The only point that we should make against it for the use of the average nurse is that it is almost too full, but this objection is probably hardly a valid one. The intelligent nurse will find this a most convenient manual, and there are many things in it that the physician himself might find of use. In recommending text-books to nurses it could be put in the first rank.

The Ophthalmic Patient. A Manual of Therapeutics and Nursing in Eye Disease. By Percy Fridenberg, M.D., Ophthalmic Surgeon to Randall's Island and Infants' Hospitals. Cloth. Pp. 311. Price, $1.50. New York: The MacMillan Co. 1900.

This volume is a sort of manual for ophthalmic nursing and also a convenient one for the practitioner who may have to do with eye cases. In fact, it is rather a physician's book than a nurse's, and should be useful to a large class. It does not do away with the necessity of a skilled specialist in the treatment of serious eye disorders, but it will come very convenient to the practitioner who may have the after-care of a case that has been in his hands.

Elements of Clinical Bacteriology for Physicians and Students. By Ernst Levy, M.D., Professor in the University of Strasburg, i. E., and Felix Klemperer, Privat-Docent in the University of Strasburg, i. E. Second Enlarged and Revised Edition. Authorized Translation by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Cloth. Pp. 441. Price $2.50. Philadelphia: W. B. Saunders. 1900.

The translation of this work into the English language is a service to American readers. It has been well done, and the printing and make-up of the work are all that could be asked. If Dr. Eshner had added some personal notes to bring it more fullly up to our more recent knowledge in one or two points it would have been an addition, but this is all the criticism that we venture to offer.

Progressive Medicine. A Quarterly Digest of Advantages, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; Assisted by Charles A. Holder, M.D., Assistant Demonstrator of Therapeutics in the Jefferson Medical College. Volume II. June, 1900. Cloth. Pp. 411. Price, $2.50. Philadelphia and New York: Lea Brothers & Co.

This second volume for the year contains four articles: Surgery of the Abdomen. Including Hernia, by William B Coley, M.D.; Gynecology, by John G. Clark, M.D.; Diseases of the Blood, Diathetic and Metabolic Diseases; Diseases of the Glandular and Lymphatic System, by Alfred Stengel, M.D., and Ophthalmology, by Edward Jackson, M.D. All of these seem to be very excellent summaries of the principal progress that has been made within a recent period on their respective subjects, and it would be invidious to mention one as better than the other. In fact, the special excellencies and defects of the treatment of each of these subjects can be best appreciated only by the specialist. To the average practitioner the work will be a valuable one, and all that could be expected or asked.

Suggestions to Medical Writers. By George M. Gould, A.M., M.D. Cloth. Pp. 185. Price, $1.25. Philadelphia: The Philadelphia Medical Publishing Co. 1900.

This little volume is largely made up of papers or editorials that have appeared in the *Philadelphia Medical Journal*, and which bear the characteristic stamp of the personality of the brilliant author. The tyro in medical writing and the more or less practiced and careless writer for the journals, and even in books, and these include the majority, will find many things in it which will be of value. The author has covered the use of words, orthography, punctuation, titles, medical English style, and has also laid down the rules which he thinks editors and publishers should follow. There is, of course, in this as in all other reforms, a personal equation of the advocate, and some may not follow Dr. Gould in every particular. Common sense must govern all the changes which are advocated, and too rigid following of any rule may be found inconvenient. There are also differences in the matters of personal taste, and a certain margin must be allowed, unless the writer goes so far in his views and in his practice as to become like some rigid literary purists that lean backward and lose the grace that the easier movement would give. Sometimes in reading a book like this we are just a little reminded of the man who was down on superstitions because, as he said, whenever he followed one he always had bad luck. In the chapter on medical paleography there is a large amount of interesting antiquarian knowledge which will be new to the majority of readers. The work, as might be expected, is interestingly written, and few who take it up will lay it down without finishing its perusal. It will also be a very handy book of reference and will certainly be of great convenience to editors as well as to readers, if the great majority of advice given is followed.

The Cell in Development and Inheritance. By Edmund B. Wilson, Ph.D., Professor of Zoölogy, Columbia University. Second Edition. Revised and Enlarged. Cloth. Pp. 483. Price, $3.50. New York: The MacMillan Co. 1900.

While the early edition of Professor Wilson's work was criticized by biologists, in some respects it has nevertheless stood as a leading contribution to its subject. In this second edition the author has completely revised it, rewriting entirely certain sections and making minor changes, as he says, on nearly every page. In a progressive science like biology, in which so many active workers are in the field, a second edition of a work is required almost as soon as the first one is issued, hence the importance of the additions as given here. In his generally conservative method of viewing certain questions Professor Wilson is a safer guide than many who hasten to interpret facts which must necessarily be incomplete, and his standpoint in regard to many disputed questions in regard to vital processes is one that can be, as a rule, safely commended. The book has been enlarged by the addition of some fifty new cuts, which usefully illustrate the text. Its subject is one that interests every cultured individual, and especially physicians, who will find in this volume many things easy for reference which would not be so readily available elsewhere.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume XIX. Cloth. Pp. 828. Price, $5.00. New York: William Wood & Co. 1900.

The next to the final volume of the series contains simply two subjects: Malaria and Micro-organisms. The first of these, by the Italian authors, Bignami and Marchiafava, who have done so much to elucidate the problems of malaria, comprises not less than 500 pages—including the bibliography, 522 altogether. There is probably no monographic work on the subject that is more thorough than this and it will stand for some time as a leading compend of its subject. It seems, with the numerous questions still to be solved that an attempt at an exhaustive memoir would be premature, but this comes as near to one as possible with our present knowledge. The second section of the work, comprising the last 300 pages or more, covers the general subject of micro-organisms as met with in disease, including their classification, metabolic products, the technique of bacteriology and specific descriptions. The first and larger part of this is by Prof. Simon Flexner, of Philadelphia, whose name should be a guarantee of thorough work and of the value of his memoir. The second, covering the animal micro-organisms that are of pathologic importance, by Eugene L Opie, comprises 40 or 50 pages, and gives a very fair general statement of the facts as known, and both together form a very convenient and well-arranged general manual of pathologic bacteriology. The volume as a whole will rank as one of the most useful of the series—perhaps the more so since it comprises only two monographic works.

Tuberculosis: Its Nature, Prevention, and Treatment, with Reference to the Open-Air Treatment of Phthisis. By Alfred Hillier, B.A., M.D., C.M., Fellow of the Royal Medico-Chirurgical Society, London. Thirty-one illustrations and three colored plates. Cloth. Pp. 243. Price, $1.25. London, Paris, New York and Melbourne. Cassell & Co., Ltd. 1900.

The subject of most general interest at the present time before the profession is undoubtedly tuberculosis, therefore this little work is in its way timely. The author gives the generally accepted views of the disease, its methods of dissemination, and its cure. He admits that immunity from tuberculosis is to be derived mainly through good sanitation, light and air, and all that is conducive to the general moral and physical welfare of the masses of the people. He accepts fully the opinions that tuberculosis is largely spread through the agency of foods, although there may be some question about that, or at least there is a possibility of a difference of opinion, which he does not fully recognize, as to the importance of bovine tuberculosis. Compulsory notification is discussed, but not fully advocated, although the author thinks that the time will come when, as the public is educated as to the true nature of tuberculosis, notification and supervision will be insisted upon, as he seems to think that theoretically they should be.

A Cyclopedia of Practical Medicine and Surgery. A Concise Reference Book, Alphabetically Arranged, of Medicine, Surgery, Obstetrics, Materia Medica, Therapeutics, and the Various Specialties. Compiled under the editorial supervision of George M. Gould, M.D., and Walter L. Pyle, M.D. Quarto. Illustrated. Sheep or Half Dark-Green Leather. Price, $10. Philadelphia: P. Blakiston's Son & Co. 1900.

With the ever-increasing number of monographs, elaborate treatises on individual subjects, text-books of many volumes, and long-drawn-out original articles in medical journals, it seems a relief to pick up this work, in which is found, in a condensed form, the accumulated medical knowledge of the day. While seventy-four names are given in the list of contributors, there is a uniformity of style and method that is commendable. One criticism of books produced by the collaboration of so many authors is that the reader is likely to be bewildered by a heterogeneous mass of material, repetitions and contradictions. This criticism, however, does not apply here, as the individual style of the many has been eliminated by editorial revision, and as repetition has been avoided by the exclusion of all that might tend to redundancy. As indicated in the title, every branch of medicine is covered and a careful examination fails to reveal the omission of a single subject of importance. Each topic is treated in a practical manner, with the aim to make the work of practical use to practical men in active work. In the consideration of diseases, diagnosis and treatment are made paramount, and under the latter many tried and reliable prescriptions are given. The book is fairly well illustrated. As a practical hand-book for every-day reference, this work can be heartily indorsed and conscientiously recommended.

A Manual of Obstetrics. By A. F. A. King, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C. Eighth edition, revised and enlarged, with 204 illustrations. Cloth. Pp. 612. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1900.

King's Obstetrics has made an enviable name for itself, that of being one of the most compact and complete of manuals on midwifery. The fact that another edition has been called for proves that the book has retained its well-earned reputation. It is brought thoroughly up-to-date in all its departments, and the newest remedies and latest obstetrical operations are considered. There are a large number of new illustrations, which, added to those which appeared in the previous editions, makes the volume one of the best illustrated manuals on obstetrics. It is worthy of earnest commendation.

New Instrument.

Sterilizer.

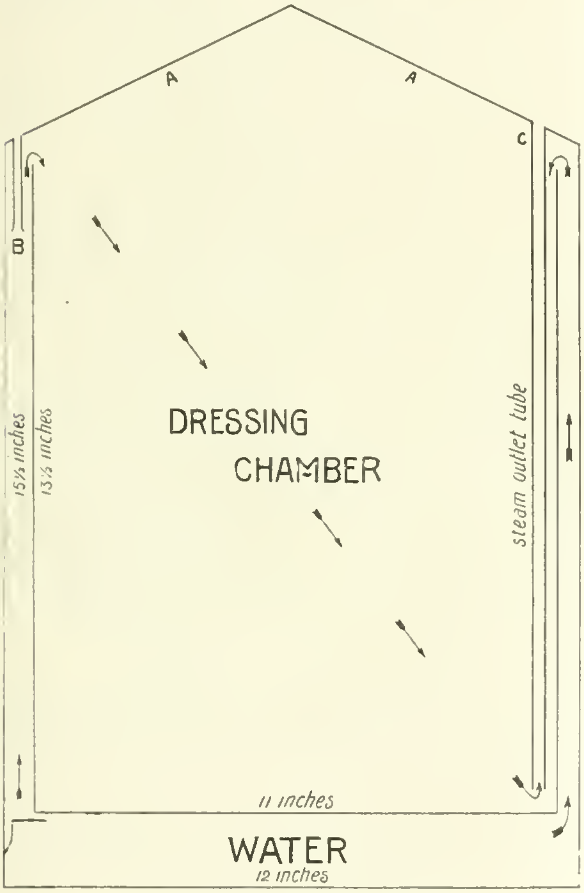
E. DIKO, M.D.

PARK CITY, UTAH.

My only excuse for offering this sterilizer is because it is simple—any tinsmith can make it—cheap, and planned on the principles of ideal sterilization. It may be made of copper, galvanized iron, or other metal. It consists of two cylinders with buttons. The outer cylinder is 15½ inches high by 12 inches in diameter, and a small faucet is put as close to the bottom as possible. The inner cylinder is 13½ inches high by

11 inches in diameter; it rests on three or four small brackets or catches attached to the inside of the outer cylinder, about 1½ inches from the bottom, or three or four legs, 1½ inches high, might be attached to the inner cylinder.

The cover is slightly conical in order to prevent any condensed water, which may collect on its under surface, from dropping into the dressing chamber. This cover has two openings, to which are soldered two tubes—"a" and "b"—each about the size of the end of the middle finger. Tube "a" is 2 or 3 inches long, and is attached close to the outer edge of the lid. Tube "b" is attached to the lid, so that it will rest close to the inner side of the inner cylinder. It extends within one-half an inch of the bottom of the inner cylinder. Four clasps, to hold the cover firmly in place, may be attached to the outside at the upper edge of the outer cylinder. A heavy wire cross, with legs ¾ inch high, may be lowered into the inner cylinder in order to obtain a better circulation in the dressing chamber, and to this a handle may be attached.



A A Lid B Tube C Outlet Tube

In order to use this apparatus pour into the outer cylinder from one-half to three pints of water, lower the inner cylinder, fill it with the dressings to be sterilized, put on the cover, and in so doing slip the long tube of the cover into the inner cylinder, but the short tube between the inner and the outer cylinders. Close the short tube "b" with a cork, but leave the long tube "c" uncorked. The steam created in the outer cylinder will enter the inner cylinder from the top and, after going down though the dressings, will escape by the long tube. When sterilization is nearly at an end remove the cork from the short tube in order to thoroughly dry the dressings. If it is desired to follow Schimmelbusch's method exactly, tube "b" is first left uncorked and tube "c" corked up for a short time until the dressings are warmed, then tube "b" is corked and tube "c" uncorked. Finally tube "b" is uncorked. The shorter tube "b" serves three purposes: Water can be poured in through this, as desired, during the sterilization; it serves as an exhaust for steam when the dressings are being warmed at the beginning of the process; also, it is a steam-exhaust at the close of sterilization, when the dressings are to be dried. The long tube acts as a steam outlet during the active sterilization. The faucet serves two purposes; by opening during the process it will show whether more water is needed, and at any time hot water may be withdrawn.

I have used this sterilizer for two years with entire satisfaction. A temperature of 300 F. may be easily obtained and maintained.

Societies.

GERMAN OPHTHALMOLOGICAL SOCIETY.—This Society will meet in Heidelberg, Sept. 13-15.

DALLAS DISTRICT CLINICAL SOCIETY.—This Society met in Dallas, Texas, July 4. The following officers were elected for the coming year: president, J. T. Benbrook, Rockwall; first vice-president, C. A. Schultz; Alvarado; second vice-president, B. F. Brittain, Arlington; secretary, J. B. Shelmire, Dallas; treasurer, J. E. Baldwin, Reinhardt.

MEDICO-PSYCHOLOGICAL SOCIETY.—This Society held its fifth semi-annual meeting at the Protestant Hospital for the Insane, Verdun, P. Q., June 27. The object of this Association is the interchange of experiences and the development of mutual co-operation among the medical men connected with the several institutions for the care of those mentally afflicted in that province. There were present Dr. T. J. W. Burgess, Montreal, the retiring president; Dr. G. Villeneuve, Montreal, vice-president; Dr. E. P. Chagnon, Montreal, secretary; and Drs. L. U. A. Bellanger, Beauport; J. V. Anglin, Montreal, and C. A. Perrault, Montreal. Papers were read by Drs. Anglin and Chagnon. Dr. Villeneuve made some interesting observations concerning the relations between the legal and the medical professions, regarding the incarcerating of inmates in the asylums. Dr. Chagnon suggested that a special committee should arrange a scheme for uniformity in the tabulation and classification of statistics by the several asylums in the Province of Quebec, a suggestion which was heartily commended and unanimously adopted. Dr. Villeneuve was elected president, and Dr. Bellanger, vice-president; Dr. Chagnon being re-elected secretary. The next meeting will be held at the Beauport Asylum, in October.

Chicago Academy of Medicine.

April, 13, 1900.

CARCINOMA OF THE COLON.

DR. PAUL F. MORF reported the following: A boiler-maker, American, aged 59 years, was admitted to the Policlinic Hospital Feb. 15, 1900, in the service of Dr. Halstead. The family, personal and previous history were negative.

The patient's illness began somewhat insidiously, in September 1898, with more or less intermittent sharp and lancinating pain, coming on after eating. These pains had continued up to six weeks before his admission to the hospital, but since then have been less severe. About September, 1899, he noticed a tumor in the abdomen, on a level with and somewhat to the right of the umbilicus, which increased in size during the next four months, and then apparently remained stationary. About the time the tumor was noticed, he began to have trouble with his bowels, which moved with difficulty, laxatives being necessary to produce satisfactory evacuations. At no time was there absolute obstipation or symptoms of complete intestinal obstruction. There had been no passage of blood with the feces, nor has the patient noticed that the fecal masses had any unusual shape. Since the beginning of his illness he has lost between fifteen and twenty pounds in weight, and eats little, on account of the distress which follows. His sleep is disturbed.

On admission to the hospital, physical examination showed the patient to be well built and well developed, and somewhat above the average height. The general nutrition was moderately good, no decided emaciation, but a tolerably well-developed panniculus adiposus was present. There was well-marked anemia, evidenced by the pale, yellowish, waxy appearance of the skin, and a decided pallor of the mucous membranes of the lips and tongue. The pulse was small, compressible, of about 88 to 90 beats per minute, and there was a moderate increase in frequency of the respirations. The temperature was normal. Inspection showed the anterior abdominal wall to be somewhat retracted, and on the right side, a little above the level of the umbilicus, a very slight prominence could be seen, which shaded off imperceptibly into the surrounding parts. On palpation, a firm non-fluctuating tumor the size of a medium-sized orange, could be felt. It was moderately tender, did not rise and fall with the respiratory movements of the abdominal wall, and was relatively immobile. On light percussion, the tumor gave relative dulness, while on heavy percussion, a muffled tympany could be elicited. The stomach, after being distended with sodium bicarbonate and tartaric acid, could be seen to lie above and to the left of the tumor; percussion showed that the greater curvature was above the plane of the umbilicus. It did not appear to have any connection whatever with the tumor, nor did the distension alter in any way the position or relations of the latter. Inflation of the colon with air caused the tumor to ascend slightly, which indicated that it was located at the hepatic flexure, but did not cause the colon to pass in front of the tumor and replace by tympany the area of dulness previously mapped out. Percussion of the liver showed the normal upper and lower borders of dulness, the lower border of the liver dulness, however, gradually merged into the relative dulness of the tumor in the right mammary line. The spleen and kidneys could not be palpated; the surface of the liver in contact with the abdominal wall showed no nodules, but was perfectly smooth. The superficial lymphatic glands were not enlarged. The urine was normal.

From the point of view of diagnosis the following conditions had to be considered:

1. Cancer of the pylorus, which was excluded by the absence of symptoms of pyloric obstruction, the normal size of the stomach, and the absence of signs—after distending the stomach—which point toward an intimate connection between the stomach and the tumor.

2. Carcinoma, or cystic enlargement of the gall-bladder, with adhesions to the anterior abdominal wall and colon. The absence of hepatic colic, of jaundice, and of any evidence of metastases in the liver, made this diagnosis seem unjustifiable.

3. Tumor of the mesentery was excluded by considering the infrequency, motility, shape and size of this variety of tumor, and also from the fact that they usually lie internal to the colon and not in its path.

4. Carcinoma of the hepatic flexure of the colon was thought to be the pathologic condition present from the clinical history of intermittent partial obstruction to the fecal current, and the physical signs which the tumor presented.

Operation on February 16, verified the diagnosis of cancer of the hepatic flexure by the finding of a nodular tumor, about as large as the fist, connected with the colon and bound down to the postero-lateral abdominal wall by numerous firm fibrous adhesions. The impossibility of complete removal of the neoplasm was evident at once, and instead of the radical operation palliative measures were adopted, a lateral anastomosis of the ascending to the transverse colon being made. A Frank's coupler was used, the union of the adjacent serous surfaces being further insured by an *étage* of sero-serous sutures. The incision was closed without drainage. The patient made a good recovery, and left the hospital March 18, 1900.

This case presents some features of interest.

1. The moderate amount of functional disturbance which a cancer of the large intestine may cause, even when it has so developed that removal is no longer possible.

2. The value of inflation of the colon with air in order to determine the relation of an abdominal tumor to the peritoneal plates which support the colon.

3. The ability to say positively before opening the abdominal cavity whether or not a complete removal of a cancer of the large intestines will be possible. Firm fixation of the growth in this are would seem to indicate, as in cases of cancer of the rectum, that radical operation is impossible.

4. The treatment to be adopted when the radical operation is impossible. In this case the difficulties from which the patient suffered were mainly obstructive. Consequently, a lateral anastomosis effected a symptomatic cure and at the same time was the operation of least danger to the patient. Had the principal symptoms been those which follow disintegration and breaking down of the tumor, namely, septic absorption, suppuration and hemorrhage, it would have been desirable to prevent any contact of fecal matter with the ulcerating surface, by making a typical exclusion of the intestine. This, however, is an operation of greater magnitude than the one which was performed, and had it been done, nothing would have been gained as regards the results. On the contrary, the patient would have been subjected to the inconveniences which inevitably result when the intestine discharges its contents and secretions on the surface of the body.

Dr. Alexander Hugh Ferguson referred to a clamp and enterotome which he had devised to facilitate intestinal anastomosis, which he had used in two cases in the human subject. His objection to the application of buttons or couplers, or in fact of any mechanical device, is that in making an anastomosis of the large bowel a small lumen is left.

Dr. Jacob Frank said that his coupler or the Murphy button leaves a much larger lumen than most surgeons imagine, because the pressure that is extended upon the ends of the intestine is practically done away with.

Dr. A. E. Halstead said he was not in the habit of using the Frank coupler or Murphy button. As to the relative value of the coupler and the Murphy button, the latter is easier of application, although an objection to the Murphy button is that it can not be absorbed, and there is more or less risk attending its use. In his intestinal work he invariably used the suture method, although he was gratified with the result obtained in this case by the Frank coupler.

Dr. William A. Evans said he had examined a moderate number of intestines after the use of both the Frank coupler and the Murphy button, and believes that the danger from stricture from the use of these mechanical devices is more imaginary than real, and that there is not very much danger from secondary contraction following operations on the intestinal walls. Histologically the bowels that have been operated on indicate that the contraction of the cicatricial fibers is not circular. The only fiber that is responsible for secondary contraction or stricture is the connective-tissue fiber which runs in a circular direction.

GUNSHOT WOUNDS OF THE BLADDER.

Dr. Carl H. Anderson reported an interesting case of this kind, and, after an exhaustive review of 315 other cases which he had found in the literature, drew the following conclusions:

Intraperitoneal Wounds.—1. The mortality in intraperitoneal bullet-wounds of the bladder is very high, and due almost exclusively to peritonitis.

2. It appears that shock or hemorrhage did not materially contribute to the death-rate or it would have been mentioned, but it was probably overlooked.

3. The fact that before the antiseptic era, all of the 30 patients died, and since that time only two out of four are living, and that these two were the only ones treated by laparotomy, rather clearly indicates what should be done.

2. *Extraperitoneal Wounds.*—1. The mortality of extraperitoneal vesical injuries due to bullets is only 13.4 per cent. and peritonitis is not mentioned in this connection.

2. Extravasation of urine was the main cause of death. A few died from hemorrhage and several from prolonged suppuration.

3. Permanent fistula was a frequent sequela, especially when the rectum was involved. No operation has been done for the rectovesical fistula.

4. It should be pointed out that since 1873, 10 patients have been reported as treated antiseptically, and all lived.

3. *Treatment.*—The author's thinks that emphasis should be laid upon the following:

1. Shock was extreme in his case. He advises that while preparations are being made for further treatment, this should be attended to. In addition to the administration of stimulants, etc., salt solution at a temperature of 135 F. thrown into

the rectum immediately improves the condition by the heat, which powerfully stimulates the vasomotor innovation of the alimentary and portal circulation, which in turn increases the heart action and improves the general nervous condition. He has verified this effect of hot rectal injections on dogs suffering from experimental shock.

2. If shock is due to hemorrhage, intravenous or intracellular transfusion is preferable.

3. In extraperitoneal wounds of the bladder the indications are to insure at the earliest possible moment complete and free drainage of urine from the bladder and thus to prevent infiltration and infection of the paravesicular connective tissue in the lesser pelvis. At the very outset, therefore, measures should be taken to explore the original wound and, by means of proper drainage, to insure free escape of urine. This should be supplemented by permanent catheterization or perineal cystotomy. In cases in which urinary infiltration has already taken place, the infected tissues should be irrigated and drained as thoroughly as possible.

4. As nearly all, if not all, cases of intraperitoneal vesical bullet-wounds terminate fatally, if not operated on, we are justified in opening the abdomen in every case. Delay should never be advised. If urine is found in Douglas' pouch it should be mopped out. The bullet-wound should be searched for, and if the bullet is located in the bladder it should be removed through this wound; which is then sutured with Lembert's sutures, the peritoneal cavity flushed out with salt solution at a temperature of not less than 115 nor above 120 F. until the cavity is clean and a drainage-tube inserted. Before the patient leaves the operating-table, the bladder should be cleansed and a good-sized rubber catheter passed into it through the urethra to insure thorough drainage of the urine, and vesical rest. Perineal section and drainage will efficiently keep the bladder empty, but the additional traumatism caused and time consumed thereby should be considered as bearing adversely upon the immediate safety of the patient.

5. While primary laparotomy aims at preventing peritonitis, it may not always do so, inasmuch as the abdomen may not be opened until one, two, or three days after the injury, and peritonitis is well established. It is rare indeed for any patient with septic peritonitis to recover. It is incumbent upon the surgeon therefore to perform a laparotomy even when peritonitis is unmistakable; to cleanse the peritoneal cavity of all perceptible inflammatory products and to drain thoroughly. In this connection a distinction must be made between intraperitoneal irrigation and flushing. The former does harm by causing absorption of the deadly elements, while the latter removes them. The quantity and temperature of the salt solution to be used are important. He employs about 35 gallons at a temperature of 116 F. When the abdominal toilet has been completed, and the source of danger thereby cut short, intravenous transfusion should be resorted to and, if necessary, repeated several times in severe cases. Dr. Andersen also exhibited an apparatus which he had devised for normal salt transfusion in all cases.

THE ETIOLOGY OF DEFLECTED SEPTUM.

Dr. J. Homer Coulter followed with a paper on this subject, in which he argued that in many cases, though not invariably, rhinitis is the cause and not the result of a deflected septum; that simple traumatism is not the most frequent cause, but often an important factor, especially when the deflection is found in very young patients. He contended that it is not found in infancy because the turbinate prominences are not usually sufficiently developed to produce an effective stenosis, and asked if, as some claim, it be the result of hypernutrition, why do these same individuals operate before there is complete development, and yet not expect a return of the condition?

While it may be true that the cause of the condition is not thoroughly settled, nevertheless of the results both the general practitioner and specialists have frequent and abundant positive proofs. Some of these the author mentioned as: 1. Deformity of the nose and face, sometimes extending to or occurring in the chest, resulting possibly in bronchial emphysema, cough, marasmus, or even melancholia.

2. The voice frequently suffers.

3. Many cases of laryngeal and pharyngeal affections are clearly traceable to a defective nasal passage.

4. Asthmatic conditions are not infrequent, and are as well the least promising results of brilliant operations.

5. Partial deafness is not an infrequent sequel of deflected septum, as the experience of rhinologists generally will affirm.

ARTHRITIS DEFORMANS IN A CHILD.

Dr. Frank X. Walls read a paper on this subject, of which the following is the substance:

Under the name of chronic deforming polyarthritis is grouped a promiscuous collection of diseases that have little in common save the joint involvement. This group does not include the joint affections that are dependent upon trauma or are tubercular or syphilitic, since these, though the joints may be chronically and deformedly inflamed, present such peculiarities in their history, appearance and course as to readily permit their true causative factors to be estimated.

Chronic deforming polyarthritis may be classified etiologically under three or four heads: 1, succeeding acute rheumatism; 2, sequel to the acute infectious diseases; 3, neuropathic arthritis; 4, arthritis deformans that appears to be primary or essential.

In the first group the history of acute rheumatism may be obtained if we keep in mind the often insidious and latent course that acute rheumatism pursues in childhood. These cases as a class differ from the other groups, and particularly the secondary infectious group, in that the arthritic inflammations are more mobile; they never terminate in suppuration; very frequently they are associated with lesions of the pericardium or endocardium, and they are favorably influenced by sodium salicylate.

The second group may be difficult of exclusion. During the course of any of the infectious diseases articular determinations, distinct from acute rheumatism and depending upon a general infection of the organism may occur and pursue a chronic course. In this second group there is a history of preceding infection; they more frequently terminate in suppuration: the progressive centripetal character is not so marked, and more often the larger rather than the smaller joints are involved. The neuropathic group is so rare in childhood that it need not be more than mentioned.

Garrod says that essential arthritis deformans enjoys the distinction of having been called by a larger number of different names than any other in the whole category of disease, but he prefers the name arthritis deformans, for it implies no theory and presupposes no relation to other diseases. In childhood the evolution of the disease is usually more rapid than in adults, more articulations being involved in a shorter time. The disease runs a centripetal course, beginning usually in the small joints of the fingers, hands and feet, and eventually may extend to the larger articulations. Occasionally the disease is confined to the larger articulations. When the disease is well established the hands assume a disfigured appearance, the joints are swollen, painful, rigid. Enduring deformity may ensue from changes, rarefaction succeeded by eburnation, in the bones, and sclerotic retraction of fibrous tissue. It is almost unnecessary to state that this condition of the joints renders the afflicted parts impotent. The pain is very severe, the deformities become permanent, and the child pale and cachectic. Charcot has described two classical types of deformities of the hand, the flexed and the extended. Chauffard and Ramond have observed in some cases of deforming arthritis a considerable swelling of the lymph-glands situated beneath the affected joints—*adenopathy sus articulaire*—and they consider this alteration as suspicious of the infectious nature of the chronic polyarthritis.

Heberden has described under the title of "*digitorium nodi*" little hard knobs about the size of a pea occurring in arthritis deformans, situated upon the ends of the fingers, usually over the second phalanges. Sometimes during the exacerbation of joint inflammations these nodes are tender and painful, but usually they present no other inconvenience than their unsightliness. In arthritis deformans of childhood a favorable termination after months or years is not uncommon. The joints may gradually recover their motility, bony swellings may dissolve, the deformity become less or perhaps disappear, and there may remain more or less lax condition of the joints.

In childhood the disease does not so truly merit the appellation of progressive, and even in the adult favorable terminations have been observed.

Cardiac localizations are unusual in the non-rheumatic forms.

The etiology is obscure. The diagnosis is based on the course of the disease and the readily demonstrable changes in the chondro-osseous parts of the joints, and by the presence of Heberden's nodes. The course is characterized by its exquisite chronicity and progressive character, with pain and increasing impairment of function until the joint movements in certain directions are restricted or impossible. During the acute exacerbations the disease may simulate tetanic, tubercular or syphilitic arthritis, or rheumatism, but a careful consideration of the history, character and course of the disease will be sufficient to exclude these disorders.

Treatment should be directed to improve the general condition of nutrition by supplying abundant fresh air, good food, and attention to the skin. During the acute periods we may administer salicylate of soda and antipyrin internally; we should immobilize the joints and apply locally soothing oils and ointments. In the interval, general tonics may be employed, such as cod-liver oil, iodid of iron, tincture of iodin, arsenic, alkaline and thermal baths, massage prudently employed, and galvanic electricity.

The history of the case he wished to report is as follows: The patient is a female child, 5 years old. Her father is a chronic dyspeptic; her mother, brother and sisters are well. When a baby, the child was well until the end of her first year of life. The family were then living in some dark, damp, illy-ventilated basement rooms. When one year old the child was said to be cross and irritable, but had no serious illness until she was 2 years old, when she began to complain of pain in her hands, which continued intermittently for over a year, and then extended to the feet, and later to the back. When he saw the child a year ago she had then been suffering for about two years, and the pain, the deformity, and the impotence of her hands were extreme. Examination at that time revealed a child who was very poorly nourished and ill-developed, and whose skin and visible mucous membranes were pale. Her lungs and heart were negative; her abdomen was somewhat distended with gas-inflated bowels, but no alteration in the size of the liver or spleen could be determined. The urine was negative; the cervical, axillary, cubital and inguinal lymph-glands were not enlarged. The hands were flexed and held against the chest. The metacarpophalangeal and the interphalangeal joints of both hands were much swollen, slightly reddened and extremely painful. The periarticular tissues were very much wasted, and accentuated the joint enlargement. Motion of the small joints of the hand was impossible, because of pain and fixation. Heberden's nodes were to be seen on the dorsal aspect of the phalanges as they now appear in the photograph. The wrist joints were only to a slight extent involved. An X-ray showed little osseous change, perhaps a rarefaction of the phalangeal articulation. The smaller joints of both feet were sensitive to manipulation, but were not deformed.

The lower vertebral articulations were slightly sensitive and somewhat stiffened; the other joints were negative. She had complained of some stiffness in the maxillary articulation, but when examined she was free from pain and the movements of the jaw were not restricted.

The child has been under observation for a year, and during this time the family has been living in more hygienic quarters, and the child has been receiving more wholesome food, in addition to general tonics and massage. Her general health has immeasurably improved. The deformity of the fingers is much less; the motion is so much greater that the finger can be almost fully extended; but even now the muscle atrophy and joint swelling are very evident, and mild Heberden's nodes are to be seen in the photograph taken a few days ago. Pain is present in the hands only at very rare intervals, and is not severe. The improvement in her general condition and her joint disease is so striking as to warrant the hope of a favorable termination.

Current Medical Literature.

Boston Medical and Surgical Journal, July 5.

1 *Remarks on Surgery of Uterine Fibroids, with Especial Reference to Importance of Early Removal in the Young. Maurice H. Richardson.
2 *Use of Angiotribe. F. H. Davenport.
3 Case of Morbid Fear. J. W. Courtney.
4 Colostomy for Obstruction Due to Malignant Disease. J. B. Blake.

Medical Record (N. Y.), July 7.

5 *Non-Suppurative Inflammations of the Brain, with Report of a Case of Hemorrhage (Malaria?) Encephalitis. Charles L. Dana and M. G. Schlapp.
6 *Preliminary Report of Presence and Nature of Parasitic Amebæ (Cancriameba Macroglossa) in the Epithelial Carcinomata. Gustav Eisen.
6½ Three Cases of Vascular Tumor of the Orbit: Two Cured by Operation, One Apparently Cured Spontaneously. Charles S. Bull.
7 *Fistula in Ano: Its Relation to Phthisis. Samuel G. Gant.

Medical News (N. Y.), July 7.

8 The Hospital Governor and His Staff: Being a Glance at the Personnel of a Modern Hospital and a Plea for a Permanent Resident Staff. Thomas J. Hillis.
9 *Treatment of Tetanus. Alexander Lambert.
10 *The Immunizing Cure of Hay-Fever. H. Holbrook Curtis.
11 *Significance of the Stool in Infantile Diarrheas. Wm. Edgar Darnall.

Philadelphia Medical Journal, July 7.

12 *Total Excision of Scapula Alone and with the Arm (Interscapulo-Thoracic Amputation): Partial Excision of the Scapula for Tumor. J. J. Buchanan.
13 Case of Primary Adenocarcinoma of the Gall-bladder with Secondaries in Both Adrenals. Melanosis of Skin (Addison's Disease?) Vitiligo and Hypertrophy of the Pancreas. (To be continued.) Alfred S. Warthin.
14 *Action of Rennin Upon Milk-Digestion. (To be continued). I. H. Coriat.
15 Case of Myoma of the Bladder. (To be continued.) Otto G. Ramsay.

Cincinnati Lancet-Clinic, July 7.

16 Indications for Inguinal Colostomy. John C. Oliver.
17 Two Obstetric Cases. C. Haarlammert.
18 Report of Three Cases of Alkaloidal Poisoning. S. P. Kramer.
19 Double-Headed Monster. George E. Orebaugh.

New York Medical Journal, July 7.

20 *Secondary Cataract. W. H. Bates.
21 Acute Traumatic Prostatitis of External Origin, Involving the Bladder and Seminal Vesicles. J. M. Thompson.
22 *Identification of Blood of Individuals. Woodbridge H. Birchmore.
23 *Case of Typhoid Fever Presenting Some Unusual Features. Clarence E. Skinner.
24 Unrequited Services of the Physician. A. Noel Smith.
25 Acute Gonorrheal Arthritis, Etc., of the Left Shoulder, which Necessitated Operation and was Followed by Rapid Recovery. J. Coplin Stinson.
26 Case of Hatpin in the Urethra. W. Launcelot Brown.

Medical Review (St. Louis, Mo.), June 30.

27 Carcinoma Uteri or Senile Regeneration of Endometrium? If the Latter, How Shall It be Dealt With? Augustin H. Goelet.

American Practitioner and News (Louisville, Ky.), June 15.

28 *Tetanus: Report of Cases. Thos. H. Stucky.
29 Observations on Typhoid Fever. J. H. Souther.
30 Perinephritis, with Report of Cases. W. A. Guthrie.
31 A Curious if not Unique Case of Abdominal Dropsy. Q. M. Turner.

Medical Age (Detroit), June 25.

32 Tuberculosis of the Middle Ear. Seymour Oppenheimer.
33 Multiple Sclerosis. J. W. Irwin.
34 Case of Double Inguinal Hernia with Prolapse of Rectum Caused by an Equestrian Accident. W. Thornton Parker.

Virginia Medical Semi-Monthly, June 22.

35 Ectopic Pregnancy. J. G. Carpenter.
36 Some Statistics and Partial History of the Insane in Virginia. Ro. J. Preston.
37 *The Dual Action of the Brain, and Its Relations to Dexterity and Double Consciousness. David Inglis.
38 Subphrenic Abscess Following Appendicitis—Two Cases. J. F. Baldwin.
39 *Causation and Relative Frequency of Typhlitis, Perityphlitis and Appendicitis in Infancy and Childhood—Digital Expression of Fecal Concretion from Appendix. Joseph H. Byrne.
40 *Clinical Study of Thyroid Extract. Wm. F. Drewry and J. M. Henderson.
41 *Significance of the Stool in Infantile Diarrheas. Wm. E. Darnall.

American Journal of Medical Sciences (Philadelphia), July.

42 *Carbolic Gangrene. Francis B. Harrington.
43 *Report of the Committee of the American Surgical Association on the Medicolegal Relations of the X-Rays.
44 Report of Case of Acute Ascending Paralysis, Showing Hematoporphyrinuria. Charles G. Stockton.
45 Case of Brown-Sequard Paralysis. Richard F. Woods.
46 Excision of Lachrymal Sac and Gland, Followed by an Unusual Variety of Neuroparalytic Keratitis, Markedly Resembling Clinically the So-called Lattice-like Keratitis. C. A. Veasey.
47 *Clinical Study of Ocular Symptoms Found in So-called Posterior Spinal Sclerosis. Charles A. Oliver.
48 *Notes on Diabetes. James B. Herrick.
49 *Pneumonia Complications in Pulmonary Phthisis. W. Ophüls.
50 Case of Dermoid Cyst of the Mediastinum. F. S. Mandlebaum.
51 *Critical Summary of the Literature on Serum Diagnosis of Tuberculosis. David L. Edsall.

Cleveland Journal of Medicine, June.

52 *Definite Account of My Position Upon Some Appendicitis Questions. Robert T. Morris.
53 *Enteroptosis Relative to Disorders of Digestive Tract and Circulation. (Concluded). N. Rosewater.
54 *Suppuration of the Wound After Abdominal Section, Based Upon an Analysis of 114 Consecutive Unselected Abdominal Sections without a Death. Hunter Robb.
55 The Vermicular Appendage. M. C. Read.
56 Heroin in Coughs. J. B. McGee.
57 Fibrosis of Ovary and Fallopian Tube. R. J. Wenner.

Annals of Surgery (Philadelphia), June.

58 *Leucocyte Count in Surgery. Theodore Dunham.
59 Permanent (Congenital) Dislocation of the Patella. John S. McLaren.
60 Interscapula-Thoracic Amputation for Osteomyelitis of the Humerus. George R. Fowler.
61 *Thyroid Medication in the Treatment of Delayed Union of Fractures. Francis W. Murray.
62 *Splenectomy for Congestive Hypertrophy. J. Wesley Bovée.
63 Operation for Cure of Large Incarcerated Hernia of Long Standing. J. C. Weldman.
64 Radical Treatment for Curvature of the Penis. Eugene Fuller.
65 Report of Case of Exstrophy of Bladder with Remarks Upon the Operative Treatment of that Condition. Bransford Lewis.

Annals of Surgery (Philadelphia), June.

66 *Perforating Ulcer of Stomach. John T. Finney.
67 *Benign Obstruction of the Pylorus. Frederick Kammerer.
68 *Surgical Treatment of Simple Dilatation of Stomach and Gastroptosis. E. Farquar Curtis.
69 *Hour-Glass Stomach, and Its Surgical Treatment. Francis S. Watson.
70 *Diagnosis of Cancer of the Stomach. John C. Hemmeter.
71 *Adhesions About the Stomach. Arthur T. Cabot.
72 Note on a Case of Syphilis Terminating in Death. Arthur Shillitoe.

Indiana Medical Journal, June.

73 Treatment of Diseases of the Stomach. (To be continued). Alois B. Graham.
74 Neurasthenia. H. M. Lash.
75 Some Reasons Why Physicians Should Carefully Study Diseases of the Eye. J. L. Thompson.
76 Fever Complicating the Puerperium. Louis Burchardt.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), July.

77 *Genito-Urinary Tuberculosis: Its Diagnosis in the Laboratory. Frederic E. Sondern.
78 *Roentgen-Rays in the Treatment of Skin Diseases and for the Removal of Hair. Wm. Allen Pusey.
79 *Prevalence of Parasitic Diseases of the Skin, and Measures Necessary to Limit Their Spread. Wm. T. Cortlett.

Medicine (Detroit), July.

80 *Sterility in the Male. Emil Ries.
81 Case of Unusual Cerebellar Tumor, with Hydrops Ventriculi. Lewis R. Morris.
82 *Asynchronism in Mitral Stenosis. C. C. Gibbes.
83 Gunshot Wounds of the Bladder. Carl H. Andersen.

Medical and Surgical Monitor (Indianapolis), June 15.

84 Practical Surgical Notes. J. Rilus Eastman.
85 A Plea for Dosimetry. W. J. Tolliver.
86 Irritative Diarrhea of Children. C. R. Sowder.
87 A Tribute to the Late Dr. J. R. Weist. John A. Sutcliffe.

Annals of Otology, Rhinology and Laryngology (St. Louis), May.

88 *Simple Acute Thyroiditis with Report of Two Cases. D. Braden Kyle.
89 Case of Acute Thyroiditis of Rheumatic Origin. (Thyroidité Rhumatismal Aigue). H. Illoway.
90 Necrosis and Empyema of the Frontal Sinus.—Operation. Thomas R. Pooley.
91 *Lesions of Frontal Sinus and Anterior Ethmoidal Cells and Their Surgical Management. Robert Sattler.
92 *Hygienic and General Treatment of Atrophic Rhinitis. Thomas R. French.
93 Case of Rhinoscleroma, Occurring in a Russian in the United States. Walter J. Freeman.
94 Case of Mastoid Disease, with Necrosis and Sequestrum of Petrous Portion of Temporal Bone. Operation and Recovery. Harold Wilson.
95 Pyogenic Inflammation of Mastoid and Its Rational Treatment. J. H. Woodward.
96 Some Questions on Prognosis and Treatment in So-called Catarrhal Deafness. Dunbar Roy.
97 *Hay-Fever. A. E. Abrams.
98 Treatment of Peritonsillar Abscess with Exhibition of New Instruments. Norval H. Pierce.
99 An Interesting Case of Tumor of Throat. E. Harrison Griffin.

Medical Dial (Minneapolis), July.

100 Relation of Chemistry to Medical Science. Charles W. Drew.
101 Physician vs. Medicine Proprietors and Medicine Patentees. A. Ravogli.

Chicago Medical Recorder, June.

102 *The Ray Fungi and the Actinomycelial Processes. Ludvig Hektoen.
103 *Rapid Osteoclasis for the Correction of Rachitic Deformities of the Legs. Wallace Blanchard.
104 *When to Operate in Appendicitis, and Why. John B. Murphy.
105 *Treatment of Pneumonias of Infancy and Childhood. I. A. Abt.
106 A New Surgical Dressing. Chas. H. Beard.

Medical Examiner and Practitioner (N. Y.), May.

107 *Diseases of Throat and Nose in Relation to Life Expectancy. W. E. Casselberry.
108 *Early Diagnosis of Pulmonary Tuberculosis. George W. Webster.

New Orleans Medical and Surgical Journal, July.

109 Simple Fracture of Patella: with Some Suggestions as to Treatment—The Riveting of Other Bones, Etc. E. Denegre Martin.
110 Measles and Smallpox in Children. E. M. Dupaquier.
111 Care and Treatment of Insane. G. A. B. Hays.
112 A Few Notes on Obscure Cases of Syphilis, with Relation of Two Cases of Extra-genital Chancre. L. G. LeBeuf.
113 Case of Acetanilid Habit. G. W. Gaines.

Cleveland Medical Gazette, July.

114 Appendicitis—Diagnosis and Treatment. Elmer G. Myers.
115 Case of Alleged Malpractice. J. H. Seller.
116 The Modern Nurse. M. Helena McMillan.
117 Electric Pressure Sound in Ankylosis of Ossicles and Direct Vibration of Membrana Tympani. Second H. Large.
118 *Thermo Therapeutics. Charles H. Cushing.
119 Reflex Lesions of Oral Cavity Associated with Pregnancy. F. A. McAuley.

The Stylus (St. Louis), June.

120 Puerperal Infection. J. B. Norman.
121 Is the Present Epidemic of Smallpox Really Smallpox? H. C. Mitchell.
122 Remarks on the Technique of Closure of Abdominal Wounds. Spencer Graves.
123 Recent Improved Methods in Stomach Diagnosis. (Continued.) M. D. Schmalhorst.
124 *What Not to Do in Ear, Nose and Throat Work. M. A. Goldstein.
125 Death of Fetus at the Fifth Month, with Retention Until the Eleventh Month. O. A. Williams.

The Laryngoscope (St. Louis), June.

126 *Primary Epithelioma of Tonsil. J. M. Ingersoll.
127 *Sigmoid Sinus Thrombosis. (Continued.) James F. McKernon.
128 Controlling Adjustable Cut-off for Compressed Air. S. S. Bishop.

Railway Surgeon (Chicago), June 12.

129 Address Before International Association of Railway Surgeons. Wm. C. Maybury.
130 President's Address Before International Association of Railway Surgeons. Albert I. Bouffleur.

American X-Ray Journal (St. Louis), July.

131 Excitation of Crooke's Tube by Static Machine. Condenser Discharges. Conduction. John T. Pitkin.
132 Direct Method of Measuring X-Ray Intensities. Frederick S. Kolle.

Yale Medical Journal (New Haven, Conn.), July.

133 *Questions of the Day in Medicine. J. M. Da Costa.
134 *Water-Supply and Disposal. Charles S. Rodman.

Carolina Medical Journal (Charlotte, N. C.), June.

135 *Emergencies in Obstetrics. A. G. Carr.
136 *Chronic Cystitis. J. H. Marsh.
137 *Ambulatory Treatment of Fractures Involving the Bones of the Leg. A. S. Pendleton.
138 *Chronic Endometritis, Its Varieties, Pathology and Symptoms, with Special Reference to Treatment. B. Ray Browning.
139 *Abortion. E. T. Dickinson.
140 *Should Physicians Supply the Medicines they Prescribe. D. S. Morrill.
141 Treatment of Ear Troubles by the Family Doctor. W. H. Wakefield.

Austin Flint Medical Journal (Mason City, Iowa), June.

142 *Surgical Diseases of the Late Spanish-American War. Nicholas Senn.
143 Thyroid Extract in Cretinism. Report of Case. J. C. Wright.

Toledo Medical and Surgical Reporter, July.

144 Treatment of Nasal Catarrh: Fibroid and Mucous Polypus. J. D. Ely.
145 Fifty-seven Consecutive Hysterectomies. Wm. J. Gillette.
146 Value of Static Electricity in Abnormal, Mental and Nervous Conditions. H. L. Hall.

Texas Medical News, June.

147 Observations Upon an Epidemic of Scarlet Fever Occurring in Houston. S. C. Red.

148 Membranous Croup—Differential Diagnosis. Edgar D. Capps.
149 *A New Theory About Smallpox in Texas. R. L. Meek.
150 State Medicine and Public Hygiene. H. A. West and M. M. Smith.

Southern Practitioner, (Nashville, Tenn.), July.

151 Intestinal Obstruction. (Concluded.) Richard Douglas.
152 Adenoid Growths in the Vault of the Pharynx. C. M. Capps.

Medical Standard (N. Y.), June.

153 *Is Alcohol a Food? H. Gasser.
154 Affections of the Pericardium. Albert Abrams.
155 Syphilis—Its Diagnosis and Treatment. Wm. S. Gotthiel.
156 Pertussis. Marcus P. Hatfield.
157 *Is Change of Climate Necessary for Successful Treatment of Tuberculosis. Charles Denison.

Charlotte Medical Journal, June.

158 President's Message. Geo. W. Long.
159 The Relation of Bacteria to Medicine. R. H. Whitehead.
160 "Watchman, Tell Us of the Night." T. S. McMullan.
161 *Should Physicians Supply the Medicines They Prescribe? David S. Morrill.
162 Annual Debate for 1900. James M. Parrott.
163 *Abortion. E. T. Dickinson.
164 *Chronic Endometritis, Its Varieties, Pathology and Symptoms, with Special Reference to Treatment. B. Ray Browning.
165 An Unusual Case of Appendicitis. M. P. Perry.
166 Pylorectomy for Adeno-Carcinoma, with Report of Case. Jos. H. Branham.
167 Shall We Use Anodynes and Anesthetics in Midwifery? N. P. Boddie.
168 Symposium on Biology, Pathology and Treatment of Tuberculosis. Paul Paquin.
169 Symposium on Biology, Pathology and Treatment of Tuberculosis. C. V. Reynolds.
170 Inanition Fever of Infancy. R. C. Ellis.
171 *Ambulatory Treatment of Fractures Involving the Bones of the Leg. A. S. Pendleton.
172 Cough. Edwin Gladmon.
173 Hemorrhoids. H. T. Bass.
174 *Emergencies in Obstetrics. A. G. Carr.
175 Hypertrophy of Pharyngeal Tonsil and Its Treatment. J. T. J. Battle.
176 *Chronic Cystitis. J. H. Marsh.
177 Hematuria. Chas. M. Hazen.
178 Automatism. Chas. A. Julian.
179 Surgical Treatment of Gall-Stones, Report of Case, Removal of Sixteen Stones and Exhibition of Specimens. J. B. Smith.
180 Infant Feeding. J. C. Walton.

AMERICAN.

1. **Uterine Fibroids.**—Richardson calls attention to the advisability of early operations in the young who suffer from uterine fibroids, so that the uterus may be saved by limiting the operation to the tumor itself. He is satisfied that early operations permit the enucleation of small fibromata in a large percentage of cases, and even in some cases of large tumors. The dangers of myomectomy are less than those of hysterectomy, and an especial point is the ability to avoid infection from the uterine cavity, which is a serious danger. He shows the possibilities of evil in the existence of fibroids as justifying operation when feasible, without, however, underestimating the dangers of intervention.

2. **Use of the Angiotribe.**—Davenport advocates the use of the angiotribe as a safe and convenient means of controlling hemorrhage, rendering the operation easier for the surgeon and much more comfortable for the patient. He thinks that it is a distinct therapeutic advance and that it has come to stay.

5. **Hemorrhagic Encephalitis.**—Dana and Schlapp report a case of hemorrhagic encephalitis occurring in a man of advanced age with alcoholic antecedents, that was apparently complicated with malaria. The condition is discussed and the article illustrated with microscopic findings.

6. **Cancriameba Macroglossa.**—Eisen describes the organism that he believes he has isolated in cases of cancer, to which he gives the above name, and which he thinks identical with that of Plimmer. He claims that it is found in all epithelial carcinomata and is the cause of the characteristic structure of the cell nests or cell plugs. These are due to the efforts of the epithelial cells to fence in the organism in the constant struggle going on between them. The propagation of the ameba is by spores and amitotic division. Mitotic division has not been observed excepting in epithelial cells. The cancriamebæ are nearly always surrounded by small vacuoles caused by destruction of epithelial cells by the parasites. It finally enlarges and makes a pus cavity. They are distinguished from leucocytes by their larger size, frequently exceeding 25 to 30 microns in length. A peculiarity of these is their sensitiveness to cold, which suggests a freezing treatment of carcinoma.

7. **Fistula in Ano.**—Gant believes that tuberculous fistula of the anus is secondary to pulmonary tuberculosis, which latter is rarely, if ever, secondary to it, either before or after operation. And fistula should be dealt with radically, and all fistulæ should be operated on, irrespective of the kind, if the patient's condition admits, and persons suffering from a mild form of tuberculosis, or those who give a family history of tuberculosis, should not be excluded. When death occurs after operation, he believes that it is due to inflammation of the lungs induced by the anesthetic, and that there is no truth in the belief that the operation on fistula produces pulmonary tuberculosis. He does not think that more than one in six or eight cases of fistula is due to tubercle, and he also holds that non-tuberculous fistulæ are not uncommon in tuberculous subjects.

9. **Tetanus.**—The treatment of tetanus and the nature of the infection are discussed by Lembert, who concludes that there are three indications to be followed: Speedy elimination of the poison, which can be done largely by increasing the action of the kidneys. The thirst of tetanus patients is excessive, and it is well to allow them to take as much water as they can. 2. The administration of physiologic antidotes to counteract the poison of the body cells. Chloral is the best physiologic antidote, as it diminishes the excessive excitability of the nervous system. 3. Chemical antidotes to render the virus inert. Antitoxic antiseptics can not be safely used in large doses, though he refers to Baccelli's reported cures with carbolic injections. The antitoxic treatment seems encouraging, but he has collected fifty-two cases in which the method of Roux and Borrel—intracerebral injections—was employed, and is not favorably impressed with it. He thinks, however, that, with the ordinary method freely used, the chances of recovery are better than without it, and in subacute cases they are decidedly in favor of recovery. He has no doubt that many cases of human tetanus would be preventable if prophylactic doses of 10 c.c. of antitoxin serum were more generally used. In using the serum, intravenous injections act more surely and quickly, and should be given when possible. The first dose should be 20 or 50 c.c., followed twelve hours later by 20 c.c., and every twelve or twenty-four hours afterward with 10 to 20 c.c.—for children half the dose.

10. **Immunizing Cure of Hay-Fever.**—Curtis has experimented with extracts of flowers supposed to produce hay-fever, such as golden-rod, rag-weed, etc., and claims remakable success with his experiments so far as carried on. He says that if his theory that this *rhinitis vasomotor pariodica* or *cor-asthma ambrosiæ* can be prevented by giving 2 to 10 drops of tincture of fluid extract of rag-weed in water, three times a day, during the two weeks before the paroxysm, is correct, he believes that he has heralded with becoming modesty what he considers to be a great discovery.

11. **Stools in Infantile Diarrhea.**—First noticing the different kinds of pathologic stools of infants, the dirty lead-colored, the green stool, the whitish or grayish one, the constipated, etc., he sums up the treatment of bowel conditions of infancy in three words: elimination; 2, disinfection; 3, feeding; always using as few drugs as possible. The first step is to stop the food for one or two days, using barley water or plain sterile water for thirst, then rid the bowel of diseased contents with dram-doses of equal parts of castor-oil and aromatic syrup of rhubarb, following this up with antiseptics, such as calomel, salol, bismuth, etc., using other methods, such as hot applications for pain, anodynes, stimulation, irrigation with normal salt solution, etc., as the case requires. The great difficulty is to find the proper food. None of the proprietary foods are satisfactory without the addition of fresh cow's milk, and often one food after another will have to be tried, until the whole scale has been run. The best, after all, is the modification of fresh cow's milk, Pasteurized, if need be, to decrease the risk of infection. Any progressive physician can work out his own percentage and instruct the mother.

12. **Intrascapular-Thoracic Amputation.**—Buchanan holds that the removal of the scapula and part of the clavicle is justified in every case of malignant tumor requiring amputation at the shoulder. The advantages of this are: more thorough and higher removal of lymphatic vessels and veins; the muscles, frequent sites of secondary infection, are also removed, and the glands and fat are more thoroughly cleared out; the wound is also better adapted for healing than is the stump containing the overhanging acromion and the retreating glenoid fossa. The difference in the resulting deformity is insignificant, and the fact that there has been recurrence in these parts which were not removed is another reason for their removal. He describes the operation, reports two cases, and publishes several pages of tables showing the history of the operation with analysis of cases reported.

14. **Rennin.**—Coriat gives the facts as regards the coagulation of milk showing that rennin is an independent enzyme distinct from pepsin, and that it possesses a different action on the solution of casein, or on casein in milk, precipitating it as a definite compound or curd. There are also enzymes in plants and bacteria that are almost identical in their action. He then speaks of his experiments to ascertain why rennin is a special enzyme when others are similarly effective, and how it contributes to the further conversion of soluble proteids. It had occurred to him that this precipitation has something to do with peptone production, and the experiments were undertaken to determine the question.

20. **Secondary Cataract.**—Bates has traced in the rabbit the formation of the connective-tissue membrane which veils the pupils after the removal of the lens, and finds that it is composed of new tissue together with the folded posterior capsule, the opacity being due to the former. The secondary cataract begins with the accumulation of coagulable blood in the anterior chamber at the time of the operation, fibrin appearing from its coagulation, and the connective tissue later replacing it. This process can be prevented in the rabbit by performing a quick operation, closing the scleral and corneal wound with sutures and restoring the anterior chamber with normal salt solution. These facts afford a strong presumption that secondary cataract in man is also due to the same process, and he is carrying on studies to determine this as far as possible.

22. **Identification of Blood.**—Birchmore says that it has been recognized for a long time that human blood can be distinguished fom that of any other animal, and claims that, by careful and numerous examinations and measurements, the blood-stain can be distinguished as belonging to the same blood as another given stain, or not so belonging. He believes that within limitations an expert can say positively that the blood-stain A is not the same as that of stain B. or he can say it is his opinion that the blood of stain A is the same as that of stain B. He admits, however, that the stains not identical are more easily and convincingly demonstrable than are the opposite.

23. **Typhoid Fever.**—Skinner reports a case differing from the average in some particulars, especially in the temperature curve. This was treated largely by catharsis, a method which has wrought results in his hand almost or quite as good as those of the Brand treatment.

28. **Tetanus.**—Stucky reports two cases in which boys were treated with large doses of Roux antitetanic serum, with success. In one case 30 c.c. were given as often as every six hours. until twelve bottles had been used; and in another, 30 c.c. every four hours until there was relaxation of muscles and cessation of spasms, eight doses in all. From his experience, this treatment seems to be of the greatest value, though it is necessary to continue the injections as long as any muscular rigidity exists, the frequency of the dose depending entirely on the action of the poison. When necessary, chloroform, morphin and chloral, as needed, should be given. These two are the only successful cases out of six treated by him in sixteen years.

37. **Dual Action of the Brain.**—Inglis holds that we do all our thinking with one side of the brain, the other having an entirely subordinate part and being called into independent action only under special and pathologic conditions. He supports this theory by the usual arguments of righthandedness, double consciousness, etc., and explains by it certain facts of mental disorders observed. He believes the attempt to counteract righthandedness or produce ambidexterity is a physiologic crime.

39. **Causation of Appendicitis, Etc.**—The fecal theory of appendicitis is a thing of the past, and Byrne considers the etiology now largely a matter of malposition favoring the deposition of concretions, inflammation, local inflammations, exposure, traumatism, etc. He thinks the slight immunity in early life can be credited in the large majority of cases to the fact that the normal retrograde changes and their natural consequences in the organ have not progressed far enough to interfere with the integrity of the part until after the fifteenth year. He reports a case in which he was able to squeeze out the hard fecal matters from the appendix during life, with the best results. This procedure he thinks is a novel one and, therefore, calls attention to it.

40. **Thyroid Extract.**—Drewry and Henderson have experimented on eighty-eight cases in the Central Hospital of Virginia, including cases of mania, melancholia—acute and chronic—epilepsy, primary dementia, terminal dementia, paretic dementia, paranoia, circular insanity and imbecility of various durations in both sexes. The doses were from 2 to 60 gr. of Parke, Davis & Co.'s extract given two to six times a day and generally gradually increased. The duration of treatment was from 14 to 90 days, sometimes interrupted, some patients being kept in bed under special diet. Careful attention was given to the hygienic regulations, and observations were made as to temperature, respiration, pulse, gastric disorders, secretions, sensory and mental symptoms, weight, etc. Control cases, one of chronic mania and one of chronic melancholia, were taken for the purpose of comparison. From the results of the experiments they were unable to see that the thyroid produced any uniform, definite action on the pulse-rate, secretion, etc. There were unfavorable symptoms, such as gastric disorders, nausea, anorexia, etc., in only three or four cases, and in no case was there any dangerous symptom. One patient, who had never taken a dose before, was given 60 grains at once without any bad effects. They observed no decided mental changes, and while there was more or less effect on the weight, they do not find any unfavorable results on either the mental or physical conditions. From their experience they conclude: 1. That it is a remedy of certainly very limited value, if any, in the treatment of any form of insanity. 2. That those cases apparently benefited by it, owe their improvement or recovery as much, or perhaps more, to other agencies—such as better nursing and attention, rest, diet, tonics, etc.—than to the thyroid. 3. That it is in the so-called curable cases—acute forms—that improvement or recovery seems to be the result of thyroid treatment, cases that would either get well without any special medicinal treatment, or from the treatment usually followed in such cases. 4. That ordinary thyroid extract may be given with impunity without producing dangerous symptoms of any kind. 5. That having tried every rational line of treatment without effect, it is perhaps well to give the thyroid treatment a trial.

41. See also ¶ 11, above.

42. See editorial in this issue.

43. **Medicolegal Relations of the X-Ray.**—The following is the substance of the conclusions offered the American Surgical Association, on the medicolegal relations of the X-ray, by the chairman, Dr. J. Wm. White. The routine employment of the X-ray in cases of fracture is not of sufficient definite advantage to authorize its employment in every instance. In case of doubtful diagnosis, this, as well as other means, should be employed, but the grave possibilities of misinterpretation should not be overlooked, as there is evidence that mistakes may be made by competent operators. In the regions of the base of the skull, spine, pelvis and hip, the X-ray results have not as yet been very satisfactory, and on account of the rarity of good skiagraphs of these parts, special caution should be observed when they are affected, in basing on X-ray testimony any important diagnosis or line of treatment. As to questions

of deformity, skiagraphs alone, without expert surgical interpretation, are generally useless and frequently misleading. Apparent deformity may be produced in normal bone and existing deformity greatly exaggerated. It is not possible to distinguish, after recent fractures, cases where perfectly satisfactory callus has formed from those that later go on to nonunion. Fibrous union can not be distinguished from union by callus where lime salts have not been deposited. In these cases, the X-ray should be regarded as an adjunct to other surgical methods and its testimony as especially fallible. Evidence appears to show that in the majority of cases X-ray burns are easily preventable, and though the essential cause is not settled, it is possible that idiosyncrasy may make some persons especially liable to this injury. In the recognition of foreign bodies, the skiagraph is of the greatest value, though in their localization it has occasionally failed. The surgeon who bases an important operation on the localization of a foreign body should remember the possibility of error. The situation from a legal standpoint would vary in different states and with different judges, but in many places and in many differing circumstances, the skiagraph will affect medicolegal questions. The technicalities of its production and the manipulation of the apparatus are already in the hands of specialists, and it is quite necessary that the surgeon should so familiarize himself with the appearance of skiagraphs and their distortions, and with the relative value of their shadow and outline as to be the judge of their teachings and not have to depend on interpretations of others who may lack the wide experience necessary for their correct reading.

47. **Eye Symptoms in Tabes.**—Oliver divides tabes into two types, a gross optic type, in which the eye symptoms appear as visual paresthesias and contracted fields, followed later by degenerative symptoms, with apparent intermissions and improvement, but terminating in total blindness; some of the well-known pupilary and extraocular muscular signs becoming manifest in 30 to 50 per cent. of cases. In the other type the eye symptoms seldom come before the specialist, though, in a great majority of instances, they exist to a certain extent. There is an absence of growths and inflammatory signs in ocular structures and the vision finally largely disappears.

48. **Diabetes.**—Herrick calls attention to the phenomenon of casts in the urine during diabetic coma as possibly being of some value in its early diagnosis, and also of an occasionally low specific gravity of saccharine diabetic urine. The importance of this fact to the life-insurance examiner is evident, since so much depends on the specific gravity in their ordinary diagnosis of diabetes.

49. See abstract in The Journal of May 5, p. 1129.

51. **Serum Diagnosis of Tuberculosis.**—Edsall gives a critical summary of the literature of tuberculin tests, and concludes from a study of the facts that, whatever the clinical value of the method may prove to be, it deserves to be tested more widely, as its value is at present hardly definitely decided.

52. See abstract in The Journal of April 28, p. 1069.

53. Ibid., March 10, p. 623.

54. Ibid., June 2, p. 1418.

58. **The Leucocyte Count.**—The value of this count in surgery is discussed by Dunham, who points out where it is probably a safe guide, and where, under certain special conditions, perplexity may arise. The conditions in which it is increased are: digestion leucocytosis, variation from age, hemorrhage and ether operations; and on a basis of one case, absorption of iodoform probably materially increases the count. Carcinomata seem to increase the leucocyte count, as do also sarcomata; acute inflammatory conditions offer the best service to the surgeon in the diagnosis by this means. As a rule, other things being excluded, it is a safe guide to the presence of acute sepsis, but sometimes the count is not strikingly high. There may be instances where the number of leucocytes is not obvious and yet suppuration exists, but there we have a quantitative change in the iodin reaction of the polymorphonuclear neutrophiles, that is not observed in the normal blood or in disease which can be confounded with acute abscess. The question whether there is an iodin reaction where the leucocytosis fails is of interest, and if it is always present ,it will be an invaluable aid to diagnosis in these cases. He also mentions certain points in regard to the technique of blood counting and lays particular stress on the importance of the surgeon himself ascertaining its bearing on the case in hand.

61. **Thyroid Medication in Cases of Fractures.**—Murray reports a case of ununited fracture of the femur in which thyroid medication was employed with a view to influencing the nutrition. It seems to have been of benefit, as there has been great improvement since the beginning of medication, and complete consolidation of the fracture seems to be only a matter of time. While a definite conclusion can not be attempted as to this treatment, he believes that we are justified in trying this in case of non-union, before resorting to operative measures.

62.—See abstract in The Journal of May 5, p. 1130.

66.—See abstract in The Journal of May 19, p. 1259.

67.—Ibid.

68.—Ibid.

69.—Ibid.

70.—Ibid., p. 1260.

71.—Ibid.

77. **Genito-Urinary Tuberculosis.**—The paper by Sondern is very full in regard to the laboratory methods of diagnosis of tubercle bacillus in the urine and should be read to be appreciated, as an abstract can not be given, within reasonable length, to do it justice.

78.—This article has appeared elsewhere. See The Journal of May 12, ¶ 29, p. 1185.

79. **Parasitic Skin Diseases.**—Corlett says that next to eczema, epizoic dermatoses are the most prevalent of all skin diseases, the animal and vegetable kingdom being about equally represented. The ringworm family in this country is of greatest importance. The parasitic diseases, due to the animal parasites, are apparently somewhat decreasing, while those due to the vegetable organism seem to be slightly on the increase. The principal sources of infection are the crowding together of children in schools and asylums, the slum districts, and domestic animals. Kindergartens are a frequent source of trouble, as are also the barber shop and unclean towels. He calls attention to the parasitic troubles contracted from domestic animals, especially the ringworm from horses and calves, which is more virulent than that obtained from fowls, dogs and cats. The measures he suggested for checking these diseases are the inspection and regulation of barber shops, instruction as to the habits of cleanliness, especially in public washing places, etc., and care as to any disease appearing among animals.

80. **Sterility in the Male.**—Obstruction of the seminal channels has received the largest share of attention, and the condition of the testicle itself has been more or less neglected. Rice describes what he has found that is pathologic in this organ, and claims that deviations from the normal are extremely frequent, and that the lesions may be localized and limited to certain special tubules. He finds that there are two great classes of suspended or destroyed spermatogenesis, with and without associated changes surrounding the seminiferous tubules. In a few cases he has found it without changes, and in a large majority, only partial, some portions being normally active. This condition has been observed in individuals as young as 24 years of age, and as old as 53, and the cause is not entirely clear. In a much larger class, he finds one common lesion, the formation of a zone of hyaline tisue around the tubule in the place of the normal flat connective-tissue cells which form their physiologic sheath. These are associated with degenerative changes of the epithelium in various degrees and may be partial or total, while the rest of the apparatus may be absolutely normal. The only other changes, which were found now and then associated with epithelial destruction, were of an endarteritic nature and were not regularly observed. The condition is more frequently bilateral, but may be more pronounced on one side than the

other. There may be complete atrophy of the glands. Wherever this condition occurs, it can be recognized macroscopically, not necessarily by the size and consistency of the organ, but by the whitish, homogeneous stripes on its surface. In the treatment of sterility, surgical investigation is especially useful. In the case of obliteration of the vas deferens, surgical interference does not seem hopeless. Experimental anastomosis has been successfully practiced on the dog by Van Hook. If the vas deferens or the epididymis appears normal, it will be correct to split the testicle and examine its cut surface, and also some of the juice squeezed out. Suturing of the split testicle is neither difficult nor dangerous.

82. **Asynchronism in Mitral Stenosis.**—The object of Gibbes' paper is to discuss the mechanism of mitral stenosis, and he says that the special occurrence of presystolic murmur is due to reduplication of the first sound, in consequence of the two sides of the heart not acting synchronously. He thinks that proper recognition of the result of asynchronism is of the greatest importance in all forms of valvular disease, but essentially for the correct diagnosis of mitral stenosis.

88. See abstract in THE JOURNAL of April 28, p. 1070.

91. **Lesions of Frontal Sinus.**—Sattler describes the anatomy and development of the frontal sinus, its general diseased conditions and the changes which then occur. The symptoms are described, including edema and ptosis, exophthalmus, etc. The treatment is entirely surgical, the only method advisable being the external operation, which is described in detail.

92. **Atrophic Rhinitis.**—French, in his discussion of this condition, speaks especially of the need of asepsis and the almost impossibility of obtaining this with the ordinary syringes used. He has tested those that have been generally used and superficially cleansed, and finds them highly septic. Atomizers should also be sterilized by boiling. Oils should be used sparingly, and then only after cleansing the affected parts with saline wash; they should be preceded and succeeded by sprays of hydrogen peroxid. The antitoxic treatment of Belfanti and Della Vedova is mentioned, and he refers to a letter from Mygind, of Copenhagen, who regards this as most effective, but with so many drawbacks that he has been obliged to abandon it. The majority of patients with this disease will recover. Change of climate, tonics, iodin, arsenic and cod-liver oil will be found beneficial. The clothing should also receive attention: woolen undergarments to be but for the protection from colds, which may be an advantage.

97. **Hay-Fever.**—Abrams says that the treatment of this disease requires close attention to all details regarding the patient's habits of life, idiosyncrasy, diet, etc., for a considerable period of time. Any surgical measures required should be applied when the patient is not suffering from the disease, and some caution should be used in the employment of drugs that enthrall, as hay-fever patients are usually very sensitive to the action of such.

102. **The Ray Fungi.**—Hektoen's paper is the monograph which received the *Chicago Medical Recorder* prize for 1899 and 1900, and it is impossible to abstract it adequately here.

103. **Rapid Osteoclasis.**—Blanchard advocates rapid osteoclasis in certain cases of deformity, especially those of the femur and tibia, it being rapid and satisfactory in its results. He speaks of the Grattan osteoclast, which he thinks has been injured and has lost reputation because it has been made lighter and less massive in construction.

104.—This article has appeared elsewhere. See THE JOURNAL of June 23, ¶ 54, p. 1651.

105.—Ibid., July 7, title 26, p. 53.

107.—See abstract in THE JOURNAL of May 12, p. 1194.

108.—Ibid., p. 1195.

118. **Thermotherapeutics.**—Cushing reports briefly his experience with thirty-seven cases treated with hot air. He has tried six different kinds of apparatus, none of which are entirely satisfactory. He has had some unpleasant experiences, some failures, and some accidental burns, but he has also had quite a number of striking successes. About 80 per cent. of the total number of patients were either relieved or cured. The list of disorders includes: acute, subacute, chronic and muscular rheumatism, gonorrheal rheumatism, traumatic synovitis, arthritis, tendo synovitis, sprains, inflammation from various causes, varicose ulcers, gout, fibrous ankylosis and perichondritis. In a case of rheumatoid arthritis and one of syphilitic nodes, the treatment was a failure.

124.—This article has appeared elsewhere. See THE JOURNAL of June 23, ¶ 24, p. 1651.

126.—See abstract in THE JOURNAL of April 21, p. 1004.

127. **Sigmoid Sinus Thrombosis.**—M'Kernon describes a number of cases and analyzes the symptoms that were always present, the history, etc. Chills were noticed in a large proportion of cases, sometimes a chilly sensation only, but the cases in which no chills were observed were non-infecting in character. The temperature varied according to the amount of septic matter entering the circulation which, if large, is immediately followed by a rise from normal to 104 F., or even higher. If septic infection is slight, the rise will be gradual. Collections of pus in the brain may very materially lower the temperature and should always be thought of when this occurs. With the high elevation in temperature, there is a corresponding increase in the pulse-rate, but temperature may be subnormal when complicated with cerebral abscess. Pain is generally present and greater than that of ordinary mastoiditis, especially in the side of the head and in the occipital region over the torcular. Nausea and vomiting are nearly always present in a greater or less degree. Respiration is but little affected in the later stages. In two of his cases, the respirations reached about 60 per minute. Vertigo was not observed in his cases, though it is generally present when the meninges are involved. Consciousness was affected in all except one of the patients operated on. A slowness of cerebration was manifest. Neuroretinitis was present in two of the patients examined. Motor disturbances were absent in all. Puffiness of the eyelids of the affected side was present twice. Constipation was present in all the cases. Edema of the mastoid region and over the mastoid and occipital veins was seen in five of the seven cases operated upon. Gerhart's symptom, that of increased quantity of blood passing through the jugular of the unaffected side when pressure is exerted over both the external jugular veins, was not seen. In all his cases there was marked stiffness and, in two instances, rigidity of the muscles of the neck on the affected side. He found no hard cord-like swelling along the course of the internal jugular. In two of his jugular cases, the lymphatic glandular involvement was very marked. Among the general symptoms at the onset of the disease may be mentioned malaise, loss of appetite, a heavily furred tongue and foul breath. The face wears an anxious and pallid look, the skin is dry and later presents a yellowish tinge, indicating sepsis. It is said that sinus phlebitis is a disease of adult life, but in one of his cases it occurred in a child 3 years of age. Treatment should be individual. A complete and thorough exposure of the sinus before it is opened is desirable in all cases. The field of operation should then be flushed with hydrogen peroxid, from which he has never observed any ill effects. This should be followed with a second flushing with absolute alcohol, and a freshly sterilized aspirating needle should be thrust through the dura covering the sinus; it should be introduced for one or two inches, along the lumen of the vessel. If a negative result be obtained and the appearance leads still to doubt, it is better to make a small opening in the dura than to limit the procedure to simply an unsatisfactory aspiration. When a clot is found, the dura covering the sinus should be opened freely, the clot removed with a curette, together with any disintegrating material that may be present. When the bloodflow is established from the proximal end, it should be allowed to continue for a few seconds, so as to remove any further clot or septic material. It is then easily controlled by packing directly against the lumen of the vessel. The lower portion of the sinus should be treated in the same manner, and after removal of the clot an attempt should be made to restore the circulation at the bulb. When the sinus has been freed from an aseptic clot or the presence of pus and there is no jugular

involvement, he thinks it better to cleanse the operative field and pack the sinus firmly at the bulb with gauze, than to proceed any further. If a disintegrated clot, or pus, or both are present, we should expose as rapidly as possible, ligate at the clavicle and resect and remove the jugular at that side to its commencement at the bulb. In the facial, maxillary, thyroid, or other veins be involved, they should be ligated beyond their point of involvement and resected. All enlarged glands should also be removed, to prevent possible infection. Care should be taken to completely separate the pneumogastric nerve from the vein at the lower point of ligation. The soft tissues of the neck should be flushed by hot saline solution and closed by sutures to within an inch of the bulb. After this it is easy to remove the pus and disintegrated material in the sinus. If any sloughing edges over the dura be present, they should be removed. In all cases of aural disease, especially operative cases, we should have these discharges examined microscopically and the streptococcus will generally be found in septic cases. The time to operate on cases of sinus thrombosis is immediately after the diagnosis is made. When in doubt, it is better to make an exploratory operation than to wait. During prolonged operation, he knows no better method of stimulation than a high saline enema, repeated if necessary. If the patient does not respond quickly after being put to bed and other means of stimulation are required, direct transfusion of normal salt solution can be done. One of the most valuable aids in the immediate recovery of his patients was the administration of oxygen immediately after the operation, and continuing the administration at stated intervals for three or four days thereafter. This, with a generally supporting treatment, constituted the after-care of the patients.

133.—This article has appeared elsewhere. See The Journal of July 14.

134. **Water-Supply and Disposal.**—Rodman's article is an interesting one, bearing on the questions of sanitation and water-supply and disposal. He concludes that while sand filtration may be useful in cases where there is a convenient desert, the bacterial is the coming method of sewage disposal. Equally important with the disposal of sewage is the question of filtration, and it is just as necessary that the water used for domestic purposes should be filtered as that it should be rendered harmless after using. To perfect sewage disposal and neglect water filtration is as irrational, he says, as would be the antiseptic methods of surgery did they consist solely in disinfection of cast-off dressings.

135.—See also title 174.

136.—Ibid., 176.

137.—Ibid., 171.

138.—Ibid., 164.

139.—Ibid., 163.

140.—This article has appeared elsewhere. See The Journal of July 7, title 46, p. 53.

142. **Surgical Diseases of the Spanish-American War.**—Senn gives a brief general statement of some of the principal facts observed by him in Cuba and Porto Rico. One thing notable was the readiness with which the Mauser bullet wounds healed and the limited zone of contusion. Many of the individuals who suffered from flesh wounds hardly noticed them at the time. The value of the first-aid dressing and the aseptic character of the bullet were also notable. Wound infection he thought was generally due to too frequent dressings, and useless attempts at probing the wounds. Another notable point was the number of gunshot wounds of the abdomen in which the patients recovered without laparotomy. He was the first to place himself on record, basing his opinion on the results of experiments, that a man shot through the abdomen from before backward on the level with the umbilicus or above, has a fair chance of recovery without operative interference. In these cases the intestinal canal not infrequently escapes injury. These are the cases that recovered during the late war and in almost every instance the wound was on the level with or above the umbilicus, while if it was below that point, the chance of intestinal wounds was greatly increased. In penetrating wounds of the chest the same was true as regards recovery without operation, and in but few did he find even extensive pneumothorax. There were no subjective or objective symptoms indicating injury, and recovery generally followed within a few days. He believes that too early aspiration in cases of chest wounds may increase hemorrhage and this procedure is justifiable only after the accumulated blood in the pleural cavity has fulfilled its legitimate functions and served the purpose of an efficient hemostatic by effecting pulmonary compression, or after sufficient time has elapsed and there is no danger of recurrence of the internal bleeding. One part of the surgical treatment of the wound was unsatisfactory, and that was the lack of early immobilization of fractured limbs, which was partly due to want of proper materials. The most valuable available material was the cocoa-palm leaf, which was found to be most excellent. He regrets that immediate immobilization was not practiced on a larger scale. Another statement was, that, in contrast to early experience, penetrating wounds of the knee-joint, hip-joint and larger joints recovered promptly without loss of function. He does not think that more than 400 lives were lost in battle or as the result of secondary complications of gunshot injuries. The loss of life was due to typhoid and tropical diseases, such as malaria, etc. Another thing of which he is positive, so far as the Illinois troops were concerned, is that there was not a single case of hernia sent to the front, but many came back with such troubles. He thinks this is due to the reflex interference of climate and the disappearance of fat in the region of the inguinal canal. He examined 10,000 men at Camp Tanner and found varicocele very frequently—in at least 25 per cent. of the applicants. In not more than 2 per cent. did the recruit acknowledge that he experienced any inconvenience whatever, and he now believes, judging from observation of men who returned, that it is not a serious disqualification for military service. Patients who required treatment of this condition after active service suffered from the same causes as those which produce hernia.

149. **Smallpox and Yaws.**—Meek believes that the epidemic of supposed smallpox that occurred in his section of Texas was entirely one of yaws. He treated the cases as such and all his patients recovered.

153. **Is Alcohol a Food?**—Gasser has studied the food value of alcohol and concludes that in moderate quantities it is a form of food, but when used in excess, a poison. While, when used in moderation, it is not specially injurious, still there is no practice which is more seductive and alluring in the formation of a bad habit, and while it may afford some pleasure and gratification it is not necessary. A safer, more free and happier life can be obtained by total abstinence. He does not speak favorably of even a moderate use of alcohol for its possible food value.

157.—This article has appeared elsewhere. See The Journal of May 26, ¶ 98, p. 1366.

161.—Ibid., July 7, title 46, p. 53.

163.—See also title 139.

164.—See also title 138.

171.—See also title 137.

174.—See also title 135.

176.—See also title 136.

FOREIGN.

Dublin Medical Journal, July.

On Symptoms or Phenomena Formerly Known as Croup; the Diseases Which Produce Them; and the Clinical Significance of the Various Allied Affections Embraced by the Term. Langford Symes.—The writer, from an analysis of the different forms of disease which have passed under the name of "croup," concludes that there is no such true disease as croup and that the symptoms are most likely to be due to diphtheria or laryngitis stridulosa. In difficult and doubtful cases we should suspect diphtheria and treat it as such from the start with antitoxin. Recession and restlessness are the two most dangerous symptoms. Since antitoxin reduces the mortality in diphtheria and helps the cases to be tided over the crisis by intubation, it may possibly contribute to the future success of tracheotomy. Deaths registered as croup are mainly due to diphtheria.

British Medical Journal, June 30.

The Application of Pathology to Surgery. HENRY T. BUTLIN.—The author first shows how little surgery owed to pathology in the remote past; in fact, pathology can hardly be said to have existed at all until the time of Morgagni and Hunter, for the latter's operation for aneurysm was the first instance, up to date, of attempted surgical invention founded on pathology by the inventor. The second was of recent times, the Lister antisepsis. At present, the value of pathology to surgery is no longer questioned. The applications of pathology which have been made during the last fifteen years have been so increased and so important that we are coming to have an implicit trust in pathologic foundation. We may be disappointed in our expectations in many instances, and he reviews the means that are at our disposal and discusses the possibility of other improvements. The fact that researches appear to have no direct bearing is not a reason for their rejection, and he quotes in this connection the discoveries of Faraday on electricity and magnetism which seemed at the time purely scientific and yet their direct practical applications at the present time are multitudinous. He believes that many inventions can be made to order, so that when needed, the resource will be at hand. We should require two kinds of pathologic laboratories, one for purely scientific research without reference to its application, and the other for research in applied pathology. He points out that the combination of both of these is practiced in the great industrial establishments of Germany, especially those connected with color industries, where workers are employed at great cost, and original research of every kind, whether of direct importance or not, is encouraged by commercial men who recognize the fact that everything may possess a value.

Degeneration of the Neurone. FREDERICK W. MOTT.—In this lecture Mott describes the effects of injury of the neurone showing that besides the direct Wallerian degeneration there is an effect from want of stimulus upon the nerve-cell itself. He does not believe that the recent studies of Marinesco and Von Gudden are especially contradictory to, or that they annul the validity of, the Wallerian doctrine, and holds that there is no evidence to show that degeneration occurs except in the peripheral portions of the nerves and in the central portion up to the next node of Ranvier unless the injury is so great as to cause such a shock to the neurone that it dies as a whole. In considering the causes of degeneration of the neurone, it is necessary to point out the results of: 1, failure of blood-supply; 2, toxic conditions of the blood; 3, the effect of excess or deficiency of stimulation; 4, inherited defects in the nervous system as a whole or in special parts of it. The effects of anemia have been subject to numerous experiments and he describes the lesions found by Hill after ligation of both the carotids and the vertebral arteries. These cause cell-degeneration and finally destruction, producing also paretic and demented conditions in the animal. This subject has a direct importance, as ligation of the carotid for aneurysm has produced hemiplegia and he has been able to tell by microscopic examinations of specimens of the cortex without a clinical history which side of the body was paralyzed. In experimental anemia of the spinal cord caused by clamping the abdominal arteries, the exogenus fibers of the posterior columns and the pyramidal tracts which have their trophic centers in the cortex do not undergo degeneration like those having their centers in the gray matter of the cord itself. He shows the effects of experimental anemia on the cord and that very slight pressure upon the vessels may produce decided functional symptoms. Hemorrhage of itself may be extensive without causing appreciable changes in the nervous elements. Inanition, even when extreme, causes little or no loss of weight of the nervous system or change of the nerve elements. In wasting diseases affecting the nervous organs the trouble can hardly be due to anything but to their failure to assimilate from the blood the necessary material for their vital energy. They die in reverse order of their evolution: first, the peripheral parts, and last, the trophic and genetic centers themselves. Hyperpyrexia is also mentioned, its effects on the nervous elements considered and the changes found by the Nissl method described. A temperature of 109.5 F. causes coagulation and death of protoplasm and affects first and most markedly the periphery of the cell while the prolonged high temperature of 107 to 108 F. will also do the same. Still it is shown that a certain degree of this coagulation may take place with recovery, and he explains thus the remission of symptoms following the application of cold baths, etc., in certain cases of fever. While he thinks these facts support Osler's view that some of the extreme cases of so-called hysterical hyperpyrexia are fraudulent, yet there are some cases that are impossible to explain, showing that a temperature of even 114 F. for a short time may be compatible with life. The latter part of the lecture is taken up with the effects of toxic conditions of the blood and the selective action of certain poisons on the nervous system.

Lead Encephalopathy and the Use of Diachylon as an Abortifacient. W. B. RANSOM.—The writer reports three cases of cerebral disease due to lead poisoning, two of which were caused by diachylon taken to produce abortion. In these cases there was optic neuritis, headache, in one case ataxia, in another a certain degree of paresis, and epileptic attacks were observed in one instance. Other cases are reported in which lead taken for the same purpose produced the other symptoms of lead poisoning to a marked degree and he thinks that its use for this purpose is becoming a dangerous and widespread practice in England. He says that penny balls of emplastrum plumbi are kept at the druggists and that no restriction is put upon its sale. It appears to be an uncertain abortifacient, always injurious, and is often fatal or leaves permanent bodily or mental enfeeblement.

The Lancet, June 30.

The Primary Disorders of Growth. HASTINGS GIFFORD.—The writer discusses the various growths of hypoplasia, hypertrophy, degenerative hypoplasia and degenerative hyperplasia all represented in the skeletal growth. In the one group hypoplasia and hypertrophy are distinguished by mere defect or excess of normal growth; while in the other all the broad clinical and anatomical features characteristic of degenerative diseases of growth, whatever the tissue may be that they affect, are present. The degenerative hypoplasia of the skeleton is seen to run into degenerative hyperplasia by imperceptible gradations, each being distinguished by characteristics imprinted by age alone. The degenerative hyperplasia is divided into two diseases, according to the tissue; if it affects the hard substance of the skeleton especially it is called "osteitis deformans," if the soft substance is involved it is called "osteomalacia." As a rule these two diseases are well defined, though in all cases both the clinical and material characteristics in the one can be traced in the other. The differences between these are in the main due to tissue, function, sex and age alone. They are due to variations of the part affected and not of the function itself. What has been said of the skeleton and its growth diseases is also true in effect of all other tissues and their growth disorders. All are liable to the same four kinds of disorders and affected in the same way, varying only to the extent that one tissue differs from another, one time of life from another, one function from another and one sex from another.

Use of Mercury in the Treatment of Cardiac Failure Due to Arteriosclerosis. ALEXANDER MORISON.—The case reported is that of a man about 67 years of age, with good habits, who suffered from cardiac arrhythmia, anasarca, very rapid and irregular pulse, and some foul sores on the leg. He was treated with various remedies, but was finally put under the *pilula diuretica* of the hospital pharmacopeia, to be administered three times a day, which consisted of digitalis, squills, blue pill and extract of hyoscyamus, each 1 gr. The improvement was rather rapid, and he was soon put in a comfortable condition. The kidneys in this case were especially healthy, which is an important fact in connection with the use of mercury. The author calls especial attention to the value of mercury in this form of trouble. He thinks that a considerable share of its importance is due to its lowering the pulse tension. He believes the increased permeability of peripheral vessels by a lessening of their resistance is a clinically demonstrable fact, and it is possible to suppose that the combination of mercury (a peripheral dilatant) with digitalis and squills, which are in part central stimulants as well as peripheral contractors, makes it a rational adjuvant to the action of the latter in cardiac failure due to arteriosclerosis.

Brazil Medico (Rio Janeiro), June 1.

Food Value of Tasajo. Mercanti.—The Institute of Hygiene at Buenos Aires announces that the dried and salted beef prepared in South America under the name of "tasajo," or "xarque," contains at least twice as much albuminoid substances as the same weight of fresh meat, while it can be sold in foreign markets for one-half or one-third of the price.

Bulletin de l' Academie de Medicine (Paris), June 19.

Disinfection of Wells with Permanganate. E. Delorme.—The wells used by the regiments during their triennial encampment at Châlons became unfit for use during the interval, and Delorme thoroughly cleansed and disinfected them, using the system of oxidizing disinfection proposed by Mme. Schipiloff, which costs less than twenty cents a well. He measured the depth of the water with a string and weight, and knowing the diameter, calculated the amount of disinfectant required to form 1 per cent. of the cubic contents. The disinfectant used was potassium permanganate, although he observes that calcium permanganate would answer the same purpose. The water was then thoroughly stirred, and at the end of half an hour, when a sample showed the dregs-of-wine stain, a small amount of powdered charcoal and fine sand, sterilized in the oven, was shaken into the well. The water was clear and sterile in three or four days, when the well was entirely emptied. The fresh water that accumulated contained no pathogenic bacteria and the number of microbes of all kinds had been reduced from more than 72,000 to 1,026 per c.c., in one well, which was about the average.

Journal de Medecine (Paris) June 24.

Artificial Fecundation. A. Lutaud.—In concluding a study of the various causes of sterility and the treatment of this condition, Lutaud recommends artificial fecundation as a practical and harmless means of remedying certain varieties of sterility as a last resort, which he hopes will soon take the place it deserves in gynecologic practice. Investigation of the husband's spermatozoa should precede treatment of sterility in all cases. After a normal coitus the wife remains quietly in bed until the arrival of the physician—Lutaud was successful in one instance in which there had been an interval of four hours. He then inserts a Ferguson speculum into the vagina, which collects the semen in the vicinity of the cervix. A small amount is aspirated with a Sims glass canula and a single drop of the fluid is injected into the cavity of the uterus. If the menses recur as usual, it is evidence that there has been no fecundation and the operation is repeated during the following week. If there is no conception after four or five successive attempts, it is useless to continue.

Presse Medicale (Paris) June 13.

Raw Meat in Tuberculosis. A. Sicard.—The effect of "zomotherapy"—as Richet calls his experiments with 328 dogs inoculated with tuberculosis and then fed on raw meat—indicates that the raw muscle juice has a specific, antitoxic power in regard to the tubercle bacillus. The dogs survived on an average 300 days, and some for two and a half years, while the control animals all readily succumbed. Sicard discusses the various theories advanced to explain these facts, and suggests that it would be interesting to determine whether other food elements, cod-liver oil for instance, administered to dogs and guinea-pigs in sufficient amounts, would have an inhibiting action on the evolution of experimental bacillosis; also whether forced ingestion of raw or dried meat would transform the cellular or humoral medium in animals and render them refractory to infection.

June 16.

Treatment of Fibromyomata of the Uterus. S. Duplay.—The writer counsels operating, especially on young women, even in the absence of functional disturbances, when the fibroma is constantly increasing in size, and without waiting for it to attain excessive proportions. Functional disturbances indicate intervention, unless they can be kept under control by therapeutic measures, but phenomena indicating compression or sepsis and torsion of the pedicle demand immediate intervention. He removes the uterus and appendages by laparotomy, not leaving even a pedicle, but drains through the vagina.

Superalimentation in the Treatment of Tuberculosis. M. Letulle.—Careful comparative study of 380 tuberculous patients at the Boucicaut hospital during the last two and a half years has shown that the *cure d' aliments* at the hospital—everything combined to tempt the appetite of the patients with nourishing food—is easily accomplished, is inexpensive and has frequently a most favorable effect at any stage of the disease. Men and the younger patients derive the greatest benefit. The increase in weight is most pronounced during the first four to six weeks. When weight becomes stationary, the patient should be sent to the country, as the hospital has accomplished all that can be expected of it.

Surgical Treatment of Paresthetic Meralgia. A. Chipault.—In three cases of severe, absolutely rebellious meralgia Chipault obtained a complete cure by resection of 3 to 4 cm. of the femoro-cutaneous nerve at the innominate notch. In each case transient improvement was followed by recurrence of the pain after the operation, which gradually subsided, and the cure was complete at the end of the second month. A peculiar feature in each case was the localization of the pains in the territory innervated by the resected nerve, during the exacerbation after the operation.

June 20.

Raw Meat in Tuberculosis. O. Martin.—During the last four months the writer has been administering pulverized desiccated raw meat to his tuberculous patients, and announces that all in the early stages of the disease have been cured by it. The general health and weight improved, the strength returned, the cough vanished and the lesions in the lungs became cicatrized. This improvement has persisted since the meat has been abandoned. The dose was two to four tablespoonfuls, administered for two and a half months, at least. He is convinced that raw meat has the specific, antitoxic power attributed to it by Richet, as mentioned above.

When to Operate in Acute Otitis. M. Lermoyez.—The patient's account is seldom reliable. The skin over the mastoid is also deceptive. Trephining is a necessity in every case of fistula, whether opening into the ear or outside, and also in case of periosteal abscess. Pain on pressure over the point of the mastoid is constant in every acute otitis; at the base of the mastoid it suggests mastoiditis; at the posterior margin of the mastoid it is still more disquieting, and should banish the last hesitation on the part of the surgeon. Torticollis indicates a mastoid abscess burrowing deep in the neck, except in case of lymphatic children with tumefaction of the substernomastoid ganglia accompanying or consecutive to an acute, possibly slight otitis. The adenopathy persists and may induce torticollis, although the mastoid is sound. In case of tumefaction of the soft parts over the mastoid, with edema, examine it every day, and if a point of fluctuation is discovered in the midst of the edema, operate at once. A still more important indication is furnished by the swelling of the mastoid *en masse*, with the skin normal, scarcely to be distinguished except by comparing the two sides, always bearing in mind that the right is normally the larger. Trephine then immediately, as there is every chance that the internal sinus is already bathed in pus. If abundant suppuration persists after a month of rational treatment, and the amount increases, mastoid otitis is certain. If the discharge remains fetid, it indicates some old lesion, generally a cholesteatoma. In this case trephining is insufficient and total petromastoid evacuation is demanded. Otogenic fever, no matter how high, indicates merely paracentesis, if the tympanum has not been sufficiently opened, but if the tympanum is amply incised, otogenic fever of even 38 C., demands trephining. With cerebral symptoms, first investigate whether they are exclusively otogenic, and in this case, merely incise the tympanum; if they persist, trephine the mastoid the next day, but do not go beyond the antrum. If this does not afford relief, open the skull the following day, but always proceed by one step a day. If the ophthalmoscope shows the eye intact, the chances are in favor of "simple meningism;" hyperemia of the papilla warns of approaching cerebral complication, and optic neuritis indicates a developed meningo-encephalitic lesion. Mastoid lesions are more precocious and profound in the otitis due to scarlet fever or la grippe than in that which follows measles or a cold. Hemophilia, advanced diabetes and cachexia, but not meningitis, are contraindications to operation. Instances have been recorded of otitic meningitis cured by extensive trephining of the mastoid without opening the dura. In all doubtful cases of acute otitis, operate, but never make Wilde's incision. It can never do good and may do much harm. It has never cured except in case of mere retroauricular adenophlegmons, and owes its reputation exclusively to errors in diagnosis. Further data for differentiation of an acute mastoiditis consecutive to otitis media are that the spontaneous pain is not affected by mastication; that pain is induced by perpendicular pressure of the surface of the bone: that traction of the auricle does not cause pain; that any swelling of the auditory meatus is situated in the bony part and the tumefaction is lateral, postero-superior, with a single, flat prominence; that the tympanum bulges, and is usually perforated; that muco-pus escapes after irrigation; that the hearing is much impaired, and that periauricular tumefaction does not appear until the second or third week.

Progres Medical (Paris), June 16.

Tubular Saw to Open Cavities of Ear and Face. S. DE MENDOZA.—Operations on the middle ear, the nasal fossæ and sinuses of the face are much facilitated by combining the use of gouge, drill and a "tubular saw," the latter driven by a motor. Mendoza has adapted Stacke's protector to the tubular saw, and with this "protector trephine," as he calls it, operates with exceptional ease, rapidity, precision and freedom from danger.

Persistence of the Thymus. BOURNEVILLE AND KATZ.—The tabulated statistics given in this communication establish that the thymus persists in 100 per cent. of mentally normal children, while it is found in only 27 per cent. of idiots, epileptics and imbeciles. Examinations of the cadavers of 61 children who had died of various diseases at a general hospital, showed a persisting thymus in every case, ranging in weight from 4 gm. between the age of 1 to 6 months, to 6 gm. between the sixth month and third year, and 8 gm. in children above this age to 13 years. The thymus was exceptionally large and red in all the diphtheria cases, weighing 18 gm. in one three-year-old. In Bourneville's research at Bicêtre, on the other hand, the thymus was found in only 78 out of 298 cadavers of mentally deficient children and adults. When found, the weight ranged from 5 to 30 gm., and the age of the subjects varied from 13 months to 18 years and over.

Revue de Chirurgie (Paris), June 16.

Fibrous, Intermittent Polypus of the Rectum. M PERAIRE.—The polypus in the case reported was of the size and shape of an enormous tomato, and hung from the rectal wall by a long stem. It was hard and fibrous and had intermittently protruded during defecation and been easily replaced until it had become too large for reduction. The patient was a woman 38 years of age, and the tumor had been noticed twelve months before, a pregnancy having occurred in the interval. Cases are on record in which such polypi have dropped off spontaneously, but they usually require surgical intervention. The traction of the tumor may induce prolapse, especially in children, and recurrent slight hemorrhages may affect the general health. Fibromyomata occur in the rectum as well as in the uterus and are sometimes mistaken for abdominal tumors. Peraire cites an observation of Senn's in which laparotomy was successfully performed to remove a neoplasm supposed to be in the ovary, but found finally in the rectum, near the retrovesical cul-de-sac. Westermark removed a polypus from the anterior wall of the rectum by anterior celiotomy, but the patient succumbed to infectious accidents. In another case, the tumor extended toward the sacrum and was successfuly extirpated by Kraske's method.

Chronic Proliferating Osteomyelitis of the Bones. B. KOZLOVSKY.—It has been well established that the staphylococcus is the causative agent in chronic, as well as in acute, osteomyelitis. Kocher attributes the variability of its action to the difference in the soil of individual cases. If the soil is not favorable and the germs not very virulent, the affection is mild, suggesting the diagnosis of rheumatism. Very intense action of the staphylococci induces necrosis of the tissues and the formation of granulating foci, with vascular, sclerogenic inflammation in the bone and periosteum, manifesting itself clinically and also histologically as a periosteal or myelogenic sarcoma. Bacteriologic tests alone will determine its true nature. Six observations are related in detail, three personal. One yielded to mercurial treatment, although the patient had no acknowledged syphilitic antecedents. The rest were curetted and drained, with slow recovery. The femur was the site of the lesion in all but one case.

Compression of Kidney by Gall-bladder. E. REYMOND.—Symptoms developed suddenly in a young woman with no antecedents of biliary lithiasis or nephroptosis, which suggested stones in the gall-bladder and also renal distension. A tumor palpated below the false ribs seemed to be a distended gall-bladder, although there was no icterus, but renal colic and oliguria indicated distension of the kidney. A lumbar incision disclosed that the apparently single tumor was composed of the adherent gall-bladder and a movable kidney, both distended, the former compressing the pedicle of the latter. After nephropexy, the renal colic and oliguria vanished at once, but the temperature persisted. Seven days later, the gall-bladder was incised and several calculi removed. The organ was fastened to the skin, and the wound left open for three weeks. Recovery was prompt and complete. If the gall-bladder had been operated on first, the renal lesion might have escaped notice, and it is possible that this coincidence of lesions is more common than is generally suspected. The hydronephrosis had evidently been caused by compression of the pedicle of the kidney, as it was found very dark-colored and as the distension subsided very gradually. Several observations have been published in which gall-bladders impacted with stones have been mistaken for a movable kidney and been treated with supporting bands.

Union Medicale du Canada (Montreal), June.

Congenital Elephantiasis. J. E. DUBÉ.—Delivery of the seventh child of healthy parents in the case reported required repeated efforts with forceps for thirty minutes, and the right leg of the female infant was found much enlarged. It continued to grow in size, until at two and a half months the circumference of the leg from hip to ankle was much larger than that of the trunk at any point. The child is otherwise normal and well developed. Scarifications and compression have slightly improved the condition. About 100 gm. of a limpid, orange-yellow, viscous fluid, which coagulates at once, exudes after each scarification.

Edema of the Lung. J. A. LESAGE.—The prognosis of this serious complication of nephritis frequently depends on the method of treatment. Narcotics are dangerous and should be rigorously avoided. Venesection is indicated at once, withdrawing 300 to 500 gm. of blood, followed by dry cupping on the back and chest; mustard applications to the legs, and subcutaneous injections of large doses of ether, caffein or camphorated oil. A drastic purge is also urgently indicated, and a strict milk diet should be enforced. Alkaline lemonade, or lactose waters, are frequently found beneficial. One very obese patient was cured with a teaspoonful of tincture of ipecac every ten minutes. Another, with a valvular affection, recovered after copious venesection and digitalin.

Grece Medical (Syra) May.

Primary Sclerosis of Bladder. H. DELAGRAMMATICA.—The symptoms of "prostatism" may be simulated by primary sclerosis of the bladder with a normal prostate. It is important to differentiate these two morbid entities; the rigorous measures required in case of enlarged prostate are superfluous when the lesion is restricted to the bladder, as in the observation reported, which had been diagnosed and treated erroneously.

Hysteric Hyperthermia. LAMBIKIS.—An interesting observation of hysteric hyperthermia is recorded, the patient, a young, neurasthenic woman, complaining only of unbearable headache. The pulse was 140; respiration 28, and temperature in the axilla 44 C., or possibly still higher, as the thermometers did not record above this figure. Baths restored the temperature to normal.

Differentiation of Hemoglobinuria. B. M. Mousseos.—During the early stages of hemoglobinuria if there is cyanosis under the nails, and in the face, lips, nose and ears, the trouble is due to ingestion of quinin in 80 per cent. of the cases. This passive congestion may also appear with malarial hemoglobinuria, but it is transient and vanishes with the chill, while in quinin hemoglobinuria it lasts for several hours after the chill, and always appears two to four hours after ingestion of the quinin. The first manifestations are chill, sensation of weight in the lumbar region, slight malaise, fainting and dizzy spells. The urine is black and abundant from the commencement of the chill. These symptoms gradually subside and the urine becomes clear in eighteen to twenty-four hours, the patient feeling as well as usual. In hemoglobinuric malarial fever, on the other hand, the general symptoms increase in intensity or remain stationary; the urine returns gradually to its normal color, but a new attack occurs in twenty-four hours, with aggravation of the general symptoms and dark urine. Mousseos' practice is to administer methylene blue internally in a doubtful case, and continue it for twenty days if there is no recurrence of the hemoglobinuria after the first attack. If the general symptoms continue and the urine becomes dark-colored again, with a chill, injections of quinin are indicated. On the other hand, if the attack is repeated without recurrence of hemoglobinuria the fever is evidently pernicious, beyond the control of methylene blue taken by the mouth, and it must be administered hypodermically. By this use of methylene blue he confirms his diagnosis without losing any valuable time in attacking the malarial parasite.

Mineral Springs at the Temple of Esculapius. A. C. Dambergis.—The recently discovered site of the famous temple of Esculapius at Epidauris contains three alkaline mineral springs, similar to the waters now in vogue for gastric and gravel disturbances, and biliary lithiasis. The strongest spring is located inside the temple. The analysis is given in detail of each spring, showing .665, .558 and .628 mineral elements per thousand, mostly calcium, magnesium and sodium bicarbonates and chlorids.

Centralbatt f. Chirurgie (Leipsic), June 30.

Modification of the Murphy Button. H. Hildebrand.—In order to prevent the button from dropping into the stomach after a gastroenterostomy, Hildebrand makes the gastric half of the button much smaller and lighter than the other portion. The fibrous ring which usually forms around the opening in the stomach holds the gastric portion of the button and has a tendency to force it out into the intestine on account of its rounded top, while the opening is too small to allow the entrance of the larger portion. Kümmel has been using this modified button with satisfactory results. In one case the senile tissues did not form a constricting ring, but relaxed, leaving an orifice so large that the entire button could have been easily expelled if it had fallen into the stomach.

Deutsche Medicinische Wochenschrift (Leipsig), June 28.

Milk Bacteria in the Milk-Thermophore. Dunbar and Dreyer.—The principle of the thermophore is the gradual, prolonged generation of heat by chemical action, and it has been recommended by Frickenhaus and others to keep milk warm at night. Their statements have been comparatively disregarded, as it seemed more than probable that milk kept at the body temperature for several hours would rapidly deteriorate. The Institute of Hygiene at Hamburg has made a careful study of the subject and now announces that there is no increase in the number of microbes in milk kept for ten hours in a previously warmed thermophore. On the contrary, there is a decided decrease in the number, in both raw and Pasteurized milk—especially the latter—until no cultures can be derived from any of the germs. There is consequently no danger of deterioration of the milk in less than ten hours, and the milk-thermophore can therefore be accepted as a valuable acquisition to the technique of artificial infant-feeding.

[The director of the Institute at Hamburg, Dr. Dunbar, is a young American, from St. Paul, Minn.—Ed.]

Transmission of Tuberculosis in Milk. Lydia Rabinowitsch.—In this communication the writer confirms her previous announcements that the milk of cows with latent tuberculosis—with no clinical manifestations and only indicated by the tuberculin test—is liable to contain tubercle bacilli. Tests of milk from eight large dairies showed that those in which the tuberculin test was made systematically on all the animals had no tubercle bacilli in the milk, while they were occasionally to be found in the milk from other dairies in which the cows were tested with tuberculin only when attention was called to them by some clinical manifestation.

Fat-Embolism. H. Ribbert.—The fat-embolism that has been noted after fractures and forcible reduction of ankylosis is due to the jar of the skeleton and not to the local intervention. Any trauma associated with a jarring of the bones is liable to induce fat-embolism. It occurs when an individual jumps from a moderate height and lands with a jar, but in this case it is slight and transient. Fat is found in the lungs of rabbits dropped from the height of a table, or swung against the wall while being held by the ears, but the fat-embolism is less pronounced than in man, as rabbit bone-marrow is not so rich in fat as that of human beings. The fracture, in respect to fat-embolism, is merely an indication that the skeleton has experienced a concussion.

Muenchener Medicinische Wochenschrift, June 26.

Multiple Neuritis. C. Henrici.—Five cases of multiple neuritis were observed by the writer during the last year, illustrating the fact that this affection can be induced by quite different causes: in one by an organic poison—alcohol; in others by an inorganic—arsenic—and in the rest by an infectious disease. The pain was most intense in the alcohol cases, which were also distinguished by cerebral disturbances, two exhibiting the Korsakoff symptom-complex, i. e., rapid forgetting of recent impressions while the memory is surprisingly reliable for remote happenings. It is accompanied by pseudoreminiscences, a kind of deceptive action of the memory or pseudohallucinations. Gudden states that the tangential fibers have disappeared, and that the delirium is the manifestation of the acute cerebral lesion induced by alcohol, and the Korsakoff syndrome of the chronic lesion. In one of the women memory of the occurrences of the last few hours was defective and in the other of the last few weeks. The arsenic case was accompanied by symptoms of ataxia, a pseudoataxia which occurs in other forms of multiple neuritis. The disturbances in the gait of the patient consecutive to an infectious disease resembled those in the arsenic patient after six months of improvement.

Diphtheria Bacilli in Dejecta. J. Schoedel.—The discovery of the diphtheria bacilli in the stomach and intestines and also in the feces, in two cases, suggests the danger of infection from the dejecta.

Improved Medium for Diphtheria Bacillus. J. Schoedel.—Joos recommended a new culture-medium for the diphtheria bacillus, an alkaline mixture of blood-serum, bouillon and agar, in a communication to the *Centralblatt für Bakteriologie*, 1899, xxv, 8 to 10. Schoedel has been testing it extensively and announces that it is a great improvement over other media, as it is transparent, always ready for use and thoroughly reliable. A stab culture will retain its vitality for six months without reinoculation.

Wiener Klinische Wochenschrift, June 21.

Sign of Incipient Arteriosclerosis. F. Friedmann.—When the descending aorta is auscultated from the rear, the sound is heard most distinctly at a point which becomes constantly lower with increasing age. In case of senile involution and of arteriosclerosis at any stage, the sound is most pronounced at a point on a line between the lower corner of the scapula and the second thoracic vertebra. The second aortic sound is most distinct. A groaning sound at the angle of the scapula can, therefore, he believes, be accepted as a direct initial symptom of an arterial affection, constant even in the incipient stages.

Queries and Minor Notes.

MEDICAL PRACTICE LAW OF OHIO.

Oakland, Ill., June 25, 1900.

To the Editor.—Kindly tell me what are the medical practice laws of the State of Ohio, and greatly oblige, A. J. M.

Answer:—Since the first of July an examination is required of all persons desiring to practice medicine in the State of Ohio, with the exception of students already matriculated in Ohio medical schools.

JOURNAL ON ELECTRO-THERAPEUTICS.

Meadville, Mo., July 3, 1900.

To the Editor.—Can you recommend a good journal on electro-therapeutics? If so, I wish you would. H. C. Johnson.

Answer:—We know of no good journal devoted especially to electro-therapeutics.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 29 to July 5, 1900, inclusive:

Raoul A. Amador, acting asst.-surgeon, from New York City to Havana, Cuba, for assignment.

Harold D. Corbusier, acting asst.-surgeon, from Elmira, N. Y., to Manila, P. I., for duty in the Division of Philippines.

John S. Fogg, acting asst.-surgeon, leave of absence extended.

Robert J. Gibson, major and surgeon, U. S. A., leave of absence granted.

Edwin P. Hayward, acting asst.-surgeon, from Nebraska City, Neb., to duty in the Department of California.

Fred T. Koyle, acting asst.-surgeon, from Wellsville, N. Y., to the Division of the Philippines.

Charles H. Latimer, acting asst.-surgeon, from Washington, D. C., to the Division of the Philippines.

Robert S. Linn, acting asst.-surgeon, from Detroit, Mich., to the Division of the Philippines.

Clarence Martin, acting asst.-surgeon, from St. Louis, Mo., to the Division of the Philippines.

Omar W. Pinkston, acting asst.-surgeon, from Kansas City, Mo., to the Division of the Philippines.

Robert E. Sievers, acting asst.-surgeon, from Louisville, Ky., to the Division of the Philippines.

William Stephenson, major and surgeon, U. S. A., to proceed by transport via San Francisco, Cal., and Manila, P. I., to Taku, China, reporting in person to Brig.-Gen. Adna R. Chaffee, U. S. V., commanding the U. S. forces at or near that place.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for week ended July 7, 1900:

Surgeon O. D. Norton, detached from the *Monadnock* and ordered to duty with marines at Taku, China.

Medical Director G. W. Woods, will be detached from naval hospital, New York, and placed on retired list, Aug. 24, 1900, having reached the age of 62 years.

P. A. Surgeon F. C. Cook, detached from the naval hospital, Norfolk, Va., and ordered to naval hospital, Washington, D. C.

P. A. Surgeon J. F. Leys, detached from the *Franklin* and ordered home to wait orders.

Marine-Hospital Changes.

List of changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending July 5, 1900:

Surgeon G. W. Stoner, detailed as temporary medical purveyor during absence on leave of medical purveyor.

Surgeon H. R. Carter, upon being relieved from duty at Havana, Cuba, directed to report at Washington, D. C., for orders.

Surgeon P. M. Carrington, granted leave of absence on account of sickness for 15 days from July 5.

Surgeon G. M. Magruder, bureau order of June 15, directing Surgeon Magruder to proceed to Memphis, Tenn., and assume command of the service, revoked, and directed to proceed to New Orleans, La., and assume command of the service.

P. A. Surgeon H. D. Geddings, detailed as acting director of hygienic laboratory during absence of the director.

P. A. Surgeon A. C. Smith, directed to proceed to New York City (Stapleton) and report to medical officer in command for duty and assignment to quarters. Granted extension of leave of absence for 8 days.

P. A. Surgeon M. J. Rosenau, upon completion of detail at International Congress of Medicine, Paris, France, to visit the Pasteur Institute and other laboratories for special temporary duty.

P. A. Surgeon C. H. Gardner, granted leave of absence for 21 days from July 19.

P. A. Surgeon Rupert Blue, granted leave of absence for 15 days.

Asst.-Surgeon H. S. Mathewson, directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon W. C. Hobdy, directed to proceed to Honolulu, H. I., and report to Surgeon D. A. Carmichael for duty.

Asst.-Surgeon F. J. Thornbury, relieved from duty at San Francisco, Cal., and directed to proceed to Port Townsend, Wash., for temporary duty.

Acting Asst.-Surgeon E. B. Hallett, granted leave of absence for two days from July 5.

Hospital Steward and Chemist W. F. Macdowell, relieved from duty at New York City, and directed to proceed to Havana, Cuba, and report to chief quarantine officer of Cuba for duty as hospital steward and chemist, and special disbursing officer.

Hospital Steward W. W. Kolb, relieved from duty at Norfolk, Va., and directed to proceed to Savannah quarantine and report to the acting asst.-surgeon in charge for duty and assignment to quarters.

Hospital Steward E. B. Scott, upon being relieved from duty at Savannah quarantine, directed to proceed to Washington, D. C., and report at the bureau for duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended July 7, 1900:

SMALLPOX—UNITED STATES

District of Columbia: Washington, June 23-30, 4 cases.

Illinois: Chicago, June 23-30, 2 cases.

Indiana: Evansville, June 23-30, 2 cases; Indianapolis, June 23-30, 1 case; Michigan City, June 24 to July 1, 1 case.

Kansas: Wichita, June 23-30, 6 cases.

Kentucky: Covington, June 23-30, 16 cases.

Louisiana: New Orleans, June 23-30, 12 cases, 3 deaths.

Maryland: Baltimore, June 23-30, 3 cases; Cumberland, June 16-23, 3 cases.

Massachusetts: Fall River, June 23-30, 3 cases.

Ohio: Cincinnati, June 19-26, 10 cases; Cleveland, June 23-30, 10 cases; Portsmouth, June 23-30, 1 case; Youngstown, June 23-30, 2 cases.

Pennsylvania: Pittsburg, June 23-30, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, June 8-16, 8 cases.

China: Hongkong, May 19 to June 2, 1 case.

Egypt: Cairo, May 20 to June 3, 10 deaths.

England: Liverpool, June 8-16, 2 cases; London, June 8-16, 15 cases; Manchester, June 8-16, 1 case.

France: Lyons, June 2-16, 7 deaths; St. Eteinne, June 1-5, 3 cases.

Germany: Frankfort-on-the-Main, June 8-16, 1 death.

Greece: Athens, June 8-16, 2 cases.

India: Bombay, May 28 to June 5, 13 deaths; Calcutta, April 28 to May 5, 40 deaths; Karachi, May 28 to June 3, 12 cases, 7 deaths.

Japan: Nagasaki, June 1-10, 1 case; Osaka and Hiogo, June 2-9, 1 case.

Mexico: Chihuahua, June 8-16, 1 death; Mexico, April 30 to June 17, 164 cases, 100 deaths; Vera Cruz, June 17-23, 7 deaths.

Russia: Moscow, June 2-9, 6 cases, 5 deaths; Odessa, June 8-16, 5 cases; St. Petersburg, June 2-16, 71 cases, 18 deaths; Warsaw, June 2-9, 3 deaths.

Scotland: Glasgow, June 15-22, 66 cases.

Spain: Madrid, May 19 to June 2, 26 deaths.

Straits Settlements: Singapore, May 12-19, 1 death.

Uruguay: Montevideo, May 12-26, 1 case.

YELLOW FEVER.

Colombia: Barranquilla, June 8-16, 40 cases, 18 deaths; Cartagena, June 1-13, 3 cases, 3 deaths.

Cuba: Havana, June 13-20, 8 cases, 3 deaths; Santa Clara, June 21-25, 4 cases.

Mexico: Vera Cruz, June 16-23, 9 deaths.

CHOLERA.

India: Bombay, May 29 to June 5, 51 deaths; Calcutta, April 28 to May 5, 71 deaths.

PLAGUE.

Arabia: Aden, June 2-9, 11 cases, 7 deaths.

China: Hongkong, May 19 to June 2, 170 cases, 157 deaths.

Egypt: Port Said, May 28 to June 4, 135 cases, 57 deaths.

India: Bombay, May 28 to June 5, 131 deaths; Calcutta, April 28 to May 5, 216 deaths; Karachi, May 27 to June 3, 16 cases, 12 deaths.

Japan: Formosa, Tamsui, May 1-31, 379 cases, 279 deaths; Osaka, June 12-15, 1 case; Shidzuoka, June 12-15, 1 case.

Change of Address.

Dr. C. Ampt, from 1067 to 1156 Pearl St., Cleveland, Ohio.

Dr. F. Von Autenried, from New York, N. Y., to care Dr. Chapman, Cheboygan, Mich.

Dr. C. P. Aling, from 701 Congress St., Chicago, to Blue Earth, Minn.

Dr. R. H. Burrell, from Ann Arbor to Manistique, Mich.

Dr. C. Bock, from Ft. Wayne, Ind., to Petoskey, Mich.

Dr. J. R. Birkeland, from 669 Jackson Boul., to 1169 N. Spaulding Ave., Chicago.

Dr. J. R. Ballinger, from 511 Adams St. to 627 Grand Ave., Chicago.

Dr. N. I. Barron, from Adj.-Gen.'s Office to 1828 G St N. W., Washington, D. C.

Dr. M. M. Beers, from Chicago to Stevensville, Mich.

Dr. L. P. H. Bahrenburg, from Pemberville, Ohio, to cor 19th Ave and 83d St., Bath Beach, Brooklyn, N. Y.

Dr. J. W. Carpenter, from 908 E. McMillan St., Cincinnati, Ohio, to Rock Ridge, Watch Hill, R. I.

Dr. C. Cone, 70 Park Ave, Asheville, to Green Park Hotel, Green Park, N. C.

Dr. J. H. Crawford, from Martin to City Hospt., Augusta, Ga.,

Dr. S. C. Carson, from London, Eng., to Greensboro, Ala.

Dr. W. F. Carver, from Doud Bldg. to Oleson Bldg., Fort Dodge, Iowa.

Dr. B. J. Callahan, from Dakota City to Humboldt, Iowa.

Dr. J. C. Davis, from Iron Duff, N. C., to Jackson, Texas.

Dr. A. M. Earel, from Bloomington, Ill., to Alma, Neb.

Dr. A. B. Engstedt, from Denver, Colo., to 1711 Dodge St., Omaha, Neb.

Dr. F. F. Fowle, from 213 S. Hoyne Ave., Chicago, to So. Milwaukee, Wis.

Dr. O. H. Foerster, from Philadelphia, Pa., to 239 29th St., Milwaukee, Wis.

Dr. R. N. Filiatreau, from 643 2nd St. to 17th and Bank Sts., Louisville, Ky.

Dr. D. V. Gleysteen, from Dubuque, Iowa, to Holdrege, Neb.

Dr. B. F. Gay, from Price to Tilden, Neb.

Dr. E. H. Garrett, from Fresno to 349 N. Main St., Los Angeles, Cal.

Dr. H. B. Graeser, from Des Moines to Kensett, Iowa.

Dr. E. C. Hixon, from Cambridge to Nonquit, Mass.

Dr. A. S. Hudson, from 230 Tremont St., Boston, to 39 Channing St., Newton, Mass.

Dr. G. Hinsdale, from Philadelphia, Pa., to The Nonantum, Kennebunkport, Me.

Dr. S. D. Hosford, from 3419 W. 31st Ave. to 2801 Douglas Pl., Denver, Colo.

Dr. F. L. Hupp, from Wheeling, W. Va., to Hulett's Landing, Lake George, N. Y.

Dr. W. H. Johnson, from 107 Wentworth St., Charleston, S. C., to Univ. of the South, Dept. of Surg., Sewanee, Tenn.

Dr. O. A. Johnson, from Drawer N to Drawer 1111, Kansas City, Mo.

Dr. J. F. Kearns, from Evans to La Junta, Colo.

Dr. O. A. Kellogg, from Owasa to Blairsburg, Iowa.

Dr. A. O. J. Kelly, from 1934 to 1911 Pine St., Philadelphia, Pa.

Dr. I. B. Lyon, from 75 Niagara St. to 531 Franklin St., Buffalo, N. Y.

Dr. F. T. Leys, from 42 Clifford St. to 138 Lafayette Ave., Detroit, Mich.

Dr. J. M. Littlejohn, from Kirksville, Mo., to 405 Washington Boul., Chicago.

Dr. W. W. Lynch, from Galveston to Plano, Texas.

Dr. R. K. Morton, from Baltimore, Md., to 4421 Samson St., Philadelphia, Pa.

Dr. O. F. Maxon, from Chicago to care Wabash Ry. Hospt., Springfield, Ill.

Dr. C. P. Murrell, from 1322 Market St. to City Hospital, St. Louis, Mo.

Dr. J. R. McCurdy, from Philadelphia, Pa., to West Penn. Hospt., 28th St., Pittsburg, Pa.

Dr. E. W. Meis, from Zwingle to Dyersville, Iowa.

Dr. O. A. Newhouse, from Battle Ground to Hillsdale, Ind.

Dr. R. G. Olson, from 948 S. Robey St., Chicago, to 56 Erickson St., Muskegon, Mich.

Dr. R. R. Price, from Pittsburg, Pa., to New Cumberland, W. Va.

Dr. J. C. Potter, from Lombard St. to 1113 Lombard St., Philadelphia, Pa.

Dr. C. R. Park, from 308 Washington Ave. to Board of Trade Bldg., Scranton, Pa.

Dr. J. M. Roadman, from 131 W. College St. to 835 Holly Ave., St. Paul, Minn.

Dr. G. M. Roberts, from Eureka to Lake, Ind.

Dr. A. L. Sherman, from New York to East Chatham, N. Y.

Dr. W. G. Schauffler, from Lakewood, N. J., to The Wannbek, Jefferson, N. H.

Dr. J. C. Sessions, from 2434 Stevens St. to 2518 3d Ave. S., Minneapolis, Minn.

Dr. E. R. Steen, from Joliet, Ill., to Wheatland, Ind.

Dr. R. E. Stone, from 1 Austin St., Buffalo, N. Y., to care H. B. R. & E. R. R., Hammond, La.

Dr. W. J. Stapleton, Jr., from 57 Howard St. to 176 Lafayette Ave., Detroit, Mich.

Dr. T. J. Thorson, from 2422 Wabash Ave., Chicago, to Scandinavia, Wis.

Dr. J. M. Tirrell, from 526 W. 28th St. to 3339 Park Ave., Minneapolis, Minn.

Dr. M. B. Tinker, from 1533 Pine St., Philadelphia, Pa., to Johns Hopkins Hospital, Baltimore, Md.

Dr. A. M. Underwood, from Lancaster, Pa., to Grove Beach, Conn.

Dr. D. W. Van Gilder, from 740½ W. Adams St., Chicago, to 1307 Welton St., Denver, Colo.

Dr. R. H. Wright, from Charlottesville to Petersburg, Va.

Dr. J. H. Woodward, from New York to "Midwood," Long Lake, N. Y.

Dr. H. G. Wood, from 912 N St., Washington, D. C., to 125 N. Maryland Ave., Atlantic City, N. J.

Dr. W. F. Ware, from Bloomfield to Moulton, Iowa.

Dr. W. C. Williams, from Washington, D. C., to Rawley Springs, Va.

Dr. M. H. Yeaman, from Henderson to care Central Ky. Asylum for Insane, Lakeland, Ky.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the AMERICAN MEDICAL ASSOCIATION. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive THE JOURNAL free. Subscribers to THE JOURNAL may become members of the ASSOCIATION without additional expense if they are members of medical societies recognized by the ASSOCIATION. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to THE JOURNAL, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to THE JOURNAL for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this ASSOCIATION and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the ASSOCIATION. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the ASSOCIATION or either of the Sections, unless specially instructed to the contrary by vote of the ASSOCIATION." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in THE JOUANAL OF THE AMERICAN MEDICAL ASSOCIATION is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by THE JOURNAL when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "JOURNAL AMERICAN MEDICAL ASSOCIATION," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, JULY 28, 1900. No. 4.

Address.

LARYNGOLOGY AND OTOLOGY.

ADDRESS OF CHAIRMAN.*

CHRISTIAN R. HOLMES, M.D.
CINCINNATI, OHIO.

It gives me much pleasure in opening this session of the Section of Laryngology and Otology to note the proportions to which these specialities have grown. They are no longer the weak sprouts from the parent trunk, but have become sturdy branches bearing rich fruit. As the branch, however, can not flourish unless it is in healthy communion with the parent tree, no more can these specialties bring forth the best results unless their devotees are well grounded in and continue to keep in close touch with their great parent—General Medicine. They have even grown to be such sturdy children that at times they can not sit together, for on February 3, of this year, the Laryngological Society of London unanimously passed the following resolution: "That it is desirable that at all international congresses there shall be full and separate sections for laryngology and otology." Whether the youngest child, rhinology, is to sit alone, or be taken under the wing of one of the other sections, and if so, which one, is not mentioned.

LARGER RECOGNITION BY MEDICAL COLLEGES.

This development has been in the face of many difficulties, and the lack of recognition of the value of these branches and the inadequate provision of teaching facilities is still apparent. Even in scientific Germany, which so freely gives state support to every interest of medicine, and with no stinting hand bestows honor and compensation upon her intellectual sons, in order that they may be able to give their best efforts and years to science and indirectly aid the prestige and prosperity of the nation—even here we find that these departments are not accorded their proper standing in the university curricula. Particular attention has been called to this by Prof. A. Barth, at his induction as professor at the University of Leipsig last July. At present it is not compulsory in the German Empire for the medical student to include otology, laryngology or rhinology in the examination for his degree. Ophthalmology is classed with the surgical division: said division being separated into four parts, of which three are given to surgery and one to diseases of the eye; it is to be hoped that in the near future similar provisions may be made for our triad. It is true that Germany is well provided with splendid clinical facilities for these branches—filled with an abundance of surgical material. Perhaps there would be less if all her physicians were compelled to acquire at least a rudimentary knowledge and fair appreciation of the evils resulting from neglect of affections involving the nose, throat, and ear.

Professor Barth has formulated the following propositions:

1. Every university should have a chair for these departments, with the necessary teaching facilities, i. e., a clinic, a polyclinic, and a laboratory. 2. The occupant of said chair shall have a seat and voice in the medical faculty. 3. It shall be obligatory upon students to attend the lectures and pass an examination in the diseases of the ear, nose, and throat.

Considering the above conditions, we have cause to congratulate ourselves upon the position accorded these branches in this country. Nevertheless, let us not be too self-satisfied, for it is still a fact that with few exceptions these specialties receive far less didactic and clinical attention than one is led to believe by looking over the various college announcements. A year ago I made special inquiries in this direction and was surprised to find how few lectures were devoted to this branch in some of our foremost colleges—a condition partly due to the fact that the science of medicine is steadily growing, and there is not time to qualify in all departments.

PROGRESS SHOWN BY LITERATURE AND INSTRUMENTS.

That the activity in this special field is ever increasing, is evident by the amount of literature upon this subject which has appeared during the past year. This includes several hundred contributions to journals, in addition to larger works briefly outlined below.

ENGLISH.

D. Braden Kyle, "The Diseases of the Nose and Throat," a work that has at once been accorded a high rank both in this country and England.

The fifth edition of Lennox Browne's classical work, "The Throat and Nose."

"The American Text-Book of Diseases of the Eye, Ear, Nose and Throat." Edited by de Schweinitz and Randall. The last three subjects are to be issued in a separate volume.

C. G. Coakley's "Manual of Diseases of the Nose and Throat."

St. Claire Thompson, "The Cerebrospinal Fluid: Its Spontaneous Escape from the Nose, with Observations on Its Composition and Functions in the Human Subject."

S. S. Bishop's "The Ear, Nose and Throat, second edition.

E. B. Dench's revised edition of "Text-book on Diseases of the Ear."

Drs. Head and Andrews, "The Year-Book of the Nose, Throat and Ear."

James Hinshelwood, of Glasgow, "Letter, Word, and Mind Blindness."

GERMAN.

E. P. Friedrich's "Rhinology, Laryngology and Otology, and Their Relation to General Medicine."

A. Rosenberg's "Diseases of the Mouth, Throat and Pharynx." Second edition.

M. Hajek's "Pathology and Therapeutics of the Accessory Cavities of the Nose."

"Encyclopedia of Diseases of the Ear." Edited by Louis Blau, in Berlin, and contributed to by sixty-one other aurists of note.

Jankau, "Vade Mecum for Specialists in Diseases of the Ear, Nose and Throat."

---

*Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

E. Von Bergmann, "The Surgical Treatment of Brain Affections," a work of much interest to the otologist.

Danziger, "Deformities of the Palate and Their Relation to the Nose, Eye and Ear."

Prof. E. Hitzig has contributed a valuable article in Nothnagel's "Pathologie u. Therapie," on "Vertigo."

Dr. R. Kayser, "Diseases of the Lymphatic Pharyngeal Ring." This work was jointly begun by Kayser and the late Professor Gottstein, and first appeared in Heymann's "Handbuch des Laryngologie u. Rhinologie."

ITALIAN.

Prof. Gherardo Ferreri, "Manuale of Therapeutic and Surgical Treatment of the Ear."

Of new instruments and modifications of old ones there are a goodly number, all of them more or less valuable. There is need of a practical hot-air apparatus which will furnish the operator hot air under a pressure of from 5 to 25 pounds, dry or moist, and of any temperature he may desire. Several instruments aiming at this have been produced, but I have not seen any that answer all of the requirements. The great difficulty is that the moment air under pressure is liberated it instantly cools, owing to expansion.

REGARDING DEAFMUTISM.

In England the question has again been agitated whether marriage between deafmutes should not be interfered with. Twenty-three per cent. of deafmutes marry in this country; in Europe from 7 per cent. to 12 per cent. Marriages of congenital deafmutes result in 12 per cent. of deafmute children. The percentage of deaf-born children has been placed by various authors at from 30 to 48. These statistics, based largely on the statements of parents, are far from reliable, and the percentage no doubt is much too high. We know to-day that many children become deaf at a very early period of their existence, through inflammation of the middle ear, the direct result of catarrhal changes, or secondary to inflammation of adenoids; if the deafness occurs during the first six months, then it is generally assumed to be congenital. Kerr Love states that he found no special physiognomy to mark deafmutes excepting that in 75 per cent. the appearances characteristic of postnasal growths were present. I have made a careful examination—by mirror where possible, otherwise by touch—of 450 deafmutes in the Illinois State Institute at Jacksonville and found an abnormal development of the third tonsil in 231, or over 50 per cent.

RECENT PROGRESS IN THERAPY.

Favorable results from solar rays as a healing agent in tubercular ulcerations of the throat have been reported by A. Abrahams. Heroin still continues to gain in favor as an anodyne remedy in coughs and irritation of the mucous membrane of the respiratory tract.

Protargol has also come to stay. The best results from its use are obtainable in chronic pharyngitis and atrophic rhinitis, in 1 per cent. solution: and in 5 per cent. solution in empyema of the antrum of Highmore.

Nirvanin, the chlorid of orthoform, is recommended as a local anesthetic and convenient substitute for cocain. It is claimed by Luzenberger to be non-toxic, and can be used in 10 per cent. solution. Its claims for recognition must, however, await more extensive trial.

Rethi recommends the negative air-douche as an aid in diagnosis and treatment of disease of the accessory cavities.

Whether to use heat or cold in acute inflammation of the mastoid is still under discussion. On the whole it appears that the advocates of the application of cold have been rapidly losing ground. I am a firm believer in the application of heat, but I do not apply it by means of hot bags or poultices—limiting it to the very frequent use of large quantities of water at a temperature of 110 to 120 F. as a douche in the external canal, the elevation of the douche to be only enough above the ear to cause a free flow.

Matthaei, of Danzig, recommends as an important aid in the treatment of affections of the nose, throat and ears, deep inspirations—to the very limits of inhalation—with closed mouth, and with retention of the respired air for 1/4 minute, or if walking, during six or eight paces. The exercise should be continued as long as possible.

The use of formalin in weak solutions is still undetermined. In the treatment of vegetable parasites of the mouth the use of alcohol in 50 per cent. solution has brought out most flattering reports. I have used it in my practice during the past 6 months in the above-mentioned strength as a mouth wash and gargle; in full strength as a spray in chronic inflammation of the nose and pharynx, and in the postnasal douche in the strength of one of alcohol to five of water—with sufficiently good results to warrant further investigation.

Fischerich has again brought forward the intratympanic injection of a 2 per cent. aqueous solution of pilocarpin muriate in middle-ear sclerosis, beginning with 6 drops and gradually increasing to 16. From 30 to 50 daily injections constitute the course. His results in 120 selected cases have been very satisfactory.

E. Baumgarten advocates Schleich's method of infiltration combined with local cocain anesthesia in operating upon deviations and ridges of the septum, as it reduces the amount of hemorrhage. That this method is inferior to the use of suprarenal extract and cocain is evident to all who have used the latter.

Suprarenal extract is a most valuable acquisition to our list of therapeutic agents, but is still on probation to determine its real value. Its field of usefulness is much restricted by the tendency to hemorrhage hours after its use. Dr. Mayer rightly maintains that it is better to have whatever loss of blood there is to be at the time of the operation, when the operator is still present with all facilities at hand to control it, if need be; than to invite its occurrence some hours later, when skilled aid may be hard to find. It is well enough to bear the following points in mind, as given by Dr. W. H. Bates:

1. The solution of suprarenal extract should be freshly prepared for each operation, as after 3 hours at 70 F. it usually shows a change in color and becomes less active. 2. We can not show a percentage of strength with any degree of accuracy, as we do not know the amount dissolved. 3. It soon becomes offensive from the growth of bacteria and may then cause infection. 4. The activity of the suprarenal extract is lessened by mixing it with other substances, including cocain. 5. Dr. J. J. Abel has isolated the active principle of the suprarenal, which he finds to be an alkaloid, and has named it epinephrin. The bisulphate of epinephrin in about 1 per cent. solution is active and non-irritating and is said not to undergo decomposition.

As an anesthetic, ethyl bromid has been both praised and condemned. The chief argument against it is that its action only lasts from 2½ to 3 minutes. A fresh preparation must be used each time, as it is very volatile and liable to decomposition, causing changes which render its use unsafe.

G. P. Head, in the "Year-Book of Nose and Throat," states that two deaths have been reported from chloroform during adenoid operations. Three years ago I encountered a number of adenoid cases where the anesthetic caused unpleasant, and in a couple of instances, alarming, symptoms. The cases had all been properly prepared by rest and diet before the operation. Since then I have used exclusively Merck's chloroform, and have never encountered any unpleasant symptoms.

PROGRESS IN ETIOLOGY, DIAGNOSIS AND TREATMENT.

Danziger has called our attention to the fact that persons with defects of the membrana tympani might, while diving or swimming, have the water enter the perforated ear with such force as to cause dizziness and nausea, after the manner experienced by some patients when their ears are being syringed, and that this condition may sometimes be the real cause of the patient's drowning. There being no visible proofs, death is generally given as due to heart failure or cramps.

Whether Graves' disease is due to an affection of the thyroid gland or of the nervous system appears still a subject of speculation.

Guye, Lannois and Tournier have reported upon agoraphobia and believe disease of the ear to be a causative factor.

Rischawy calls attention to the fact that while inflammation of the inferior turbinated is most frequently the cause of tear-sac affections, chronic inflammation of this duct can result from hypertrophy and pressure of the middle turbinated body—often favored by dehiscence of the bony canal at this point.

A point of much interest, and one that it would be desirable to have verified by other observers from different sections of the country, is brought out by E. C. Ellert, of Tennessee, who states that adenoids do not occur in the negro. It has also been claimed that the negro is exempt from granular conjunctivitis.

Rhinologists are still at variance as to the origin and treatment of ozena. As to origin, it appears to be narrowing itself down to one of two causes: Some believe it to be of trophic origin, perhaps having its point of beginning in the bone. Cozzolino believes the bacillus mucosus develops simply because of the favorable field, and brings about two of the most disagreeable symptoms —fetidity and crusts. There are, however, many who believe that ozena is only a secondary manifestation due to disease of the accessory cavities. Where local treatment only has been adopted, cupric electrolysis appears to have yielded the best result. In the treatment of hypertrophic conditions in the nose there has been a steady decline in the use of the galvanocautery. While nearly all admit that the galvanocautery has a limited field of usefulness in intranasal work, it is rapidly being supplanted by clean, surgical operative procedures.

Kicer's article on the accessory sinuses, based on 200 post-mortems, is highly instructive in showing how frequently the sinuses are involved; but the most important point of all is his conclusion drawn from so much material—that puncture of the frontal sinus from the cavum nasi is a decidedly risky procedure, the probe as a rule entering the sinus only after piercing several cells, and in a number of instances penetrating the lamina cribrosa and entering the cranial cavity without the operator knowing that the probe had taken the wrong direction.

Treatment of chronic empyema of the maxillary antrum and sphenoid sinus is still yielding but little satisfaction. Whether the transplantation of epidermal strips by Thiersch's method, into the thoroughly curetted cavity, will bring us better results, still remains to be proved. I saw Dr. Jansen make a number of these operations last autumn and from a surgical standpoint it seems this method ought to yield a much greater percentages of cures than the old way. Jansen encountered much difficulty in preventing the accumulation of secretions causing maceration and often loss of the transplanted flaps. This marvelous operator now enters the sphenoid cavity by means of long narrow chisels, passing through the posterior wall of the antrum into the sphenoid cavity. I performed the operation a number of times upon the cadaver, but must say that I have scarcely the courage to do it upon the living when handicapped by bleeding, etc., preferring to make the opening through the nose.

The chiseling off of the entire anterior wall of the frontal sinus, as practiced by Kuhnt, Grunnert and others, appears to me, excepting in rare cases, an unjustifiable operation because of the resulting disfigurement, as the frontal sinuses can be thoroughly entered from either side of the median line through the floor and anterior wall of the cavity.

Hendelsohn's carefully conducted experiments to demonstrate the reaction of tonsillar tissue to pulverized substances, when blown on or injected into their substance, led him to the conclusion that the tonsils are not protective organs, but, on the contrary, being receptacles of infective germs, their removal, if abnormal, is indicated, not only in the interest of easy respiration and deglutition, but to obviate infective diseases.

That the operation for adenoids should be radical and under some form of general anesthesia is now the opinion of most operators. That the presence of adenoids adds to the gravity of the disease in diphtheria is shown by Plottier's investigation of the bodies of 38 children who died from that disease. He found adenoids present in 50 per cent.

Jessen refers to the fact that large masses of cervical lymphatics that resist all ordinary methods of treatment disappear promptly after the removal of nasopharyngeal adenoids.

This condition is frequently seen, but I must confess that I never quite realized its full importance as a diagnostic sign until of late, when I operated upon two children in whom this condition was pronounced. Being in daily contact with them I studied all of the symptoms carefully, and noted especially that although the adenoids did not interfere with respiration, the glands on the side of the neck fluctuated very much in size with every fresh catarrhal attack. The glands disappeared promptly and permanently after the operation.

Pifll, who investigated 100 cases of hyperplastic pharyngeal tonsils mostly from Zaufall's clinic, advises in case of the least suspicion of tuberculosis to remove the pharyngeal tonsils at once, and radically; particularly if swollen lymphatic glands are on the neck. At the last meeting of the Gesellchaft der Kinderärzte, in Moscow, Dr. Sack presented this subject in a masterly manner. He believes that the "glandular fever" described by Pfeiffer in 1889 is probably an acute adenoiditis—this condition at times assuming a subacute character with fever, pus-resorption and cough, lasting weeks and even months.

The reported results of operations upon the larynx for malignant growths are very gratifying. Gluck, for instance, reports that in his last 26 operations for carcinoma of the larynx he has had 23 cures. Felix Semon has also published an article giving similar results. Dr. Garelle has perfected an apparatus by means of which he can produce stereoscopic photographs of the condition of the larynx—full credit is given to French of

Brooklyn. F. Von Mangoldt has reported four successful cases where he transplanted costal cartilage into the larynx for the cure of severe stenosis and defects. Dr. Alapi has also reported a case of larynx stenosis cured by skin-transplantation by Thiersch's method. Dundas Grant calls attention to the fact that in a large number of cases laryngeal inflammation is associated with, or secondary to, nasal disease.

The osteoplastic opening of the mastoid after Kuster is still a very recent operation. That it will receive much encouragement at the hands of other operators I believe is doubtful: if used at all it will largely be limited to acute cases, requiring only the classical operation. His claim that the flaps offer a good opportunity for the tampon in case the sinus or dura mater is injured during the operation is not worthy of serious consideration. Many of our German confrères still practice the leaving of a large post-auricular opening after radical mastoid operations. Some are in favor of leaving the opening permanently; while others close it by a plastic operation after one or two years, provided there has been no return of the disease. This opening is very unsightly, especially in men, who can not cover these parts after the manner of women, and excepting in rare cases I fail to see the need of it. In 115 radical operations including the usual variety of cases, I have not found it necessary to leave a single one permanently open, and all have recovered with a canal larger than before the operation, permitting free inspection of every portion of the cavity. The transplantation of skin grafts into the cavity after the radical operation, either by Thiersch's method or pedicled flaps, shorten the process of epidermization very materially; but it still remains to be proved whether or not the hearing power of the ear is less than it would be by the old method; because a thicker epidermis may form over the stirrup and round window. Also whether, in certain cases, the leaving of the hammer and anvil in the radical operation will give better results, remains to be seen by practical demonstration upon a larger number of cases.

NEUROLOGY AND MEDICAL JURISPRUDENCE.*

ADDRESS BY CHAIRMAN.

HUGH T. PATRICK, M.D.

CHICAGO.

On assuming the chair of this Section I desire to express my keen appreciation of the honor conferred upon me and my recognition of the disproportion between officer and office to be filled. Knowing full well that neither unusual scientific attainments nor long years of service entitle me to this distinction, I none the less feel free to avow the liveliest satisfaction with my present position. However pleasant may be the approving eye of the public, however gratifying the laudation of medical students, and however dear the affection of grateful patients, surely sweetest of all is the confidence of one's associates: the men who know; the men who can estimate another at his real worth; who can recognize good work and detect superficiality at a glance; who peer into scientific lacunæ and are in a position to note professional backslidings as well as personal merit. When, therefore one is chosen by his confrères to preside at their deliberations, he should feel as does your chairman—grateful, proud and happy.

After a thoroughly honest and rather prolonged effort to prepare a statement of the recent advancements in the branches belonging to this Section, as required by the Constitution, I frankly acknowledge my inability to do so within the limits of an address restricted by law to forty minutes, but which should not exceed twenty. During the last year there has been no single pre-eminent discovery in our department. Advance has been general, accomplished by thousands of workers in many fields, and an attempt to cover this in a short address would either produce a puerile *index medicus* or result in invidious distinctions unworthy of a fair mind and misleading to the reader. Unwilling to deliberately perpetrate either fault, I have consigned most of my work to the much-cheated waste-basket, and shall confine myself to a few suggestions and remarks considered to be germane to this Section, its work and members.

I would first respectfully suggest that the name of the Section might well be changed so as to omit "medical jurisprudence" as an integral component. Early in the movement which brought forth the Section now known as that of Neurology and Medical Jurisprudence, the aim was to include nervous and mental diseases, but the officers and leaders of other Sections, recognizing that much of their best matter might be taken from them, opposed the proposition so strenuously that defeat seemed assured. Rather than capitulate, the promoters promptly executed an orderly and temporary retreat by accepting a Section on Medical Jurisprudence alone, since nobody wanted that, and it was willingly turned over to the neurologists, alienists and medical experts. This was in 1886. In 1890 their second forward movement accomplished the addition, or rather prefixion, of neurology, and for a decade the title has remained unchanged.

An examination of the records for the last ten years shows that in the work of the Section, medical jurisprudence has taken a relatively unimportant position. Of the total 444 papers announced, 64 may be reckoned as belonging to this department, but of these 39 related to the medicolegal relations of nervous or mental affections, and thus would naturally fall to a Section on Neurology and Psychiatry, leaving only 25, or 5.6 per cent. coming to this Section because it was that on Medcal Jurisprudence. During the same time 125 papers on topics coming under the general head of Psychiatry, including inebriety, hypnotism and psychology, have been announced; that is, 28 per cent., exactly five times the number on forensic topics, excluding nervous and mental disease. Even without these figures, it must be perfectly evident to any one who has observed the matter at all, that the great strength of this Section lies in its neurologists and alienists—men who are only casually or secondarily medical jurists. In fact, I very much doubt if the subject of medical jurisprudence should be assigned as an entity to any Section of the Association. Would it not be more reasonable and successful to allow and encourage each Section to consider that particular phase of legal medicine which would naturally be of interest and profit to its members? The legal bearings of oöphorectomy are of importance to the gynecologist, while this special surgeon cares little about the forensic relations of cataract, and the neurologist can well afford to ignore both. Furthermore, while nosologicaly, medical jurisprudence may be said to be a well-defined department or branch, be it of medicine or of law, in the practice it has not attained to the dignity of a specialty in either profession. There are practically no physicians who confine their efforts to legal medicine, and the subject is particularly connected with no special line of work. To repeat, then, I would submit to you the question of changing our name to "The Section on Nervous and Mental Diseases," or "The Section on Neurology and Psychiatry."[1]

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

However ambiguous the paternity and connections of medical jurisprudence, there can be no question as to the standing of neurology and psychiatry—speaking of them combined as constituting a single branch of medicine. This specialty is the legitimate child of increased medical knowledge and the inevitable differentiation involved in evolution. At least, no one of those who know best can deny that the specialization of this part of practical medicine is absolutely necessary for the better understanding of nervous and mental diseases and for the best results in their treatment. Yet, strange as it may seem to most of us, there are many physicians who seem to think that, however interesting neurology may be as a study, and even useful in the discovery and elucidation of esoteric technicalities, it has no necessary place, and hence should play no vital part, in everyday practice and teaching—and this in face of the fact that most physicians, surgeons and specialists are almost obtrusively willing to acknowledge their ignorance of the nervous system and to deplore their inadequate instruction as students in its diseases. Since every neurologist and alienist knows this ignorance to be so ubiquitous as to be pathetic, and since he knows, too, that no professor of internal medicine is now thoroughly competent to teach nervous and mental diseases, is it not his duty to the public and the profession to see to it that his specialty is accorded proper recognition in the practice and in the schools? The ophthalmologist is not slow to insist that no general practitioner, that no general surgeon, is warranted in operating for cataract. With equal propriety the gynecologist frankly asserts that certain operations must be attempted only by the man of peculiar training and skill. No one will say that more time, talent or industry is necessary for the making of a good oculist than of a good neurologist; yet, while our eyes, thank God! are cared for by the oculist, the nervous system in the public, in the profession and in the medical school is largely attended to by any indifferent man. To be sure, in the schools may generally be found a clinical or associate chair, simply a sop to common sense, while from other chairs the neurologic teaching of a quarter of a century ago goes merrily on.

Any neurologist to whom it comes to quiz the graduating class of a medical college or a collection of practitioners, will find the trail of the serpent over them all —the serpent of ignorance let loose by professors of general medicine, gynecology, surgery and what not—who are allowed by medical faculties to dabble in subjects with which they are only half acquainted or of which they have no knowledge. Here is the whole explanation of the crude and misty ideas of neurology which hamper rather than help the young practitioner.

But while insisting on the absolute necessity of the recognition of neurology in schools, if the young physician is to have knowledge of nervous disease commensurate with his needs, it may not be amiss to remind the exponents of our department that the class-room is not a court for airing anatomical minutiæ, unconfirmed discoveries and recondite theories, but is the place for the preparation of young men to assume the duties and responsibilities of the practitioner of physic.

Co-ordinate with the art of practical teaching is the art of practical practice, and back of both must be the art of practical investigation. If the position of the neurologist in institutions of learning is to depend on the utility of his teaching, his position in the active profession will rest largely on his usefulness as a practitioner, and there would seem to be some room for improvement in this respect. In some quarters it is almost the fashion to say that the nervous system is marvelous to contemplate and the neurologist a clever diagnostician and very erudite gentleman withal, but that he never cures anything. A most unjust sneer, because he is the means of curing many maladies, but even if he were not, he would still have ample field for usefulness in preventing and correcting the monstrous blunders of his detractors.

And yet, where there is so much smoke there must be some little fire. Are we not too much engrossed in the study of stains, tracts and symptoms? Sworn devotees of the healing art, are we not abusing our energies in the pursuit of new maladies and the mere vagaries of disease? Official healers of men, some of us become veritable pathomaniacs, blind to the patient, seeing only the pathologic process. To get a side light on this subject I have gone to a few of the leading neurological journals. In one year of the *Neurologisches Centralblatt* there appeared 70 original articles and 811 abstracts. Of the original papers only one may be counted as devoted to therapeutics; of the abstracts, 49. In the *Deutsche Zeitschrift für Nervenheilkunde* for a year were 46 original articles, not one of them on treatment. Two volumes—about two years—of the *Archiv für Psychiatrie und Nervenkrankheiten* contained 61 original contributions, of which one was on a therapeutic subject. The *Archives de Neurologie* for a year presented 37 papers, 2 on treatment. In two volumes—two years—of *Brain*, I found 54 originals, none on a therapeutic topic. The *Journal of Nervous and Mental Disease* for a year contained 46 originals and 222 abstracts. Of these, no original was devoted to therapeutics and only 25[2] of the abstracts were. That is, in six of the leading neurological journals of the world only 2.2 per cent. of the original contributions related to the cure or alleviation of disease, and counting the abstracts, largely taken from journals not neurological, the proportion of therapeutic topics reached only 5.4 per cent. Do not these figures show that in our eager search for knowledge and praiseworthy desire to be scientific, we are neglecting our more utilitarian function?

The proposal made by your chairman of 1897,[3] that the secretary should be continued in office for two years or more, seems to be a wise one—although it ill becomes the present chairman to say so—and I wish to add a suggestion or two which seem to me to be along the same logical line. As a secretary is sure to profit by his own experience and by familiarity with the men interested in the work of the Section, so may he profit by the experience and personal knowledge of previous officers and of strong men of the Section. I freely confess that as secretary and as chairman, I have been keenly alive to the responsibility of the position, and have been most uncomfortably conscious of my incompetency to make perfect preparation for the meetings, and thus attain ideal results. Even the Pope, graduated into his position by virtue of pre-eminent genius and after years of laborious apprenticeship, prayerful education and ripe experience, is considered to be infallible only after mature consultation with the college of cardinals. Hence, it seems to me eminently fit and practicable, as conducing to wiser decisions, more effective policy and particularly to compactness of organization, that before the adjournment of each meeting there should be a consultation of the incoming officers with the executive committee and a few of the wiser and more experienced members. Not only would such consultations contribute materially to the success of the following meeting, but a repetition of them, I am sure, would materially aid in making this Section one of the strongest in the Association, and the minutes of such committee meetings, carefully made and preserved, would be invaluable to incoming officers year after year.

---

[1] This suggestion was carried out, and the name changed to Section on Nervous and Mental Diseases.

[2] Twelve of these I contributed.

[3] Dr. W. J. Herdman, Ann Arbor, Mich.

And this leads me to another point. When, raw and callow, I first assumed the duties of secretary, I was astonished to learn that not a line of record, correspondence, instruction, precedent, hint or suggestion descended to me from my predecessor. For fourteen years motions had been made, amended, lost, carried and had quietly slipped into oblivion, leaving no trace behind. Policies had been endorsed and rejected, resolutions adopted, committees had been appointed, had reported and been discharged, and not a minute made. I submit to you that this is a slipshod way of conducting affairs and not calculated to breed good executives.

Without your sanction I have ventured a small beginning. As retiring secretary I transmitted to Dr. Pearce the complete correspondence of two years, with a short series of programs, upon which were marked those men who had been present to read papers. You know there is a certain small contingent of members who are always willing to announce papers and as regularly default. They are to be religiously shunned, but the secretary can not do this unless he knows who they are. I have also purchased for the Section an indexed blank book, in which the secretary may make such records and entries as may seem proper and advisable. And as a token that, although our place of meeting and officers change annually and our active membership is more or less floating, our organization is yet permanent and we a unit, I beg to present to the Section a plain gavel, suitably marked, which I hope may descend from chairman to chairman through many successive years of ever greater prosperity of the Section on Neurology and Medical Jurisprudence.

Original Articles.

POST-FEBRILE INSANITY AND ITS TREATMENT.*

FRANK PARSONS NORBURY, M.D.

JACKSONVILLE, ILL.

All disorders that affect general nutrition of the body may affect the mind. The brain, the organ of the mind, is sensitive to nutritional changes, and when these are profound they may permanently affect the mind's nature. The imperceptible fluctuations of brain nutrition have concomitant fluctuations of mental action, and these physical processes, if carefully studied, reveal to us that there is physical basis to mind. The physiology of mind need not be discussed here nor need we wander into the psychologic labyrinths to study the relationship of body to mind. It is only necessary to state, whatever is the organic process of mental action, its basis is, like that of other elements, in the cell. The brain-cell has its organization and its nutrition; perversion of either causes disturbance of function. This disturbance when changing the routine and characteristics of an individual mental life, we sometimes call insanity. But do not let me have you infer that insanity is alone perversion either in organization or nutrition of brain-cells, for that would imply that mind essentially was the direct function of the brain, when in reality mind is a constitutional function, a function of the organism as a whole; that is, that every organic function of the body has representation primarily or secondarily in the whole we call mind. Hence, in dealing with mind disease we are dealing with the body in disease. This fact should impress the metaphysically inclined alienist with the thought that to treat the mind we must treat the body, and he who would succeed as an alienist must first, last, and all the time be an internalist, in touch with the progress being made in internal medicine. Especially is this necessary in handling the mental disorder, post-febrile insanity, which we are now to consider.

In view of the foregoing remarks, there is a cardinal principle in internal medicine which we may take for our text, because of its applicability, and that is, "that disposal of the waste products is essential to the health of the cell." Healthy metabolism is the keynote to bodily health. Burchard has shown that abnormal metabolism always precedes infection and what renders possible the development of disease is not the chance meeting of man and microbe, because we are constantly assailed by pathogenic bacteria, but it is due to the diminished resistance—the modification antecedent to nutrition—the failure of nutrition; in short, abnormal metabolism which permits infection to enter, to remain undisturbed and to grow and multiply. The morbid opportunity is grasped, and nutritive activity being perverted, infection results. The study of infection is one of the recent triumphs of modern medicine and should concern every physician, for the possibilities of practical application derived from the patient and exhaustive researches of the laboratory worker extend to every department of medicine. Welch says, "there is now tolerable unanimity of opinion as to the meaning attached to the terms infection and infectious diseases. Most recent authorities understand by infection the condition produced by the entrance and multiplication of pathogenic micro-organisms within the body. An infectious disease is one which is caused by the invasion and reproduction within the body of pathogenic micro-organisms."

We will not, however, attempt to discuss immunity and susceptibility, and while we will not deny the importance of a thorough understanding of the biology of bacteria, yet we are concerned principally in the effects of infection. Every infection should interest us, and the perplexing problems of infection to-day should be studied that we may contribute our mite to their pathology. Again, as alienists and neurologists, we meet with the clinical results of infection, showing the rôle which the nervous system plays in this field of study. Ernst[1] quotes the conclusions of the exhaustive review made by Mills along this line. They are as follows:

1. Specific infection must be included among the causes of mental diseases and of symptoms which precede, accompany, or follow febrile or other infectious disorders.

---

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Twentieth Century Practice, xiii, 200.

2. Much negative evidence can be adduced in favor of acute delirium being due to toxemia, such evidence is afforded by autopsies, which reveal neither gross nor histologic lesions; and in these cases the toxemia probably overwhelms the patient before the production of meningitis or other disease.

3. Analogies to nervous affections, which are known, or believed to be of microbic origin, such as multiple neuritis, myelitis and chorea, favor the view that insanities with similar or related phenomena and lesions are also microbic in origin.

4. The evidence afforded by careful bacteriologic investigations of acute insanity is thus far too meager but shows that various micro-organisms may induce the same or similar types of mental disease.

5. The mental disorders of pregnancy and the puerperal state are probably in a considerable proportion of cases, toxemic, without reference primarily to childbirth; but it can not be regarded as proved that a bacillus of eclampsia or puerperal mania is a sole cause of these affections.

The psychic and nervous troubles, then, which may originate from toxemia are many. The manner of causation is primarily by means of the absorption of products of the various pathogenic processes. The perverted nutrition brought about by the febrile disease makes possible conditions in which certain substances elaborated by the living organism are modified—either by their disproportioned existence, or by reason of this disproportion abnormal substances are allowed to be generated and retained, thereby becoming toxic substances, and produce poisoning more or less severe. "The augmentation of normal substances either by increased formation or retention can induce quite a series of accidents," some of which are uremia, asphyxia, cholemia, etc. Many of the new products resulting from faulty metabolism are capable of producing intoxication. As examples we have eclampsia, coma, epilepsy, etc. This intoxication, or toxemia, is now being exhaustively studied both at home and abroad. The excellent work of Christian A. Herter, of New York, is especially instructive and valuable. Regis has made a clinical study of the psychoses of autointoxication, to which we will refer later.

HEREDITY.

Heredity bears a position in the etiology of post-febrile insanity which, in a sense, may be called tentative, inasmuch as the insanity is not a true heritage in post-febrile insanity. The obscure tendencies only partially revealed under the stress and strain of disease may be the simple result of the toxemia. However, there are certain individuals possessed of a neurotic weakness and a physical instability easily influenced by febrile diseases. This condition, due to a flaw in the germ-plasm, seems to be easily disturbed, either by the febrile process alone or by its toxic products. The result is, certain persons become delirious under moderate fever, others are practically insane during the continuance of infectious fevers, and some women become insane during the puerperal stage at every childbirth. Again, the toxic products of metabolism affect certain individuals profoundly, as in gout, rheumatism, etc. Neurotic temperament is a foundation for alienation following febrile disease. It is an error in breeding, a flaw in generation and about the only true hereditary factor in the etiology of post-febrile insanity.

RESIDENCE AND OCCUPATION.

It has been my experience that residence is a factor in causation of post-febrile insanity, but only as regards location being favorable in the production of the febrile disease. For example, I have seen insanity follow malarial fevers; the home of the individuals being in the malarial belt of Illinois. So-called typhomania is dependent on typhoid fever and this in turn on poor hygiene, municipal or domestic. Occupation is an etiologic factor only in the same relationship.

TYPES.

The nature of the mental disease, post-febrile insanity, varies. It has no distinctive form, varying with individuals, and in the same individual at different times. I had one patient, who, following typhoid fever, had acute mania of a violent type, but following influenza he developed melancholia. The types usually seen in post-febrile insanity are acute mania, acute melancholia, recurrent mania, and sometimes general paralysis. The psychoses of autointoxication are classed by Regis[2] under a single head, "confusional insanity." He says, the psychoses of autointoxication have a special symptomatology and a characteristic type. On this account I wish to briefly state his results, that it may aid us in differentiating types. The symptoms upon which he lays special importance are headache, which is often initial in its feature and may be prolonged throughout the attack. It may be paroxysmal and so severe as to produce delirium. The second important symptom is insomnia, which is also early and constant in its manifestations. Less frequently convulsive attacks are encountered, also pupilary changes, reflexes, increased tremor, irregular pulse, cyanosis, skin changes, flushings, cold extremities and sallow compexion. He classes the cases as follows: 1, simple asthenic confusion; 2, acute and subacute mental confusion; 3, mental confusion with stupor; 4, subacute confusion of a pseudoparalytic type.

The types of post-febrile insanity may in a measure follow the same classification, except that there seemingly is a wider range of alienation in the cases following infectious fevers as compared with those following autointoxication from other sources. The effects of the toxemia, whether it be from the direct action of the pathogenic bacteria or their toxic products, or from autointoxication, are: 1, to depress function, this depression ranging from contusion to profound melancholia with marked delusions; 2, to stimulate function, causing over-excitation of mental processes, delirium, loss of inhibitory control, incoherence, to grave cases of acute mania with profound exhaustion; 3, to impair function by intracellular changes, and finally, to abolish function and produce paralysis. The pseudoparalytic to the true general paralytic state.

The severity of the attack of post-febrile insanity seemingly has no apparent relationship to the severity of the febrile attacks, as I have seen cases of acute mania follow a mild attack of facial erysipelas and a case of mild melancholia follow a prolonged siege of typhoid fever.

Again, the time of the appearance of the insanity may vary: thus, it may appear while there still lingers a vestige of the fever, the delirium of the fever merging into a true insanity. A boy aged 19 who had a mild attack of typhoid fever, running the usual course, developed true insanity four days after his morning temperature reached normal, and his evening temperature only one degree above. Acute mania resulted, from which he recovered at the end of three months. In a case seen in consultation following erysipelas, the mental disease did not develop until five days after subsidence of the fever, and acute melancholia resulted, lasting nine weeks. Another case, following influenza, developed melancholia a week after the febrile attack. We may notice that other sequelæ of fevers develop at the same time that the mental disease is in evidence; thus, in one of my patients phelgmasia dolens and insanity followed typhoid fever. Another case of acute mania following measles in an adult developed pneumonia, and death followed about the fifth day. Another case of measles in an adult, with melancholia, developed acute nephritis, and finally died of uremia. It may be of interest to state here that I have noticed in my experience that occasionally an acute infectious fever attacking a patient already insane, promotes recovery, or temporarily causes mental improvement. Thus in a case of chronic mania after acute lobar pneumonia, the patient recovered his reason, having been insane seventeen years. Another case of acute melancholia had erysipelas, and during the febrile stage was himself in every way; his complete recovery followed speedily after the erysipelas.

---

[2] American Year-Book, 1900, p. 421.

DIAGNOSIS.

The diagnosis of post-febrile insanity under ordinary conditions is not difficult, especially when following typhoid fever, and I may add erysipelas. In typhoid fever, the peculiar typhoid state is stamped upon the individual, and in the great majority of cases, melancholia is the type of insanity. However, I have seen in consultation several cases in which maniacal excitement was especially pronounced, and two cases presenting the physical symptoms of the paralytic form—a pseudoparetic state, distinguished from genuine paresis by the pupilary symptoms, the speech symptoms, and the absence of characteristic vibratory trembling of the tongue, although motor weakness may extend to the facial muscles. Again, the characteristic delusions of paretic dementia were absent, and instead, a mild delirium, with incoherence, was present. Another feature of diagnostic interest is the fact that many cases of beginning post-febrile insanity first manifest mental symptoms at night, being comparatively lucid during the day. Gradually a change is noticed, the hallucinations become more vivid and delusions appear. Delusions of a persecutory nature are more common in cases following typhoid fever, and it not infrequently occurs that suicide follows such attacks. I have known of three suicides in post-febrile cases in private practice; two by drowning, and one by jumping from a window. Post-febrile insanity has a true vesanic foundation and it is to be distinguished from the constitutional degeneracies. This is usually easily done by considering the history and general symptoms presented by the case. What may be termed a pseudoparanoia may result as a sequela of influenza—I have seen in consultation two such cases, in which the delusions were systematized and persistent, but later, with the restoration of bodily health, the delusions gradually faded away and finally disappeared; the patients making good recoveries. The use of modern laboratory methods will cast light upon obscure symptoms in differential diagnosis. A blood-count and microscopic study have been of great aid to me. These, with urinary analysis, should be followed in all cases as a part of the systematic routine of clinical examination.

PROGNOSIS.

The prognosis in all cases of insanity should be guarded, as it is difficult to measure the hereditary factor, and, again, the accidents of mental disease should be considered. In post-febrile mental disease occurring in adults with a good family history, and free from any diathetic associations, the prognosis is generally good. Especially is this true of melancholia, but patients with acute mania exhaust themselves rapidly and the natural exhaustion of insanity added to the already debilitated state of the patient makes the prognosis in such cases guarded. But, upon the whole, the prognosis is good in the average case.

TREATMENT.

The treatment resolves itself into proper care, good nursing, a systematized routine, and good hygienic surroundings. Some cases do well at home, but ordinarily they are better off in a well-regulated hospital or special institution. The nursing is of special importance, and in cases following typhoid fever, the routine should be that observed in the care of ordinary typhoid cases, to which is added the care and protection needed to combat the insane features of the case. A more liberal diet is a feature in the care of insane cases differing from ordinary convalescence from typhoid fever. Bushuyer, a Russian, gives a more generous diet to his ordinary cases of fever than we are accustomed to give in this country. He, probably, is too enthusiastic, yet, experience teaches that a liberal diet can be given, provided we treat the patient and not the disease. In the words of Shattuck, "feed him with reference to his digestive power, rather than solely or mainly with reference to his fever." It is to be expected that both skill and ingenuity will be needed in order to properly feed and nurse a post-febrile case; to this end all of our efforts should be centered. It is imperative that due regard be given to elimination, and a proper regulation of the secretions; then as nutrition becomes re-established, the patient will gain in weight, and gradually the mental symptoms will clear up. In many cases it becomes necessary to enforce rest, and in acute mania this must be assiduously secured, else the patient exhausts himself speedily. A modified rest-treatment is to be recommended in cases of a melancholy type, especially after convalescence seems to be pending. There should be no "hard and fast rule" as to rest-treatment; it should vary with the needs of the patient. Massage is indicated in many of the apathetic cases; it promotes nutrition and in some cases will induce sleep. In the true cases of autointoxication, elimination must be promoted by liberal use of aperients, diuretics, and, if necessary, brisk cathartics. The urine should be carefully measured and an analysis made so as to determine its quantity and quality. The percentage of urea should be observed and a microscopic examination made to determine the presence of casts. I saw during the past winter two cases, in consultation, both of whom presented symptoms of autointoxication and had been treated as such, but a more careful diagnosis showed acute nephritis. Uremic poisouing had caused the mental symptoms. Plenty of water is indicated in such cases, both internally and externally. In my hospital cases, I urge a sponge-bath daily, followed by brisk rubbing. Good drinking water is urged on all occasions. As to drugs, I use only such sedatives as are absolutely necessary. Of these, opium and hyoscyamus I use principally, and only in sufficient quanity to produce the sedative effect. Most cases of post-febrile insanity demand tonic treatment from the beginning; iron in easily assimilated form and arsenic are indicated. The anemia is best met by the use of arsenic; iron and strychnia are valuable adjuvants. Other tonics, especially the mineral acids combined with nux vomica and pepsin, or the malt preparations with tonics, are also valuable. In adolescent female cases iron and manganese make an excellent combination.

As convalescence progresses, some active exercise may be encouraged, such as walking, riding and light gymnastics. When convalescence is established, and not until then, travel may be suggested. Traveling with a convalescent post-febrile case is not safe, and suicides occur among such patients.

PRACTICAL PHYSIOLOGY OF THE DIGESTIVE ORGANS.*

A. L. BENEDICT, A.M., M.D.
Professor of Physiology and Digestive Diseases, Dental Department, University of Buffalo.
BUFFALO, N. Y.

In this paper it is the intention to allude to some well-known physiologic principles and to describe certain details not so well recognized, all with reference to their application in digestive practice. It is obvious that such a consideration, to be even fairly brief, must be disjointed and incomplete.

1. *The Mouth and Salivary Glands.*—The importance of mastication and insalivation is an old story. While admitting it, I am skeptical as to the chemical value of salivary digestion. While, by very elaborate mastication of dry cereals, J. H. Kellogg has been able to accomplish the conversion of considerable quantities of starch into sugar, as ordinarily carried out, even by careful eaters, only the small proportion of soluble starch of the very light test-meal is digested. Some animals are quite lacking in ptyalin, and I believe the principal function of the mouth and salivary glands to be mechanical. It may be of interest to know that pytalin will convert small quantities of cane-sugar into a sugar that reduces an alkaline solution of $CuSo_4$. Several investigators have conducted elaborate experiments to ascertain just how much HCl is required to inhibit carbohydrate digestion by pytalin. In general, these investigations may be summed up as follows: Pytalin digestion normally continues during the first hour of gastric digestion, or, in fact, till HCl secretion reaches its normal maximum.

To what extent is it necessary to administer artificial diastase in failure of starch digestion in the stomach? In view of the fact that, normally, only small quantities of starch are digested before the intestine is reached, it would seem rational to conclude that the mere failure of pytalin digestion is not an indication for diastase. If the starch simply does not digest, as in hyperchlorhydria, let it alone till the pancreatic ferment strikes it. If it ferments, treat the bacteria and fungous activity in the stomach, preferably by administering HCl. If there is a well-marked indication for superalimentation, then there exists the only possible indication for artificial diastase, unless the amylopsin is lacking, and this condition I have diagnosed only once, in a case of Addison's disease.

Regarding sugars, there is a physiologic puzzle that awaits a solution. Starch is digested only into maltose either by pytalin or amylopsin. Maltose is a double hexose—$C_{12}H_{22}O_{11}$—like cane-sugar, and lactose, both of which are foods of considerable quantitative importance. All of them are converted into dextrose and levulose by the inverting ferment of the intestinal glands. Certainly some of these double hexoses must be absorbed before the intestine is reached. Do they exist as such in the portal blood? Are they changed in passing the gastric epithelium? Is there a hepatic or hemic ferment to convert them into glycogen? Do they pass through the liver into the general circulation?

The activity of the salivary glands in excreting such substances as the iodids has been adapted to the test of gastric absorption. After administering a capsule of KI, the drug is normally detected in the saliva within fifteen minutes. A delayed appearance has been considered proof of delayed gastric absorption. In one of my patients, in whom it appeared only after an hour, I found that the capsule would not dissolve in water, but required digestion, so that the iodid test was really one of proteolysis. In some very serious cases, I have found that the iodin went the round of the circulation and was eliminated in the saliva with normal promptness. On the whole, the test is so artificial and depends on so many unknown factors that it has little practical value.

2. *The Esophagus.*—Some years ago, while listening for deglutition murmurs at the cardia, it occurred to me that the time of the passage of water through the esophagus, between the elevation of the hyoid and the sound at the cardia, might afford an indication of the rate of peristalsis in general. With a little experience, the average time will be learned—it is about 8 seconds—and a marked delay is almost invariably associated with gastric atony, dilatation, ptosis or intestinal sluggishness. However, I have recently examined a case in which the esophageal peristalsis was normal, but in which there exists marked constipation.

The esophageal mucus resembles that of the cervix uteri, in being tenacious and stringy. It is a most excellent lubricant, and it is entirely unnecessary to lubricate the stomach-tube, though it is well to moisten it. The appearance of esophageal mucus in considerable quantity sometimes indicates that the tube has kinked, and explains the failure of lavage. In a recent case, the gastrodiaphane, having a rigid tip two inches long, turned in a roomy esophagus, from which 250 c.c. of slime was regurgitated during the attempt to pass the instrument through the cardia. The normal esophagus will just about admit a No. 11 tube, although some will allow the passage of food, or at least a breaking of the vacuum beside the tube. Patients with roomy esophagi have usually been in the habit of bolting their food half masticated. A practical question in this connection is as to how large an object a baby can swallow. He has been seen playing with some article which has disappeared; has it gone into the stomach? Even infants may take an adult-size stomach-tube, and I am inclined to think that they may swallow smooth and approximately spherical objects of a diameter up to one-half inch. If a child or adult swallows a quantity of solid objects—for example, bits of glass, corn or vegetables having indigestible seed-coats, the pits of fruits, etc.—when may we expect the appearance of the foreign body at the anus? From some slight experience and much study, we may lay down the rule that, there being no diarrhea, the first of the foreign matter will appear in twenty-four hours, the last at the next day's passage.

The esophageal murmurs are commonly described as first and second, only one being present. A clearer and simpler way of stating the thing is that the sound made by liquids passing through the cardia varies from a sharp squirting to a low gurgle, according to the force of peristalsis and the degree of contraction of the cardia. The sound is of slight diagnostic value.

---

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

3. *The Stomach.*—Probably every one who has given much attention to this organ will agree that if we could know but one fact regarding it, we should choose to be informed as to its acidity. There is no longer the least doubt that the normal secretion is of hydrochloric acid, along with pepsin and rennin. A long list of series of experiments with various meals allows the general statement that, after an ordinary meal, there is a period of from one to two hours, according to the size and nature of the meal, before the capacity of the proteids is reached by the acid secretion. From this time on there should be a small excess of HCl, and, provided the excess is not sufficient to irritate the stomach, the exact proportion is not a matter of importance. While HCl is undoubtedly an antiseptic, it is not very markedly so in a proportion so small as not to irritate the mucosa, and the fermentation in achlorhydria is rather due to lack of digestion of proteids and to the usual concomitant failure of peristalsis than to direct lack of antiseptic. After a light meal, however, such as the test-breakfast, there should be found, after an hour's preliminary digestion, more than a trace of HCl, not because more is needed for that particular meal, but because the stimulus of food should call forth something like the normal quantity of HCl secretion. Just what this excess should be is a matter of controversy. Gastric juice contains about 20:10000 of HCl, and this may be taken as the maximum of free hydrochloric acidity which should be found in the chyme. Is it correct, following what might be termed the Boardman-Reed school, to call hyperchlorhydria every case in which the chyme after the test-meal contains more than about 10:10000 of free HCl? If so, we shall find hyperchlorhydria a comparatively common neurosis, and we shall find an excess of HCl in connection with quite a considerable organic acidity, in numerous instances. The opposite view, to which the writer subscribes, is that a case should not be called hyperchlorhydria unless there is at least the amount of free HCl found in normal undiluted gastric juice, or unless there is an excessive dilution of the food with gastric juice of considerable hydrochloric acidity and unless the HCl is clearly the cause of symptoms of irritation. According to this view, hyperchlorhydria can not coexist with any appreciable degree of organic acidity, except occasionally on account of the introduction of food already fermenting or very prone to fermentation. The difference of definition is not entirely a matter of terminology, as, according to the conception of the case, one might administer HCl, another alkalies, and both can not be right. The real question is whether, in these cases of gastric irritability, the HCl is the irritating factor or a conservative one. Löwenthal, quoted by Alois Pick, of Vienna, in a pamphlet on gastric hyperesthesia, introduced 250 c.c. of 3 to 10 per cent. solutions of HCl and lactic acid respectively, into the stomach, through a tube, and allowed the solutions to remain from one to several minutes. These solutions, varying from fifteen to fifty times the strength of normal gastric juice, produced no sense of burning or pain, although the stomachs were hyperesthetic to substances produced in the course of digestion. Hence, it seems conclusive that the HCl is not the irritating factor, unless organic fermentation can be excluded, and that we should not use the term "hyperchlorhydria" nor oppose the hyperchloric secretion, unless organic acidity is nearly absent and hydrochloric acidity surpasses the standard of gastric juice, i. e., 20:10000.

Text-books are surprisingly non-committal regarding the amounts of free or combined HCl, and of total acidity to be expected under normal conditions. Using dimethylamido-azobenzol as an indicator for free HCl, alizarin as an intermediate indicator and phenolphthalein for the total acidity, I should place the degrees of acidity, meaning the ratio of decinormal solution of monobasic alkali to the quantity of chyme used, about as follows: Total acidity, 50 to 100; combined, 20 to 30; free HCl, 20 to 50. Free HCl should be about half the total acidity.

When, a few years ago, Boas announced that the formation—not the presence or introduction—of lactic acid in the stomach was pathognomonic of carcinoma, most Americans accepted the statement as gospel truth. Some few of us were skeptical enough to exclaim: "How can lactic acid, which can be produced from almost every food except pure fats and oils, by any one of six or a dozen different bacteria that may be present in the stomach, be pathognomonic of cancer or of anything else?" But it required much tedious labor to disprove the assertion. Like every fallacy, this statement does contain a germ of truth. Lactic acid is the most conspicuous product of fermentation in the stomach. While practically always present in traces, the disease which most frequently and uniformly results in marked gastric fermentation is carcinoma and especially that of the pylorus, with secondary dilatation and stagnation of gastric contents. But there may be carcinoma without lactic-acid excess, or vice versa.

A very practical suggestion for the busy physician is whether stomach contents change materially after withdrawal, so that the results of examination would be vitiated by delay. From numerous experiments, comparing titration tests immediately after withdrawal and at the expiration of several days, I am able to state that, if cooled immediately to 40 F., very slight changes of any kind occur within two or three days, though there is a gradual absorption of free HCl by proteids, with corresponding increase of acid albumin and, possibly, of albumose.

While HCl fluctuates according to trivial exaltations or depressions of gastric function, pepsin and rennin are always present in gastric juice in sufficient quantity, except in the gravest gastric conditions, carcinoma, anadenia and achylia due to severe constitutional states, such as Addison's disease, according to a personal observation, and probably high grades of fever and the antemortem state. It is usually said that, if rennin is present, pepsin is also, and thus the simple experiment of curdling milk may be substituted for the more tedious one of digesting albumin. I have observed a case of carcinoma in which the rennin test was normal, but albumin was not digested, even after adding HCl. Ptyalin, by the way, is practically never lacking, according to 1000 experiments by Ewald, and I can add my mite in corroboration. The practical deduction is that ferments are very rarely indicated as aids to digestion. Certainly, they should not be given unless their lack has been actually demonstrated, and, in such exceptional instances, the chances are nine out of ten that the stomach and bowel are in no condition to act as digesting cavities, even with artificial aid, and that predigested foods should be given instead of ferments.

It was formerly believed that the stomach emptied into the intestine, all at once, several hours after a meal, but we have long known that the emptying takes place in waves, beginning within a few minutes after a meal and continuing at intervals of a few minutes throughout gastric digestion. The portions allowed to pass the pylorus are semi-liquid and quite completely digested, according to the standard of thoroughness of the stomach, which is not very high. Personally, I am inclined to believe that further observations will show that there is exceedingly little absorption through the glandular membrane of the stomach, and that the potassium-iodid test really marks the first peristaltic wave into the intestine, provided that the gelatin capsule is rapidly soluble. The salol test for gastric motility usually results positively three-quarters of an hour after taking the powder, and this, I have shown, is the case whether the powder is given immediately at the conclusion of a meal or at some other time. Some years ago I made a thorough study of this test, including not only personal observations, but the work of others, with the following conclusions: The test can not possibly represent an emptying of the stomach, though it may theoretically correspond in time to the average motility of this organ; the very conditions which are prone to accompany delayed motility, diminished hydrochloric acidity and catarrh, allow the absorption of salol from the stomach (Cornil); the test does not agree with the other more reliable clinical observations; no reliance can be placed on it unless in such extreme instances that the existence of stagnation is already evident. Ewald, to disprove these views, ligated the pylorus of dogs and found that absorption of salol did not take place. These experiments, however, are fallacious, because: 1, the animals were presumably healthy, there being neither diminution of HCl secretion nor mucous excess to favor the absorption of salol from the stomach; 2, the shock of such an operation would naturally prevent absorption, according to all surgical experience.

A very practical question regarding gastric peristalsis is as to its excitability by electricity. Experiments on this point, by Einhorn, Meltser and others, are somewhat contradictory. All, however, agree to a very practical extent. Contractions can be readily, though slowly, produced, if one or both poles are applied to the peritoneal coat of the stomach, and they either do not occur at all or only infrequently if one pole is within the stomach and the other on the skin. On account of clinical experience I abandoned this method seven or eight years ago. More recently, having a patient who insisted on its use, I connected a stomach-tube with a bubble manometer, which, although simple and not adapted to quantitative estimates, is very sensitive. After several séances, we were convinced that, while respiration affected the endogastric pressure considerably, the faradic current had not caused a single peristaltic wave, though a few had occurred during the séances. In vivisections, I have frequently been able to confirm the belief that gastric peristalsis, due to faradism, even with both poles on the serous coat, is tardy, slow and slight and by no means equal to that produced by mechanical irritation.

An ingenious but fallacious method of judging of absorption, etc., depends on quantitative examinations applied to chyme, after the introduction of known quantities of certain substances. For instance, to prove that soluble solids, but not water, are absorbed from the stomach, a sugar solution of known percentage is introduced. After an hour, the stomach is thoroughly emptied and the liquid quantitated. The invariable result is a diminution of percentage, after allowing for the additional amount of water introduced in thoroughly cleansing the stomach. But this diminution is inevitable from the fact that some sugar is lost by a passage through the pylorus, while water is added by secretion of gastric juice. For instance, in a case of hyperchlorhydria, I found 500 c.c. of chyme an hour after a test-meal amounting altogether to only 250 c.c. Similar, but less striking results are often noted. Huber's oil test, consisting in the estimation of oil remaining after an hour and intended to afford information as to gastric peristalsis, lacks this theoretical error,but it is extremely difficult to remove every particle of oil by lavage, nor is it possible to deduce information as to how the stomach will deal with ordinary food from observations as to how it responds to a stimulant of peristalsis, like oil.

INFANT-FEEDING.*

ALEXANDER McALISTER, M.D.

CAMDEN, N.J.

There is no more important subject in the domain of preventive medicine than that of infant-feeding. While the melancholy fact remains that a third of all infants born, largely because of improper nutrition, die before the completion of their third year, the abundance of literature on this subject constitutes no sufficient reason why it should not again and again be taken up. On the other hand, the infant mortuary records plead piteously that the subject be not laid aside as threadbare. It is not merely on a par with the most important subject in preventive medicine, but is itself the most weighty in this branch of the sanitary sciences. Not merely the life and well-being of the infant and child, but those of the adult and generations yet to be born are most vitally influenced by proper feeding of the infant. That real progress has been made in our understanding of the subject no one endeavors to say. That we are better able to cope with the needs of so great a problem than they of the former generation many are fondly hoping. Yet when the more or less completely theoretical is brushed aside and the practical weighed in the business balances, the progress made in life-saving appears alarmingly visionary. Our clear conception of the chemistry of human milk in all its minutiæ has failed to give us a synthetic breast milk capable of producing precisely the same physiological effects as the natural product; and it is essential that this fact be more generally recognized and made the basis of action.

Mother's milk for mother's baby affords human food for a human being, and will go farther to solve the vexing problem of a persistently high mortality among infants than all the chemical erudition in the world. A recent German writer has well said that the natural food of infants is not vegetable, but animal, and that proper digestion and nutrition depend more on the biology than on the chemistry of the food taken.

The purpose of this paper is to plead for a closer adherence to, and a stronger advocacy of, Nature's method of feeding on the part of our profession. Two forces are to be combated in this connection, if we would make genuine advances. The first is the present alarming disinclination on the part of mothers to breast-nurse their offspring, and the second is the clamor for commercial supremacy in the sale of artificial foods. These are mutually independent, each taking advantage of the other. Young married women wish no offspring, and finding themselves mothers, they shirk the vitally important duty of committing themselves to the highest interest of the child. It may be her false modesty, the pressure of social functions, the desire to return to her former employment in the office, storeroom or mill, or her wish to place the immediate care of the child into the hands of a skilled nurse, that prompts the mother in this course. In this she is abundantly encouraged by the multiplicity of so-called infant foods and the manner in which they are advertised to the public. Her false logic that whereas only the mother can care for a breast-nursed infant, anybody can attend to the bottle-fed, is sustained by the sight of scores of fat babies' photographs used to exploit the merits of an artificial food. Since fat babies are by no means of necessity healthy ones or such as possess a normal measure of resistance to disease, this is also a real force to be combated. Breast-nursed infants may or may not be fat, but the chances are that they are robust and fleshy, which is better. They are not exposed, as are hand-fed infants, to a great many common sources of infection; and when exposed they have greater powers of resistance. Cow's milk, which of necessity enters more or less into the composition of the food of all hand-fed infants, is peculiarly adapted to absorb all sorts of impurities and convey infection. From the time it leaves the udder of the cow until it reaches the nursing-bottle it unavoidably meets sources of contamination and naturally invites infection wherein exposed. When we consider how manifestly unhygienic are the surroundings of the average dairy stable, and how perfect a culture-medium milk is to some pathogenic bacteria, we may well marvel that the mortality of bottle-fed children is not vastly higher. To control this prolific source of infection previous sterilization or pasteurization is universally recommended, but what proportion of hand-fed children receive such milk? The stoic truth of the matter is that both the necessary equipment to sterilize the milk properly, and the patience and skill required to persist in such sterilization days and weeks and months, and it may be years, are not found in the average home, and thrice blessed is that family in which they are not demanded. Nor is the problem well solved when the absolute sterilization is assured, for are we not ready to admit that sterile and sterilized milk are not equally valuable food? Are not pasteurizing milk-plants yielding their own measure of disappointment?

---

*Presented in a Symposium on Infant-Feeding and Diseases of the Digestive Tract, to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

It may be taken for granted that every man, even in his infancy, is a law unto himself, and likewise every mother. Diversities of individual circumstances and idiosyncrasies make it needful sometimes to have early recourse to hand feeding, but the rule should be that while the mother's breast secretes milk at all, the child shall have all the benefits to be derived from it. Koplik recently showed that the advantages to the infant of even one breast-nursing in the course of twenty-four hours are too great to be lightly regarded. Infants having at least this advantage thrive better and grow faster than when wholly hand-fed. In such instances there is increased difficulty to determine the proper quantity of cow's milk to supplement the nourishment obtained from the mother, but this is generally quite easily overcome and never outweighs the advantages to the infant of mixed feeding. Part breast is superior to all hand feeding, and should be universally so recognized. If for any reason the mother's breast is wholly valuless let the cow's take its place, but before this change is made the mother should receive proper treatment to stimulate, if possible, adequate flow of milk. It is reasonable to suppose that if the medical attention which early weaning necessitates on the part of the infant were bestowed on the mother a fair proportion would be enabled to suckle their offspring and many children would be saved from early graves. It is well to remember, when searching for an efficient galactagogue, that nutritious food is superior to drugs, and that the "queen of the dairies," who broke every record for a large yield of rich milk, took in addition to her allotment of provender the milk of other cows.

Granted that every proper effort to make the mother profitable to her infant has resulted in failure, feeding with cow's milk is by common consent the proper recourse, but the problem is by no means rendered easier by the change. It is now vastly more complicated and difficult, and should be so regarded by the physician and mother. Cow's differs materially from mother's milk, and as ordinarily procurable is never sterile. Modification is necessary, but cleanliness is imperative. Cleanliness in the dairy, the milk, the bottle, the attachments, the infant—everywhere—counts for vastly more than does copying the composition of average human milk; yet both enter into the vexing problem of hand-feeding. The milk laboratory commends itself on the score of cleanliness and uniformity of composition of the milk which it insures, but in a large majority of instances home modification is still the only recourse at hand.

The writer's experience leads him to place special emphasis on the careful selection of a product of milk; that which is properly collected, cooled and at once tightly bottled, when delivered within a reasonable time and kept in close proximity to ice until needed, is always to be preferred. Such milk may be expected to yield even better results than laboratory milk; under ordinary circumstances it need not be subjected to the usual process of sterilization. So much for the cleanliness of the milk itself, and in conclusion a word about home modification. The excess of proteids is best reduced with water—that which has been previously boiled: and for an infant under 2 months old, pure milk, diluted with equal parts of water, will generally prove a proper food. For older infants, if the character of the stools or the progress in growth indicates that a change may prove beneficial, a smaller quantity of water or water with one of the artificial foods should be used in modifying the cow's milk. It is here that the infant foods of commerce are properly employed. They reduce the native proteids, render more easily digested the relatively tough and dense casein from cow's milk and serve as ballast. One of the few brands which have been employed by the profession for many years can generally be selected—that which seems best to suit the needs of the individual case—with a fair degree of assurance that satisfactory results will follow.

285 Federal Street.

EXACT INFANT-FEEDING: ACCIDENTS AND INCIDENTS.*

W. P. NORTHRUP, M.D.

Professor of Pediatrics, Bellevue Hospital Medical College; Visiting Physician at the Foundling, Presbyterian, and Willard Parker Hospitals.

NEW YORK CITY.

The object of this paper is to call attention to the accidents which may arise from the very exactness of the methods employed. I do not mean to say the accidents are inherent in the methods; I am going to call your attention to certain responsibilities on the part of the physician. Accidents may arise in mechanical ways; they may arise from faults of a higher order. Let us assume that we are agreed upon the following:

---

*Presented in a Symposium on Infant-Feeding and Diseases of the Digestive Tract, to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. That cow's milk is the only variety of milk to be considered in substitute feeding. 2. That dairy cleanliness is necessary. 3. That the modification of milk according to some definite formula is demanded. 4. That it is desirable to have the milk modified in a laboratory for purposes of cleanliness and exactness.

The discussion of the respective values of gravity and centrifugated cream does not enter into consideration here; a laboratory furnishes what is ordered, as does a drug-store. Some one has said: "You may order red ink in the milk and it will be put in." I am asking you to assume no more than I myself fully believe, namely, that dairy cleanliness, percentage feeding and properly conducted, well-equipped milk-laboratories constitute an essential advance in infant-feeding. If these points are allowed, we come to the subject of this paper, viz., the accidents of exact feeding, the abuse of exact methods, if you please. Modified, clean milk is one thing; the modification of milk is another. The modifier of the milk is the physician. I am going to ask the physician to take to heart the fact that he assumes a distinct responsibility when he consigns a child to a fixed formula. The other thing—the normal growing child is not the same infant in his physiologic demands more than a few weeks at a time. Upon the physician falls a certain responsibility; when he writes and records a prescription he assumes this; when he consigns an infant to that prescription the responsibility continues until he changes the prescription.

The following case will show what may happen: A female infant born at term may be said to have started life fairly; the parents were apparently healthy, even robust; the other children in the family were healthy. When three days old it was put upon modified milk from the Walker-Gordon Milk Laboratory; this was the prescription: Fats, 2 per cent.; sugar, 4.5 per cent.; proteids, .75 per cent.; lime water, 5 per cent.; heated to 167 F. Two ounces each feeding. By the twenty-seventh day the feedings had been increased gradually to fats, 3 per cent.; sugar, 6 per cent.; proteids, 1 per cent., etc.; a prescription which would be considered satisfactory for the age. Soon after this the patient went to the country, the feedings being sent to it by express daily. For 4½ months there was no supervision of the child, no change in the proportion of its food-ingredients. At the end of the summer, there was one small advance in the proportions—fats, 3.25 per cent; sugar, 6 per cent; proteids, 1.75 per cent.—and the child was lost sight of for 3¾ months. The infant had now arrived at nine months of age. It was getting its first teeth at this late date, without trouble; some slight swelling of the gums was noted; there was no bleeding and no discoloration. Teething was, of course, late, but apart from this there was nothing to call the attention of an unprofessional person to the child's condition, not even of an anxious and watchful mother. Indeed, the mother was quite confident that it was doing well—was it not fat?

One week after the appearance of the first teeth the unexpected happened. While wheeling the baby in the park the nurse observed one eye was unduly prominent, and, looking again, it was black and blue; she started for home, not a long distance away, and, to her astonishment, on her arrival there, found the other eye in a similar condition, though not so markedly. The family physician, on his arrival, found the appearances described above, plus marked tenderness of the ankles and knees; both were slightly swollen and painful, the ankles more sensitive than the knees. He also noted the fact that she used the legs less than she should normally. Some blood was passed from the bowels; blood was also found in the urine. The case was obviously scurvy. General treatment for anemia, with marked increase of the ingredients of the milk soon caused an improvement in the symptoms and a subsidence of pain, tenderness, swelling, etc. Note the fact that the improvement took place on milk still heated to 167 F., and containing the same amount of lime-water as before. Increased proportions and general treatment was all the change made. Neither orange-juice nor beef-blood was given.

The evidence of scurvy quickly disappeared under the influences of corrected regimen, but the case was not then well. It was a pronounced case of rickets. No clinic ever was favored with a case for demonstration of better showing qualities than was this child. For several months it could only sit upright between pillows on the floor. At the end of two years it was able to stand beside a chair, and was thought to have done wonderful feats when at last it could take those three or four little steps from one encouraging friend to another.

This case is here considered scurvy plus rickets, one disease of malnutrition superimposed upon another; the cause persistent and long-continued feeding upon milk furnishing insufficient nutrition; scurvy quickly disappeared under corrected regimen, the pronounced evidence of rickets after months of sufficient food, and after time enough for nature to strike its nutritional balance.

The child of the careless and ignorant may acquire rickets from improper food-proportions; but from the table of its elders it will obtain unhygienic apple cores, which will, at least, save him from scurvy.

To fix the feedings of an infant of one month and then lose sight of it for several months is not discharging our full responsibility. I am not forgetting that oftener it is the fault of the parents rather than of the doctor, as it assuredly was in the above case; they, however, are acting without knowledge and are less culpable. The busy general practitioner may forget. I am only in the fashion if I blame everything upon the doctor. It is enough if, in any way, I succeed in putting "a word to the wise." My experience leads me to think many babies are at this moment behind their age in the proportions they are taking in their laboratory feedings. I have recently heard the expression: "The baby is on 4—7—2; now (with a sigh of satisfaction) he can go a year." This voices the sentiment of many. There is a better method, however, and that is to advance the proportions gradually to a "full" milk; that is, to undiluted milk, fed clean and raw. This may often be accomplished at 8 months. My greatest ambition is to graduate to a full milk at 8 to 10 months.

In connection with this history I am reminded of a spontaneous expression of one of my neighbors in New York. "Yes, that case died; and I gave it Walker-Gordon milk, too." This expression better expresses the attitude of many of the profession than any other I have happened upon recently. He might have said with equal propriety, "I gave the child drugs, and it died just the same." The doctor avers he gave it "everything known" for summer complaint, including all the proprietary pulverized milks, and at last Walker-Gordon milk.

Gentlemen, I have purposely narrowed my subject. When I speak of accidents of feeding, I am not thinking of the unfortunate poor, of those in unhygienic surroundings, fed on grocery milk, but those whose circumstances place at the disposal of the family adviser all reasonable requirements. I have pointed out some of the accidents. I shall be required to build if I have pulled down.

MEMORANDUM OF NEW FEEDINGS.

1. Begin all feedings of new-born and sick infants with very low percentages; assuming that a normal child has a certain scheduled formula, that same child should when sick have a feeding appropriate for a younger child. Reduce the strength of food for all sick children. I am inclined to begin the feedings of new-born and sick infants on fats, 2 per cent.; sugar, 5 per cent.; proteids. 0.75 per cent.; lime-water, 10 per cent., heated to 155-167F.; eight to ten feedings in 24 hours, of 1½ to 2 ounces, according to age and condition.

2. Increase the strength of feedings just as fast as the child can take it. The digestion of a growing, healthy child, as tested by the passages, is the important guide. When the passages become pasty—homogeneous—all one color, smooth like lard, canary-colored, the digestion is such as to warrant increasing the strength. Feedings of very young and convalescent infants can often be increased every two or three days to advantage. Such should be very slight increases and dependent upon the testimony of the diaper. In case of sick infants, the prescription should be changed less often or changed less abruptly.

An infant is not the same for more than about two weeks at a time. A thriving infant can to its advantage be seen every two weeks, the feedings readjusted to its growth. The feedings, in short, should always be made to fit. If the infant changes so much, it is not the same infant. Well, the feedings must fit, hence the function of the doctor and the use of modified milk.

3. I suggest the following memoranda to serve as landmarks in substitute feeding for normal infants, from birth to eight months of life:

1. FIRST PRESCRIPTION.

Fats	2 per cent.
Sugar	5 per cent.
Proteids	.75 per cent.
Lime-water	10 per cent.

Amount in each feeding, two ounces; number of feedings, 10; heated to 167 F.

2. LOW AVERAGE BREAST-MILK.

Fats	3 per cent.
Sugar	6 per cent.
Proteids	1 per cent.
Lime-water	5 per cent.

Amount in each feeding, 2 to 4 ounces; number of feedings, 8; heated to 155 F.

3. HIGH AVERAGE BREAST-MILK.

Fats	4 per cent.
Sugars	7 per cent.
Proteids	2 per cent.
Lime-water	5 per cent.

Amount in each feeding, 4 to 6 ounces; number of feedings, 6; heated to 155 F.

4. At 6 months the figures of memorandum arrange themselves in multiples of 3 thus: 3—6—6, 6. Intervals, three hours. Number of feedings, six; amount in each, 6 oz.; age in months,, six; unheated—not Pasteurized—especially in winter season.

5. At 8 months, frequently, "full" milk, clean, may be fed "raw."

6. In prescribing, sick and feeble infants may be considered physiologically younger than their accredited age.

7. The fats, sugars and proteids should be advanced together, usually, by fractions of a hundred and at frequent intervals. Keep the prescriptions level or balanced, so to speak.

Finally, to summarize:

1. Clean cow's milk, modified to some definite formula, is demanded.

2. A laboratory for modification is desirable; it secures greater exactness and cleanliness.

3. The physician should frequently revise his formula; frequent small percentages of increase are to be advised.

4. Accidents may arise from consigning an infant for several months to insufficient food ingredients. A baby is not the same baby for many weeks at a time; its growth and physiologic demands change so much.

DISCUSSION ON PAPERS OF DRS. M'ALISTER AND NORTHRUP.

[This discussion was opened by Dr. Henry Dwight Chapin, but we refer our readers to his able article on "Substitute Infant-Feeding," in The Journal of July 14, in which his remarks are incorporated.—Ed.]

Dr. Victor C. Vaughan, Ann Arbor, Mich.—I find myself in a predicament this morning, for I am down for three talks at the same hour, all in different places. I have very little to say here, and I must condense it as much as possible. I am very sorry that I have not heard all the paper just presented. I agree thoroughly with Dr. Chapin regarding the partial failure of sterilized milk. It has not done everything that we expected it would do. I also agree with Dr. Chapin very fully in the belief that the fine modifications of milk are unnecessary and, I might say, are unjustifiable. I do not believe that they are especially beneficial. The animal body is so made that it can take care of a little excess of any one of the food stuffs. I am sure that the sterilization of milk, as ordinarily carried out, and even the pasteurization, is not desirable. If we can obtain perfectly fresh milk from the cow, with certain common-sense modifications we have the best food for the baby. The chief proteid in milk is a nucleo-albumin, and there is no question that it is changed by high temperature.

I have spent considerable time in ascertaining the exact temperature at which this change takes place, and it seems to be fairly sharp. A milk heated to 158 F. shows but little change; a milk heated to 160 F. shows quite a marked change. If the milk be heated long enough, and two or three times, it can be fairly well sterilized by heating it not higher than 158 F. I still believe that the high-death-rate from the summer diarrheas which continues notwithstanding the sterilization of milk, is due to failures in sterilization. The colon germ, I suppose, is the most frequent bad germ in milk, being almost universally present in market milk. This germ varies exceedingly in virulence. We can take a colon germ of moderate virulence, and we can increase that virulence so that .05 c.c. will kill a guinea-pig of a given weight in two or three hours. The colon bacilli, and probably other bacilli, grow rapidly in milk under certain conditions, and there is no amount of sterilization known that will destroy the toxin of the colon bacillus. If you will grow some of these bacilli on an agar culture, and allow them to grow for two or three weeks, and then scrape off the surface growth, you can heat that germ to 160 C., or 356 F. in a sealed tube with water, and there will not be the slightest effect produced on the toxicity of the poison. When you think that you can get a colon bacillus that furnishes a poison, one-fourth of a milligramme of which—1/270 of a grain—will kill a guinea-pig, you can have some idea of the powerful toxin that this germ produces, and which is not destroyed by any method of milk sterilization that we can resort to. We must, therefore, content ourselves with taking care of the milk and preventing its contamination. Most of the laity, and some physicians, think that any milk is all right if it is only properly sterilized. From what I have said you can readily see that no amount of sterilization can make milk containing this germ, sterile. The colon germ has an envelope varying greatly in its resisting power according to the virulence of the germ. The toxin is contained within this envelope. If you will take some of the colon germs, grow them, as I have indicated, scratch off the germ cells and put them in artificial gastric juice, and leave them there, it will completely dissolve the cell wall, and leave undigested the substance which I told you will kill guinea-pigs in a dose of 1/270 of a grain. No amount of heat up to 160 C. or 356 F. has been found to have the slightest effect on the toxicity of this poison. I am sure that a milk which is already a good culture of colon bacillus can not be made safe for a child by any known method. We can kill the germ, but we can not get rid of the poison. This shows clearly one of the limitations of sterilization of milk.

Again, sterilization must be left more or less to the intelligence of the mother or nurse, and we all know of the resulting accidents. I was once called to a child suffering from diarrhea, and on inquiry I found that the nurse had a bottle of milk that had been properly sterilized, but I saw her pour the milk into a glass which she had previously roughly wiped out with her apron! I know of a case of poisoning that occurred from a growth of the colon germ in this way. The milk was received at the house at a certain hour each morning, but one morning, instead of being put on the ice directly, it stood for three hours at the summer temperature before being sterilized. That milk poisoned the child.

DR. WILLIAM L. STOWELL, New York City—The subject of infant feeding can not be presented in five minutes, but this time may enable one to call attention to a few important points. Percentage feeding is certainly ideal, but sometimes it is not so in its results. The point that should be made, I think, is that we do not sufficiently distinguish between the therapeutic effect of giving a child proteid and the nutritional value. When a child is very young, or has indigestion, we know that it can not readily digest the casein of cow's milk. We forget that after the child has recovered from the disturbance of digestion we must attend to the nutrition. The result is that the child is often kept for a long time on food having improper nutrient qualities. In order that a child may thrive and increase properly in weight and strength, and so not be subject to rickets or scurvy, the proteids should be increased just as early and as rapidly as possible. I have believed this, in a general way, for a long time. In hospital service I have insisted upon having the children placed as early as possible upon the largest possible percentage of proteids. I have often put them upon whole milk when only six months old. The effect of this practice was soon noticed by all the nurses of the hospital. I have obtained from the house physician a list of the children placed upon whole milk. Most of them being foundlings are poorly nourished when received. Two extreme cases will illustrate the matter. A child of 1 year had been given everything, and was suffering from marasmus. It was given milk represented by the formula: fat 3, sugar 6, and proteid 1. It continued to fail at first, but in one week after being put on whole milk it began to thrive. The other case was that of a marantic child of three months that gained thirteen ounces a week for two weeks on whole milk. A child of this age should not be theoretically placed on whole milk at all, but if children have a reasonable digestive capacity they can take a reasonable percentage of proteids, and should receive this amount. A moderate excess would be burned up. A child will not grow strong on sugars and fats if the proteids are kept low. I have had a case of scurvy develop in a family in which I had had the direction of the modification of the milk at first. The child had then gone away and had been kept for a number of months on milk intended for it at a much earlier age. I would, therefore, insist upon the fact that children can, and will, digest a large percentage of casein unless absolutely sick. I am convinced that the milk given should be whole milk whenever possible. No diluent is needed for a child above six months old except 5 per cent. lime-water.

DR. A. JACOBI—I understand there is a general session going on now, and that we should adjourn, so I will speak very briefly. If any one of us has come here under the impression that he could positively learn how to feed children, he must have learned by this time that he was mistaken, for every one of the speakers here has told you positively what you must do, and the advice was different in every case. Now, I advise you to use your own brains; it is wonderful how handy are brains in the practice of medicine! One physician tells you the milk must be diluted; another one says the milk must be given absolutely pure. Every one knows that he was correct, and a large number of babies know that he was not. I can not decide that question; I only know that what I have been teaching the last forty years has been nearly right. I find that people are coming around generally now—even those who most objected to it—to dilutions with cereals, such as Dr. Chapin has spoken of. I think it is the best plan, and I do know that pure milk will not be digested by the average baby—by that I mean nine babies out of ten. I do know that when you sterilize wholesale, no matter whether you call it Walker-Gordon milk or not—and separate the milk into its constituent parts, you can never make proper milk of it again. The same remark applies to all centrifugated milk. Again, though the percentages are finely spun out from day to day, and change perhaps from week to week, as Dr. Northrup has said, you are still not sure whether it might not have been better to change that milk sooner. You will find that mother's milk varies not only from day to day, but from morning to evening. There must be some mistake in the theory that milk must be given just in those percentages that the physician believes he has found out. Fortunately Dr. Vaughan has told you that Nature is a little more generous than doctors and their theories. She allows a good deal of latitude. If it were so very dangerous to have half an ounce more or less, and a little bit of sugar or water more or less, there would not be a child in Creation living. The taking, by a baby, of a little more milk at one time than at another is not a sentence of death. The normal baby will pass out a good deal of what it takes even from mother's milk. In the diapers of a baby you find undigested food, even in the very best-looking feces. This is true of all babies; the stools contain 5 or 10 per cent. of fat. A mother gives a baby too much fat, and you say she should be rebuked for it. Now, I appreciate the good that has been done with boiling and pasteurizing and sterilizing, and I have been teaching the advantages of boiling milk for forty or more years, but I do wish to say that we are overdoing our theories. Be sure that you have good milk, and that you mix it in the proportion that has been found experimentally to do some good, and be satisfied with the result. I repeat again, milk that has been separated into its constituent parts can never be restored to its former state by mixing the separated portions together again.

DR. A. C. COTTON, being called upon, said: How can I be expected to add anything to the succinct statements to which we have just listened, except to add my hearty indorsement?

DR. J. P. CROZER GRIFFITH, Philadelphia, Pa.—I do not wish to take up the time of the Section, but I disagree with many of the statements that have been made. I shall speak only on one point. Regarding the relation of milk of a certain character to scurvy I wish to say that, from the statistics collected a few years ago, I am sure that the sterilization of milk is perfectly capable of producing infantile scurvy, at the same time I am a thorough believer in sterilized milk under certain circumstances. This is because I believe that the sterilization of milk often is the lesser evil. We must above all, as Dr. Jacobi has said, use our brains, and adapt well-known principles to the individual case. I can recall having seen four cases of infantile scurvy in the past few months in children fed on unsterilized laboratory milk. I am a firm believer in laboratory milk, and there was certainly something wrong with the milk in these particular instances. I do not well understand what produces scurvy, and I do not understand the chemistry of milk very well.

DR. HENRY KOPLIK, New York City—I believe, with Dr. Jacobi, that we should try to feed the child and not try to work out mathematical formulæ to which the child must be made to conform. As far as healthy children are concerned, we must make a very close distinction between them and children who are not quite well. If the milk is roughly diluted for the perfectly healthy child by any of the methods known, the child will probaby digest the milk and thrive. Dr. Vaughan has called attention to the fact that a child may have good food to begin with, but before it has finished nursing its food may have become contaminated in such a way that the child immediately becomes an invalid. This is apt to occur from lack of cleanliness on the part of the nurse or mother. The milk may have been very clear, and have been carefully pasteurized or sterilized, yet if the careless mother or nurse handle this milk, perhaps just after diapering the baby, the child is liable to develop a severe gastro-enteritis. I have been trying lately to instill the doctrine that the mother must be taught to be clean, and that the milk must be clean at the beginning. not only, but that it must be kept so. If this is done, a great many of the dangers threatening the infant will be averted.

Regarding sterilization, let me say that this problem is by no means solved. Some pediatrists insist upon raw milk being used. others on sterilization, and others still on pasteurized milk. This shows that the problem is far from being settled. Dr. Vaughan has told you that it is impossible to sterilize milk thoroughly, and this is true. but you can keep milk wholesome until the last bottle is used. The point is that the milk must be pure from the time it leaves the cow until it is swallowed by the baby. It is simply an impossibility to get a milk that is absolutely germ-free. The milkers are often just as uncleanly as the cow from which the milk is obtained.

I find that one of the principal things that has stood the test of time, and which was first brought forward prominently by Professor Jacobi, is the dilution of the milk in various ways. It is diluted, 1. to reduce the percentages; and 2, to break up the curd. Dr. Jacobi advises cereals, but personally I do not use cereals, preferring simple water as a diluent. If, however, this mode of dilution does not agree with the individual baby, I seek for something else that will agree with it. I then use gruel, or perhaps dextrinized gruel. It is surprising to see how some of these atrophic babies who will not do well on any ordinary modification of milk will thrive on some malted preparation of milk, or on milk diluted with some of the gruels. We must not, therefore, try to make a test-tube of the baby.

Dr. William P. Northrup—It has been said that we all disagree. I think it is a very significant fact that we do agree upon one thing at least to-day, and that is the necessity of starting with an excellent quality of good clean milk. That is a monument of the advance in infant feeding which is most conspicuous. I was very much pleased with what Dr. Vaughan said about starting with a clean milk and keeping it clean. If a few bacteria get in they do no harm unless they grow and multiply, and leave behind a product which changes the quality of the milk. A few colon bacilli in milk kept at 40 degrees will not multiply or do harm. Several of the speakers have referred to the fine points I have drawn about percentages. I am not a stickler on such fine points. The kinds of mothers that I have to deal with are a very capricious lot, who will go to receptions and come home very tired and nurse their babies at a time when the milk contains a very large percentage of proteid. Nature may be very elastic, but I have seen babies very sick under these circumstances. I have learned to-day of a new mixture—so strongly emphasized by Dr. Jacobi—a mixture of milk and brains. This is like the great painter who mixed his colors "with brains." Dr. Jacobi has had the start of us in this matter of mixing brains with milk for forty years or more.

THE CREDULITY OF THE PEOPLE AS IT PERTAINS TO MEDICINE AND RELIGION.*

BY T. B. GREENLEY, M.D.

MEADOWLAWN, KY.

It would seem, from our every-day reading and observation, that the faith or credulity of the people is greatly on the increase. And this faith in the virtues of medicine and so-called doctors, is only equalled, or excelled, by religious instincts. If a new doctrine, either in medicine or religion, is promulgated, no difference how absurd it may be in the estimation of persons of common sense, there will soon be many believers or followers to embrace it.

By way of illustration we will allude to a few instances of this fallacious credulity, first as it relates to medicine. We see every day in the secular newspapers advertisements of wonderful curative remedies which have relieved patients after the treatment of the best doctors has failed to cure, and such published statements are calculated to excite the minds of the credulous to believe the statements, and if unwell. to try the remedies possessing such wonderful virtues. Then, if the article obtained contains any sedative like morphin, cocain or alcohol, which many preparations thus advertised do, the patient thinks, for a while, that it is doing much good, but soon finds it necessary to increase the dose, or it has but little effect. No doubt many habitués of narcotics, or drunkards, have resulted from this source. Many of these secret or so-called remedies for certain diseases, are composed of simple medicines, mixed with narcotics or alcohol in order to produce pleasant effects while under their influence; and some contain, perhaps, medicines which, if long continued, will produce a disease similar to the one they are recommended to cure.

Some advertisers of medical preparations head their notices with large letters, accompanied with pictures of skeletons, or death as a warrior with sword ready to destroy life; again, we now and then see the picture of a terrible serpent ready to coil around or perhaps swallow one. then again, we see a heading of a man ready to swing from the gallows with the rope around his neck, but the news of reprieve comes just in time to save him. This represents a condition of approaching death, when a great medical "discovery" is applied, and the patient is saved, after all doctors have given him up to die.

These terrible looking pictures are intended to alarm and impress people with the necessity of taking the medicine recommended in order to save their lives, etc.

A more pleasant aspect is in the fine photographs of persons said to have been restored to perfect health from death's door, and much better looking than formerly, the medicine having a beautifying effect, as well as restoring health.

You might ask: how can a patient, after reading accounts of such wonderful cures of diseases, which he imagines are similar to his own trouble, resist the temptation to try some of the remedy in his own case? The answer might be, that it is natural for a sick man to want medicine, especially if he sees attached to the advertisement the name of his pastor or some particular friend who claims it has cured him, no difference whether his is the same character of disease or not. This wonderful credulity is also manifested in the belief that the sick can be cured by "Christian Scientists," but this sect has more credulity than the patients. They deny the existence of pain or suffering on the part of the patients, and endeavor to induce them to believe their trouble is all imagination; that there can be no physical suffering; as no such thing as matter exists, everybody being immortal only. The "Christian Scientists" possess more credulity in the virtue of their plan of treatment, if possible, than our good friends, the homeopaths. do in the infinitesimal doses of their various preparations. I allude more particularly to their inert ingredients, such as chalk, silex, charcoal, etc.

In speaking of homeopathists, I allude to those who hold to the high-potency plan of treatment, but fortunately they seem to be somewhat scarce at present. Prof. Hale, one of their leading men, says there is scarcely one in a hundred so-called homeopathists holds to the true Hahnemannian theory. There is but little doubt that a large majority of those claiming to belong to that sect practice, mainly, regular medicine.

Then come our new friends, the osteopaths, who claim to cure all troubles by bone rubbing. This is more sensible than the "Christian Science" treatment, as it is based on the existence of matter. It might be asked how, if educated people like those just alluded to possess so much credulity as spoken of, can we blame the common people for believing what they hear of and see published in almost any paper?

---

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

There is one character of advertising, the consideration of which should not escape our attention. I allude to those so-called remedies for female troubles, such as amenorrhea, etc. In our estimation they are the most pernicious, and attended with more danger, both to morals and health, if not life, than all others. Yet we see them almost every day in our secular papers, and unfortunately lately I have noticed one of the kind in a medical journal. In the latter it was particularly charged not to give the medicine to a pregnant patient, as it would produce abortion, and this warning was in quite large letters.

The most popular remedies for amenorrhea, published in the secular papers, are under the titles of pansy, pennyroyal, etc., but of course, contain other ingredients. They are guaranteed to afford certain relief. The remedies are very carefully put up, sealed and of course secret. The precautions accompanying these advertisements are of such a character as to intimate their nature to any parties who wish to produce abortion.

In speaking of different preparations of medicines, I do not wish it understood that I am alluding to any but secret remedies. I frequently use proprietary medicines when I know their composition by the formula. No doubt some of the patent medicines are of value, but physicians do not like to, and hardly ever, use them without knowing their composition. If the formulæ of all patent medicines were given on the packages, I believe it would be as well for the proprietors as at present. If they were thus labelled and contained ingredients adapted to the disease under treatment, we would not hesitate to prescribe them, as it is a rule with the regular profession to use any remedy by which we can accomplish good, but, as before remarked, we do not like to give something of which we know nothing. Therefore, it has long been my opinion that the proprietors of all patent medicines, if they are of value in the treatment of disease, would be as well off in the disposition of their remedies, if a law was enacted compelling them to place a formula of their preparations on all their packages. The doctors would not then refuse to use them and the people would know what they were taking, and would not be compelled to exercise their credulity in the dark.

As to credulity in its respect to religious beliefs, we have already spoken of the sect called "Christian Scienists," which partakes of both medicine and religion. It seems to be a fact, to the ordinary observer, that no difference what dogma in religion or medicine may be gotten up, it will soon have adherents or followers. As examples we have Mohammed, who claimed to be an inspired prophet of the Creator, and although at first he had hard work to obtain many followers, he fought his way and finally became the idol of his people. Then, in our time, we have the followers of Joseph Smith, and the Latter Day Saints, and more recently, Schlatter, claiming to be the second Christ.

When we take a common-sense view of the various aspects of credulity, we are almost forced to the conclusion that in many instances the parties thus affected are bordering closely on a state of insanity.

In the event of commission of crime, if the plea of insanity was made by the defense, many of our courts of justice would, instead of conviction, send them to the asylum.

The question now arises, what can be done to ameliorate or lessen this wide-spread credulity? This problem, perhaps, will have to be relegated to the distant future for a proper solution.

> To borrow Folly's cap and bells,
> Though Wisdom oft descends,
> Yet Folly to her cost doth find
> That Wisdom never lends.
> That Wisdom hath oft played the fool,
> Is seen in every age;
> But here the bargain ends, for ne'er
> Hath Folly played the sage.

THE MAMMARY AND THE PAROTID GLANDS.*

JOHN B. SHOBER, M.D.
PHILADELPHIA.

I deeply appreciate the honor you have conferred upon me by your invitation to take part in this symposium. I have been asked to say a few words in regard to the therapeutic value of the mammary and the parotid glands in certain morbid conditions of the female pelvic organs. Upon the receipt of the invitation, my first impulse was to decline, because, although my clinical experience has greatly increased since the publication of my last paper on this subject, I felt that I had nothing new to say at this time. Upon further reflection, however, I decided to embrace the opportunity in order to point out and emphasize how these agents should not be used. I have always tried to be very clear in my statements as to the precise indications which in my experience call for their use, and yet I find that physicians all over the country are employing them for every conceivable malady of the female accompanied by dysmenorrhea and hemorrhage. An article appeared in a recent number of the *Boston Medical and Surgical Journal,* in which the writer stated that he had used the mammary gland in a case of adenocarcinoma of the uterus, and, although he mentioned that it was used before the true nature of the case was discovered, and with the idea of controlling hemorrhage, yet the article has been abstracted in a number of journals in a manner which makes it appear that I have advocated the use of this agent in cases of adenocarcinoma and that in this instance it had proved of no avail. It is only another example of the harm that is being done by the careless abstraction which is now so common. The point of the article above referred to was that the menorrhagia and metrorrhagia were partially controlled by the agent, in spite of the malignant nature of the disease—as soon as the diagnosis of the case was made operation was promptly and successfully performed.

The Mammary Gland.—I employ the mammary gland in the form of a tablet which is made of the desiccated gland of the sheep. Each tablet represent 20 grains of the fresh gland. The dose is from 3 to 6 tablets daily. I find that while it has no unpleasant systemic effects, it seems to have a very positive action on the uterus, causing contraction of the uterine muscle, in this manner diminishing the blood-supply to the body of the organ and thus controlling bleeding. Its action therefore is very similar to that of ergot and in my experience is far more reliable and surer in its action than ergot and can be used over much longer periods of time without causing unpleasant symptoms. In uterine fibroids, I have used it with much satisfaction for long periods of time, in cases which had been characterized by an excessive and weakening menorrhagia and metrorrhagia. The bleeding can be brought under control in a few weeks and if the treatment is persisted in, the mentrual periods become regular and normal and unaccompanied by clots and pain. The health of the patient improves commensurately with the improvement of the anemia, resulting in increase in body weight. The tumors themselves are inhibited in their growth and development and diminish in size up to a certain point. Tumors in which the nodules can not at first be distinguished will in a few weeks or months so shrink and alter that the several nodules which compose them can be readily differentiated and the whole mass becomes much more freely movable in the abdomino-pelvic cavity. Such being the case it is clear that we have at our command an agent by which we are able to place many of these patients in a far more favorable condition for operation than has been possible by any means at our command in the past and it may be that the constant use of the mammary gland by these patients will indefinitely postpone the necessity for operation in many instances. So long as we are able to prevent the further growth of these tumors and keep the menstrual periods normal and no degenerative or inflammatory changes take place in the tumor or the adnexa, we are not, in my opinion, justified in submitting these cases to a major operation. When, however, we have reason to believe that serious degenerative or inflammatory changes have taken place or when after a reasonable trial serious pressure-symptoms can not be brought under control, operation should not be delayed. In addition to the above class of fibroids I have used the mammary gland in many cases of subinvolution of the uterus from any cause unassociated with malignancy or structural changes, with marked success —many cases in which the uterine canal has measured three inches or over have come down a quarter or half an inch in 5 or 6 weeks. The leucorrhea and irregular bleedings cease and the backache and other reflex symptoms entirely disappear. These are the only classes of cases in which I have advised the use of mammary gland and yet I constantly hear of men using it in cancer, dysmenorrhea of ovarian or tubal origin or due to malpositions of the uterus, and what has astonished me most is its use by some in dysmenorrhea due to stenosis and in cases of amenorrhea.

---

*Read before the New York County Medical Association, May 21, 1900.

The Partoid Gland.—This agent I have used in an entirely different and very much smaller class of cases. It is prepared in the same way, from the sheep, and should be employed in about the same doses as the mammary gland. Its principal action is its power to control ovarian pain and I have employed it with entire satisfaction in these cases of so-called ovarian neuralgia or dysmenorrhea unassociated with extensive pelvic inflammatory disease—cases in which, upon careful bimanual examination, will be found exquisitely tender and usually enlarged prolapsed ovaries with a history of soreness in one or both ovarian regions, often becoming greatly exaggerated a day or two before and during the first day of the period. The history of these symptoms extends over more or less extended periods of time. In these cases I have had astonishing results and have cured in a few weeks patients who have been sufferers for years. The pain disappears in a few days and if treatment is begun two or three weeks before the next period there will be a marked improvement noticed at that time, so that the patient's confidence is won at once and she needs no urging to persist in the treatment. The enlarged tender and prolapsed ovaries soon find their proper position in the pelvis and can be palpated bimanually without pain. When these cases are associated with inflammatory disease of the tubes, such as hydro- or pyo-salpinx with bound-down adherent ovaries, thickened and chronically inflamed tubes I do not think anything is to be gained by temporizing with this treatment. These are operation cases and in my opinion should be operated upon as soon as other well-recognized methods have been tried without avail. I have found that the partoid gland will, even in these cases, have a pronounced and very beneficial influence upon the pain, but it can not, nor can any other agent or method of treatment, overcome the gross structural changes which have taken place and which, in my opinion, call for prompt operation. These are the cases in which I hold that the parotid gland should not be used. The only class in which I have used it with entire success is that of uncomplicated ovaritis, which I have indicated. They are not frequently met with and therefore my experience with the use of parotid gland has not been as large as I should wish. I say these cases are not frequent and the reason I say so is this: I always make it a practice when I am uncertain in regard to the diagnosis to examine my patient under ether before starting the treatment, and I usually find conditions of the nature mentioned above which to my mind call for operation. Uncomplicated cases of ovaritis are quite rare. I would urge therefore that the diagnosis be assured before temporizing in these cases. Only to-day I found by operation an old ruptured extrauterine pregnancy of the left side in a patient to whom I had been giving parotid gland for a few weeks for what I thought was ovaritis. Not getting any result, I insisted on examination under ether and found a mass of circumscribed exudate. Operation revealed the bunched-up skeleton of a two-months fetus protruding from a partially ruptured sac and the remains of the placenta and membranes protruding from another opening in the shape of a grayish macerated round lump the size of a walnut. I would therefore advise that these agents be used only in the classifications which I have indicated, and when there is any doubt about the diagnosis, examination under ether should be insisted on. Finally, I beg to apologize for confining my remarks merely to the clinical side of the subject. I have not had the time or opportunity to take up any experimental work connected with it, but I hope some one else will.

The clinical showing would seem to indicate that experimental work directed along these lines would amply repay any investigator.

THE PROPHYLAXIS AND MANAGEMENT OF INTERSTITIAL NEPHRITIS.*

CHAS. W. PURDY, LL.D., M.D.
CHICAGO.

Strictly speaking, the prophylaxis of interstitial nephritis must include some definite knowledge of the tendencies of the patient to the disease under consideration. This at once opens up a wide field, a large part of which is necessarily speculative or theoretical. Without entering into the speculative field, the pith of this question may be narrowed down for present purposes to the simple interrogatory: Can we predict, with any degree of accuracy, the case or class of cases that, under existing surroundings, will sooner or later develop into or terminate in, interstitial nephritis? If, in our present knowledge, a negative answer to this question is necessary, then the prophylaxis of interstitial nephritis necessarily becomes a myth, for, strictly interpreted, the term has only to do with prevention, and prevention is clearly impossible where we have no definite knowledge of the approach or tendency to disease. If, on the other hand, we are able to classify certain sets of cases that are prolific of interstitial nephritis as their terminal history, then we shall be able not only to render a positive and confirmatory answer to our interrogatory, but also to point out a prophylaxis for the disease.

---

*Read before the Chicago Society of Internal Medicine, June 28, 1900.

In order to compass any tabulation of cases, as above suggested, we must first understand something of the principles of the cause or causes that bring about the disease in question. Now, all our pathologic knowledge of interstitial nephritis, our clinical observation, and the life histories of these cases, tend to the conclusion that the disease is led up to through an overwrought function of the kidneys. Of several hundred recorded cases of purely acquired interstitial nephritis, in my possession, the dominant features of the vast majority of the cases are comprised in the following historical triplet: heavy appetites, sedentary lives, and excessive use of proteid foods. It requires no great amount of reasoning to comprehend the law of nature, that an organ having subjected to it three or four times more work than it was designed to perform, must, if such conditions continue, inevitably become crippled in its functional power comparatively early in the natural span of life; and, moreover, the overwork continuing, the organ, indeed, must break down much within the usual compass of that span.

With regard to the kidneys, it has been determined that their chief function in the organism consists in elimination of nitrogenous waste; indeed, only a minimal portion of such waste ordinarily escapes through other channels—chiefly the lungs. In adult life a healthy man under physical exertion utilizes but about five ounces of proteid food per day, and the kidneys are designed to dispose of the waste of this ratio and remain healthy, other circumstances being equal. It is pertinent here to inquire: What happens to the kidneys of a man who habitually consumes from a pound to a pound and a half of animal food daily? The answer is simple enough, as the sequence of the histories of cases will show, viz., the excessive functional activity of the kidneys results in a chronic hyperemia, the consequent migration of the circulatory corpuscles; and from these, the organization and proliferation of new connective-tissue cells, in the intertubular spaces; as a necessary consequence of these changes, ultimate hardening and contraction of the organs follow—in short, interstitial nephritis.

There are doubtless other causes of this disease, for many conditions of the organism may throw into the circulation more or less foreign matter which the kidneys must remove, and in such cases, the tendency is the same, because the proximate results are the same, viz., overburdened function. But the dominant factor in the causation of acquired interstitial nephritis, for the most part, hinges upon two great central facts, viz., overingestion and overelimination of nitrogen; and these furnish the key and the most important principle to a true prophylaxis of the disease. In many diseases, if we remove the cause, the disease itself will subside; this is not altogether so when interstitial nephritis is once established, because the changes in the organs are of such a nature that they are as permanent as the changes wrought by gout in the joints. On the other hand, however, the removal of the cause in cases of acquired interstitial nephritis, notably in the early stages, often results in bringing the progress of the disease to a permanent standstill, which is well-nigh equivalent to cure.

From the above considerations, it seems clear that in all cases in which we have reason to fear the establishment of interstitial nephritis, the limitation of proteid foods should constitute our first and most essential principle in the establishment of prophylaxis. Reduce the proteid supply by limiting the allowance of animal foods to about four ounces per diem. In other words, butchers' meat should be limited strictly to one meal a day—dinner—and the quantity should not exceed a quarter of a pound. The leguminous vegetables, such as beans, peas, lentils, etc., should, for the most part, be avoided. In case the subject is stout, weighing over 175 pounds, some curtailment of carbohydrates should be suggested, such as the avoidance of oatmeal and the cereals in general, but permitting bread and potatoes. Observation has convinced me that in all cases sugar should be but sparingly permitted. The appetite should be restrained within normal limits. It is safe to say the average individual in robust health, with access to a bountiful table, habitually eats about 40 per cent. more than he uses. It has been found useful to direct such subjects to rise from the table feeling that they could eat more. The subjects of interstitial nephritis have almost invariably been heavy eaters; indeed, we have already called attention to the fact that this is one of the leading causes of the disease. This matter, therefore, should not be overlooked, as it often is, for it is as essential to limit the quantity as it is the quality of food in such subjects.

The next step in prophylaxis is to enforce some systematic daily exercise, in order that the proper ratio of waste products of the economy may be oxidized, thereby entailing the least strain upon the eliminative functions. In some cases an active muscular life is led, and in these this suggestion will be unnecessary. Too often, however, we have to deal with people of middle life, who have been sedentary all their lives. It is in this class of cases that the greatest possible discretion and judgment should be exercised in prescribing active exercise. Indeed, the sudden transformation from sedentary to very active habits in people of middle and advancing life is not without its attendant dangers — dangers which, it seems to me, are either overlooked or not generally understood, judging from the number of aged cyclists one has been wont to see about the streets the last few years. To me such pictures seem as grotesque and out of place as the imaginary one of a company of centenarians in a college campus playing football. In the class of cases under consideration I have always found it more satisfactory, first to adjust the intake to the natural habits of the individual, and, recognizing the difficulties of developing muscles after middle life, to begin with passive exercise and massage until some tone is acquired by the muscles; then walking, horseback riding and golf may be prescribed, with beneficial results.

A somewhat wide experience in cases of interstitial nephritis has conclusively shown me that it is a disease stamped in the strongest manner by heredity. If a series of careful investigations be instituted upon this point, it will at once appear how remarkably the disease runs in certain families. Family history, therefore, furnishes us a clue to a large proportion of the cases suitable for prophylactic measures against the disease, and wise are both the subject and the physician who avail themselves of the warning afforded by the family history.

The second part of our subject, the management of interstitial nephritis when once established, comprises a field so wide, both in scope and detail, that only a few suggestions are possible in the present discussion. In the early stages the prophylactic measures already detailed are appropriate, only they should be somewhat more rigid. The proteids should be further reduced, say, to two or three ounces per diem; not much will be gained by further reduction. Some prefer to curtail the use of butchers' meat, and permit one meal daily of the lighter proteids, as poultry, fish, sweetbreads, frogs, etc.; milk with some seems to be the sheet-anchor, so far as diet is concerned. I must confess that personally I have never been friendly to milk cures in this disease. In my experience a milk diet disagrees sooner or later with four-fifths of people who try it. The large proportion of sugar contained therein—about an ounce to each pint—deranges the liver, and, moreover, constipation is a common result, thus seriously deranging both digestion and assimilation. At best, milk is but a starvation diet for an adult individual, and certainly it was never designed to nourish people beyond middle age. If a starvation diet must be employed—and at least a reducing diet is often advantageous in these cases—it is easy to supply one from other sources that will offer the patient greater variety and be more acceptable to the digestive organs than milk. For these reasons I rarely employ a milk diet in these cases. It has already been pointed out that the subjects of this disease, for the most part, are notoriously heavy eaters, and in most cases the amplitude of their bodies attests to their industry at the table. It seems impossible to quell or even modify the generous appetites of these people, and, therefore, the more politic and successful method of protecting them against the consequent evils is to order such foods as are bulky or filling but leave little nitrogenous waste. These are numerous, palatable, and, for the most part, easy of access and withal economical. They embrace nearly the whole range of green vegetables, tart fruits, cereals, etc., to which may ordinarily be added fish. The man of ungovernable appetite may be ordered much fat with his food; fat more quickly satisfies the appetite than any other article and it contains only about 2 per cent. of nitrogen.

In advanced interstitial nephritis the chief concern of the experienced physician will be the condition of the heart. Some years since I made a careful study of those conditions of the kidney which have been grouped together under the term of Bright's disease, until I flattered myself I was fairly well informed upon the subject; I soon found, however, in practical experience, that the majority of my cases of so-called Bright's disease died directly from heart disease. Since then, whatever measure of success I have had in the management of interstitial nephritis when once under way I attribute largely to my management of the associated cardiac disease. As is well known, at least 75 per cent. of the cases of interstitial nephritis are accompanied by a progressive enlargement of the left cardiac ventricle, and I have no hesitation in stating that in the large majority this heart lesion will vastly outrun the renal disease, and destroy the patient's life long before he would succumb to the renal lesion, unless special means be taken to prevent it, and for the following reasons: In the first place the kidneys are double organs, either of which, upon appropriate diet, will permit the extension of life indefinitely; in other words, the functional power of either kidney is sufficient to maintain life indefinitely under ordinary pressure. The anatomical changes in interstitial nephritis, as a rule, are very tardy in progress, and of such a nature as not to materially interfere with the function of unaffected areas of the organ. Consequently, the disease may, and often does, progress twenty or thirty years, until, indeed, the kidneys are markedly contracted, yet a fair degree of functional capacity remains—sufficient to permit life to continue indefinitely and in comparative comfort.

If, on the other hand, we watch the cardiac changes, when marked, we shall note an altogether more rapid and serious set of phenomena to which *per se* the patient must succumb. In consequence of increased friction in the circulation, the left cardiac ventricular wall enlarges to meet the extra demand upon its muscular power; the ventricular wall gradually becomes thickened, increasing the left cardiac area in the chest to 12, 14 or even 16 cm. from the midsternal line. Now, mere hypertrophy of the left cardiac ventricle, at first sight, would not seem so serious a matter, but wait and observe. Every case of cardiac hypertrophy, if its causes continue, sooner or later passes into degeneration of the cardiac muscle, after which the changes are rapid, widespread and lethal in tendency. Cardiac dilatation, with consequent valvular leakages, regurgitation into the lungs entailing *edema pulmonum* or pneumonia, and engorgement and enlargement of the liver, and dropsy are a few of the consequences likely to succeed the above phenomena without delay. I am well acquainted with these morbid phenomena, because it is at this stage of the disease that the specialist is often ushered in at the front door—all hope having shortly before been ushered out by the side door. If we wait until this stage of interstitial nephritis is developed, one management is practically as good as another. It therefore becomes pertinent to inquire what can be done to prevent advanced cardiac complications in interstitial nephritis? I answer: Much, very much, can be done.

There is no class of diseases familiar to the profession in which more can be done to relieve and prolong life than in cardiac diseases, thanks to very recent advances in our knowledge upon this subject. Cardiac complications of interstitial nephritis form no exception to this statement, provided treatment is begun sufficiently early. The first principle in the management of the cardiac complications of interstitial nephritis should consist in modifying the abnormal friction in the circulation. If this is done the cardiac hypertrophy will subside, provided that it has not gone too far and that the arteries have not become extensively atheromatous. The area of cardiac dulness must first be mapped out in all cases of interstitial nephritis; if the left area does not exceed 12 or 13 cm., as measured from the midsternal line, the rule obtains quite constantly that upon a non-nitrogenous diet, as rigid as we can draw it, coupled with saline laxatives, the hypertrophy will subside rapidly, thus avoiding the more advanced and more threatening cardiac danger. Over and over again, I have succeeded by strict measures in reducing the area of the left ventricle by at least 3 cm. in six months' course of treatment. A left ventricle, however, once decidedly hypertrophied in interstitial nephritis, so that the left area measures 14 cm., strictly speaking, probably never quite returns to its original or normal measurement of 9 cm., but usually remains at about 10 cm., at least such is my experience, nor have I usually found this slight remaining thickening any special bar to a subsequent long and efficient cardiac life. Some tension in the circulation remains, it is true, probably due to changes in the arterial walls, but moderate tension only tends to restore the waning balance of renal excretion.

Let us suppose, however, that the cardiac complication has reached a more extreme degree before the case has come under observation, and that the left cardiac area measures 15 or 16 cm. from the midline. We are now face to face with altogether different conditions, in most cases including more or less dilatation of the left ventricle, perhaps with some leakage of the mitrals; in short, degenerative changes have begun in the cardiac muscle. The physical forces of the heart have now become reduced below par, and we no longer find evidences of exalted circulatory power. The urine falls off in volume, the patient no longer rises at night to urinate, the pulse grows weaker, though the arteries be hard.

The indications now are clear to improve the tone and nutrition of the heart, to relieve it of as much of its labor as possible. With the view of relieving the strain upon the cardiac muscle, in addition to rigid dietary measures, the small vessels should be dilated by means of the iodids and nitrites. A moderate dose of digitalis, say ten drops of the tincture, morning and evening, tends to improve cardiac nutrition and tone, the latter being much assisted by the use of strychnin. Absolute quietude should be enjoined for from four to six weeks, until the heart has regained its tone, or at least is in a measure equal to its work, after which quiescence is likely to be rather harmful than otherwise. However, before permitting the patient to get about again unrestrained, a course of cardiac gymnastics, after the method of Schott, coupled with, or followed by, the Nauheim baths, is often of the greatest benefit. The extremely hypertrophied hearts, under present consideration, can never be reduced to near normal dimensions, attended, as they usually are, by more or less dilatation, consequent to cardiac degeneration; nevertheless, the degree of cardiac power and tone that can be restored in well-managed cases is often remarkable. Not long since such cases were considered absolutely hopeless, even of temporary improvement. I have succeeded, however, in a fair proportion of such cases, in securing to the patient a few years of comparatively comfortable life.

When once dropsy sets in and becomes established, as a rule, the beginning of the end is reached. Confinement to bed is now imperative, coupled with cardiac tonics and stimulants, such as digitalis, strophanthus, etc., in full doses. There is no hope of re-establishing the renal function unless some power can be restored to the circulatory forces. Too often we are obliged to fall back upon diaphoretics in order to assist the kidneys in elimination, but the fight from this on is always a losing one.

The present discussion does not permit of sufficient time to enter into the many additional measures to be employed in the management of interstitial nephritis: perhaps a future occasion may present itself to consider these. I have purposely directed the present discussion along what may be considered, in part at least, unusual though important lines, viz., the cardiac complications of the disease. In closing, I would state as my strongest convictions, based on careful observation, that, as a general fact, he who most skillfully manages the cardiac complications of interstitial nephritis in all its stages will best succeed in prolonging the lives of his patients.

[For discussion see page 248.]

HOSPITAL AND WARD CLINICAL LABORATORIES.*

C. N. B. CAMAC, M.D.
NEW YORK.

When I was given the opportunity some months ago by the chairman of this Section to present a paper before the Association, I was and am still interested in the subject expressed in the title of this paper—"Hospital and Ward Clinical Laboratories." I hesitated, however, in bringing such a subject before you, as I felt that a report upon work done along medical lines would form a more appropriate paper. I submitted this question of the propriety of the subject to your chairman, and upon receiving his approval and encouragement felt reassured.

I feel, nevertheless, that a subject touching the administration of a hospital, as this does, must be discussed by those who have experience in hospital management. The points, therefore, set forth in this paper represent the immediate needs of the visiting physician and teacher; these points, however, must be placed before those who are competent to speak for the administrative side of the hospital. I trust that I have made it clear at the outset that I am speaking from the standpoint of the clinician.

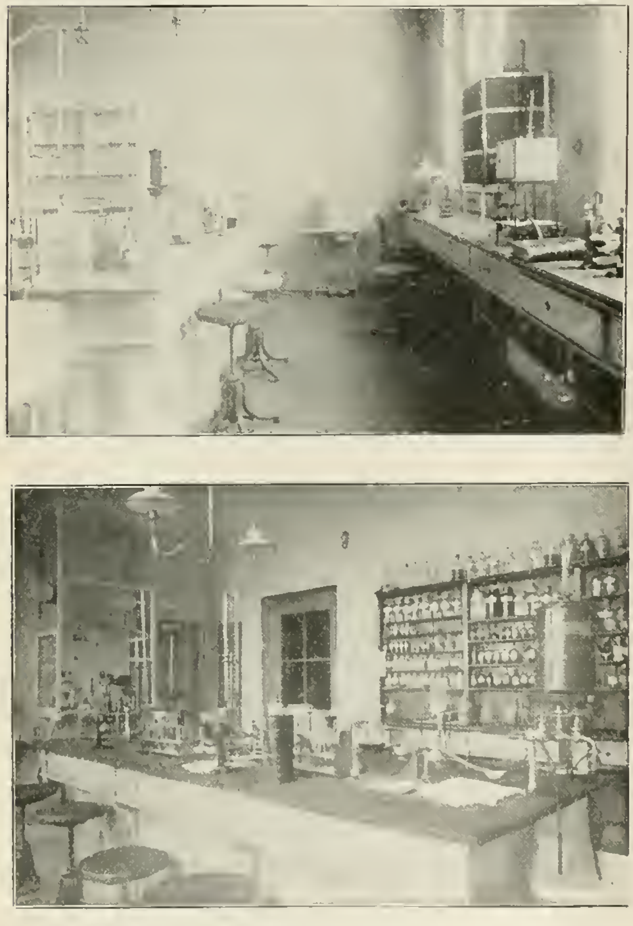
As one reads the reports upon the epoch-making contributions to medical science, one is impressed by the exalted estimation which ushers in many, but not all, of these; then how the voices of critics disparage these estimates, which perhaps may have been the creation of other critics, and then how the contribution settles down into its right place to be a great or a small part of the whole. As each new branch of scientific medicine has come into existence the same enthusiasm has flustered and shouted about its birth, claiming for it all manner of honor and usefulness.

Histology, embryology, bacteriology, the systematic study of pathology, etc.—and the same is true of the subdivisions of these subjects—each in turn at its inception was declared to be the future revolutionizer of medicine. Each has settled into its proper place to be a part of the whole structure, each stone of which depends upon its fellow for support; or to select a simile more familiar to our thinking, it would seem to follow the division of labor or the specializing of functions, each cell, each part, doing its share and yet working in conjunction with every other part. When Laennec, and, later, Louis, introduced the system of physical diagnosis, the most exorbitant claims were made for it. The stethoscope, at first the oracle of all the secrets of the chest, later became the retreat of the bluebottle fly, and then again the recognized instrument, with its limitations, of the clinician. So with the clinical thermometer, the hypodermic needle, the fluoroscope, the radiograph, etc.; so also with the findings of the clinical laboratory.

Rarely in our science is it that any one finding is the open sesame to the secrets of disease. Excepting, perhaps, the finding of the tubercle bacillus, the malarial parasite and a few others, no observation in medicine alone tells the whole story. Because an observation represents but a fraction of the whole truth, many clinicians have been impatient with the methods which enable us to obtain that fraction. Because the methods which enable us to detect an anemia do not also detect the cause of the anemia, the methods are said to be faulty; because the tubercle bacillus is sometimes not detected when pulmonary tuberculosis exists, the search, some clinicians would say, need only be made if the clinician wishes to leave no stone unturned. Because the serum diagnosis of typhoid fever is not to be detected until the fifth day, and sometimes not till much later, is this fraction of the truth to be discarded? May there not be here some new truth, the full significance of which we have not as yet appreciated? Because, by the aid of a clinical thermometer, a definite ratio between pulse, respiration and temperature can be determined, we do not abandon it when, as in scarlet fever or pneumonia, we find this ratio disturbed; on the contrary, we interpret the finding with new significance as an additional aid to diagnosis. We do not omit auscultation when percussion seems to tell us the whole story. So, though our physical examination may appear to suffice, our microscopic and bacteriological examinations must, too, be taken in conjunction with these findings, a consensus of opinion taken, and our diagnosis made accordingly. Each observation goes to make up the whole—the clinical thermometer, the stethoscope, the blood examination, each employed in turn, no one complete in itself, but the complement of the others. There is, therefore, no claim for the clinical laboratory beyond that it contributes essential facts, which, taken together with other clinical findings, enable the physician and surgeon to arrive at the truth or nearer the truth.

---

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.



Prof. V. Jaksch's Clinical Laboratory, Prague.
Microscopical Laboratory.

If one takes a broad view of the development of medical knowledge it will be seen that now is the full time for the birth of this new child of science—the ward clinical laboratory.

HISTORICAL OUTLINE OF LABORATORIES.

The time has passed in which learned men were content with mere logical conclusions, high-sounding names and mysterious pursuits. The alchemist's articles of faith were:

> 1. There exists a preparation, solid in form and red in color, called the *philosopher's stone*, the *grand elixir—majus magisterium—* the *red tincture*, which, when it is placed in very small doses on melted liquid silver, mercury, lead, or some other common metal, causes a transmutation of the same into gold.
>
> 2. The same preparation, used in very small doses as a medicine, cures all diseases, rejuvenates the old and prolongs life—wherefore it is called the *panacea of life*—also because it contains the essence of gold—aurum potabile.
>
> 3. There is another preparation, of a white color, called the stone of the second degree, the *little tincture—minus magisterium—the white tincture*, which is equal to the first in half a degree of perfection and changes the common metals to silver.

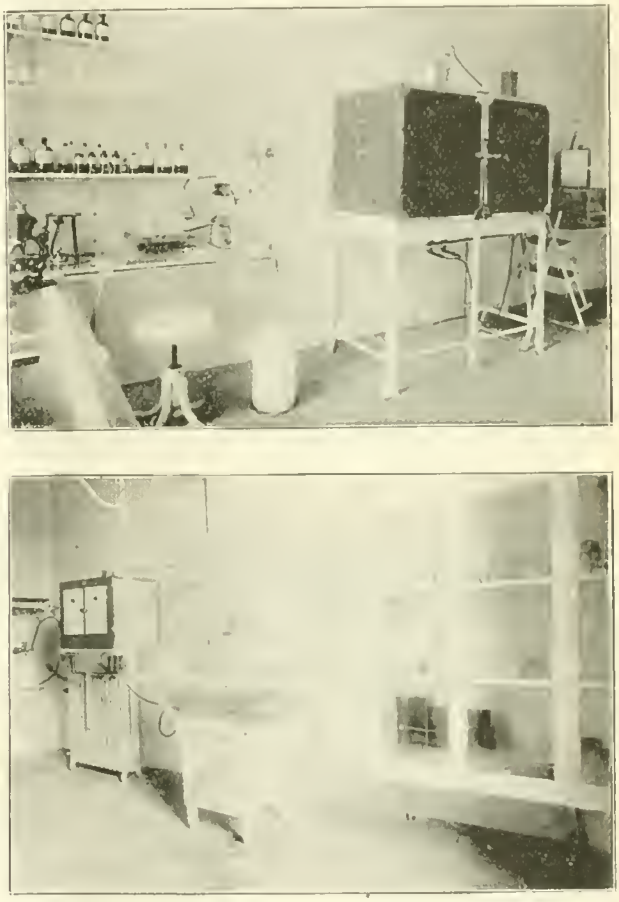
This creed, the ignis fatuus of the alchemist, leading him blindly through the world of facts, was replaced, alas! by that other, the Philosopher's Stone, the Vital Force, the Pneuma, and finally by the torch of truth, flooding with light the dark places. This torch of truth is the determination of the human mind to see and therefore to know; to see, not through the oft-befogged medium of logic, but through the clear atmosphere of experiment. When the human mind determined this—and it has not been long that it has thus determined so—the real scientist, he who would know the truth, had his birth. Superstition gave place to unrestrained investigation; the magician became the scientist; the alchemist became the chemist. With the purpose of experimenting in the human mind the necessity for workshops became evident. From Stahl and Lavoisier, from Steele and Berzelius, from Gay Lussac, giving inspiration, and Liebig, the mind turns to those who worked more in medical lines, to Harvey, Descartes and Haller, who can not be given greater place as founders of the laboratory than the great chemists before mentioned, for with them it was that the spirit of investigation and experiment gave life to the whole movement. Hand in hand with the establishment of chemical laboratories but more encumbered by superstition, came the anatomical theaters; farther along the line of time the clinic, and then in the early part of our present century the physiologic laboratory—the first of which we find at Breslau in 1825 (Purkinje). Vierordt, Tübingen, 1864-5—which, as Dr. Welch says, and which might well be said of all laboratories, is productive of a knowledge, "the best corrective of pseudo-scientific, irrational theories and practice, in medicine." Then followed the development of the first pathologic laboratory in Berlin, by Virchow, in 1856.

In the opening of the William Pepper clinical laboratory at Philadelphia, 1896, Dr. Welch quotes Virchow as having said: "In the seventeenth century, anatomical theaters; in the eighteenth, clinics; in the first half of the nineteenth century, physiological institutes; so now the time has come to call into existence pathological instititutes and to make them as accessible as possible to all." Since then has not the clinical laboratory reached its limit of usefulness, and now, is not this the time when all this vast amount of work, clinical, anatomic, physiologic and pathologic, shall be applied to the bedside? Is not this the time for the practical application of all these researches?

I am quite aware that the idea of practical is as distasteful to a certain class of scientists as is the word "wine" to the temperance lecturer—alcohol may be rubbed in from without, must not be taken internally; such scientists remind one of Carlyle's description, in his "French Revolution," of Madame Momoro, whom the French convention of 1793 enthroned at Notre Dame as the Goddess of Reason. Carlyle says of her, she made one of the best goddesses, but her teeth were defective. This kind of science is a beautiful thing, but it lacks the practical bent, it lacks teeth, without which it can not feed upon that which gives force to the whole.

Shall we go back to those dark days, when it was merely a quest for the solution of a mystery, the finding of the majus magisterium, or have we the larger purpose of applying this solution, of interpreting this discovery? Shall our knowledge be an ornament or an instrument? If the spirit of quest for truth quickened the work of Bernard and his confrères, Gréhaut, Du Montpallier, Malassez and d'Arsonval, in their ill-equipped shops, the application of these truths should quicken our work to-day.

Prof. V. Jaksch's Clinical Laboratory, Prague.
Chemical Laboratory.



Prof. V. Jaksch's Clinical Laboratory, Prague.
Bacteriological Laboratory.

The subject, therefore, of our investigation as clinicians is not disease in the abstract, but the sick man and woman and the sick child. It is not the study of the principle underlying the staining peculiarities of the tubercle bacillus, but the availability of this method in the detection of tuberculosis in this and that form of the disease. It is not, therefore, the sputum, for example, alone that we examine; it is this in conjunction with the physical finding, the temperature chart, the degree of emaciation, etc., to be made only in the sickroom by the patient's side. Our workshop is therefore the sick-room, the hospital ward, the dispensary.

DIFFERENCE BETWEEN PATHOLOGIC, CLINICAL AND HOSPITAL WARD LABORATORIES.

By thus recording conditions in detail, information upon disease as a whole may be obtained by bringing together these records. The subject of this paper, it will therefore be observed, is not the clinical laboratory, but the hospital and ward clinical laboratory. The former is a recognized factor in medicine to-day. In Berlin, Prague, Vienna, Munich, Leipsic, Paris, London, Philadelphia, Boston, Baltimore, New York and in many other cities are to be found well-equipped clinical laboratories, all having sprung into life in the short space of about 20 years. Among the first of these was that of Von Ziemssen, in Munich (1895), and that of Curchman, in Leipsic (1892). Not so numerous are the hospital clinical laboratories. There would at first sight seem to be a difference without a distinction between these terms. There is, however, this clear distinction: the clinical laboratory, now of some years' standing, is the offspring of the anatomic, chemical, pathologic and physiologic laboratory, and the hospital clinical laboratory is the child of the clinical laboratory—each separate from the other, yet dependent on, and a direct outcome from, the other. It may be looked on as a process of simplification. Large problems worked out in the chemical, anatomic, physiologic and pathologic laboratories have been reduced to simple methods, applicable to the detection of disease *per vitam*. The clinical laboratory has taken up these and still further simplified the methods until the hospital or ward clinical laboratory may apply them at the bedside. The hospital clinical laboratory is the workshop where the methods planned and perfected in the other laboratories are applied and given a practical test. To make this difference more clear, I show photographs of the elaborately equipped clinical laboratories of Profs. Von Jaksch, Ewald and Leyden, so as to compare them with the simple ward laboratories.

OBJECTIONS TO LABORATORIES.

But, it will be urged, do we need hospital or ward clinical laboratories? Are they not the adjuncts of wealthy medical schools and hospitals only? Are they not a scientific luxury? Can it be said that the facilities afforded by such laboratories are luxuries? If the patient who escapes operation for supposed appendicitis because a moment before the operation the blood was found to contain malarial parasites: if the patient lying in supposed typhoid has a needle inserted into the liver, where an amebic abscess is found; if these patients do not benefit by such laboratories, they may be termed luxuries. They are essential, however, if only to spare the typhoid ulcer the unlimited diet of quinin. I select these cases from those actually occurring in hospitals where facilities for clinical microscopic examination were not supplied and where such procedure is not considered a refinement.

There are, however, those who will still object, and from information obtained in conversation and otherwise, the objections would seem to fall under the following four heads: 1. They are not necessary because diagnosis can be made quite as satisfactorily without these tests. "Scientific luxuries" would, I think, express the opinion of those who raise this objection. 2. They require space. 3. They are expensive. 4. The hospital interne is busy enough without putting this extra work upon him.

The first of these objections, that they are "scientific luxuries," has been already dealt with. It is well, however, to repeat that these methods are taken in connection with all the bedside methods known to clinicians, and no claim of an "all-sufficient" is made for them. The physical examination of the chest is not to be abandoned because the tubercle bacilli are found in the sputum. It is important to impress this, for visiting physicians have complained, and not without ground, that the internes consider these laboratory examinations all-sufficient, and grow lax in making their physical examination, and less acute in their observations. This is a misuse and abuse which does not in any way diminish the value of each observation. Let it be clearly understood that there is no claim of all-sufficient in this work. The very spirit of the movement in favor of ward laboratories is that the microscopic work should be brought in greater proximity to the patient, and the finding be thus taken in connection with and considered a part of other clinical findings.

The second objection is that they require space. The

Professor Leyden's Clinical Laboratory, Charité, Berlin.

Toronto General Hospital, Clinical Laboratory—east side.

Professor Ewald's Clinical Laboratory. Augusta Spital, Berlin.

Toronto General Hospital, Clinical Laboratory—west side.

clinical laboratory, with its complicated chemical apparatus, spectroscope and polariscope, nitrogen-estimating apparatus, etc., does require space. But the distinction between the clinical laboratory and the hospital and ward clinical laboratory already pointed out, must be borne in mind. Only the perfected and simplified methods and apparatus have place in the hospital and ward clinical laboratory. This apparatus and these methods are of such simple nature that they can be transported to the bedside. It does not, therefore, require much space to accommodate them. With the hearty cooperation of the authorities, the writer established such ward laboratories at Johns Hopkins Hospital in 1896, and at Bellevue Hospital in 1899. The area required for this ward laboratory is about 6x6 to 10x10 feet, a window being the only essential. Indeed, a window and table are the only essentials in the matter of space. While running water and gas are helpful adjuncts, the ordinary water-bottle and spirit-lamp are all that is necessary. Probably no part of a hospital is more modest in its demands that the ward laboratory.

Johns Hopkins Hospital, Baltimore.
Hospital Clinical Laboratory. For More Extensive Tests, Etc. Room, 12x12 ft. (about.)

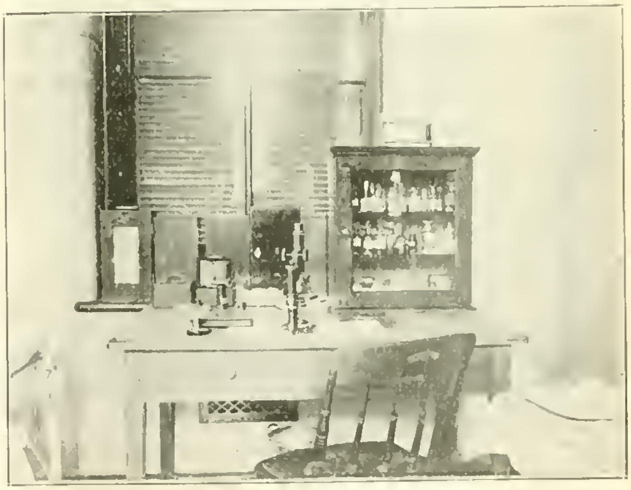
Johns Hopkins Hospital, Baltimore.
Special Research Room.

I should like to take this occasion to express my appreciation of the encouragement given in the establishment of such ward laboratories by Drs. Osler and Hurd, at the Johns Hopkins Hospital, and by Drs. W. G. Thompson and C. L. Dana at Bellevue Hospital. I have just learned from Dr. Beverly Robinson that such ward laboratories are shortly to be established at St. Luke's Hospital, New York City. I also learn that the Royal Infirmary at Edinburgh, and St. George's Hospital, London, have similar ward laboratories. In the clinics of Profs. Leyden, Senator, Naunyn and Gerhardt, in Europe, these ward laboratories are in use for the minor examinations.

We may, therefore, eliminate the objection of "too much space required." It is understood that there are in addition to these the largely equipped laboratories for more extensive work, but these latter are part of the teaching institutions connected with the hospital. The small laboratory just described is a distinct feature of the ward and its administration.

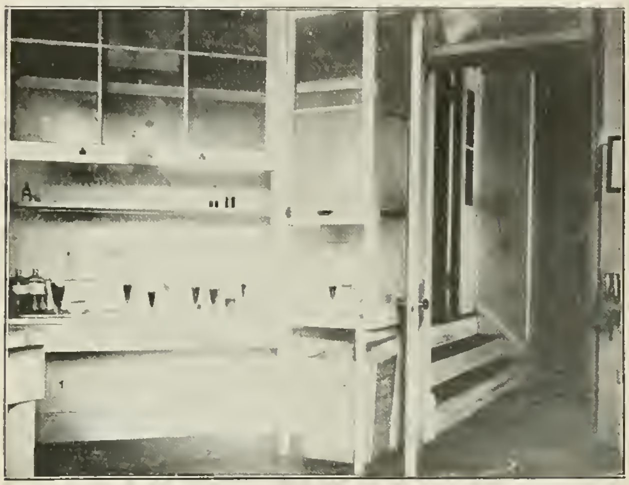
That such laboratories are expensive, constitutes the third objection. I have carefully gone over the bills connected with the establishment of the laboratories above mentioned, and find that $300 will fully equip such a laboratory. Included in this are two large items—a microscope with an oil-immersion lens and a cabinet in which apparatus is to be kept. These two together would come to $125 or $150. While considerable modification can be made in cost of the case, the microscope is a necessary expense, the price of which varies but little. Most hospitals, however, have gotten as far as a

Victoria Hospital for Sick Children, Toronto, Canada. Clinical Laboratory—South End.



Johns Hopkins Hospital, Baltimore.
Ward Laboratory. Bed on left. Cabinet for Reagents and Apparatus on right.

microscope, at least, so that we will find that already provided. Glass-top tables, with green felting beneath, have proved most satisfactory in both Johns Hopkins and Bellevue. This is not very expensive—$9 to $10 for a table 5x3 feet. This allows of the table being washed off freely, keeping the appearance of the laboratory clean. It is surprising what an influence this simple provision has on those working in the laboratory to keep it clean. Such is the effect of this that it has done away with what was a very serious objection, namely, the presence of a dirty laboratory directly in the ward. The same cleanliness observed in the operating-room and ward must be observed in the ward laboratory. A rather feeble, but in appearance forcible, objection has been raised by some authorities that patients may drink some of the poisonous reagents. This is overcome by having these reagents locked away in the case, as are the drugs.



Johns Hopkins Hospital, Baltimore.
Hood for Urine Specimens. Laboratory Established in 1897.

Bellevue Hospital, New York City.
Ward Laboratory. On left—Table for Record-making, Bookcase for Clinical Books, Medicine Case. On right—Glass-top Table for Blood Work, Etc.

A wretched difficulty, which one is almost ashamed to mention, but which nevertheless exists, is the appropriation of apparatus by members of the interne staff. This matter scarcely comes within the province of this paper beyond mentioning it and calling attention to the proper authorities for its correction, namely, the examining board, in ascertaining more correctly the character of applicants for the position of interneship.

The maintenance of the laboratory can well be accomplished on $50 a year. Dr. Fritcher informs me that at Johns Hopkins Hospital the cost of maintenance is $75 a year. Dr. Cabot kindly informs me that $30 is all that is required for the maintenance of his laboratory at the Massachusetts General Hospital, Boston. It has, I hope, been satisfactorily shown that the laboratory is a necessity; that it requires little space, and that it is moderate in expense both to establish and maintain.

The fourth objection, that the clinical tests occupy too much time, is a serious one, and requires much more discussion than can be given here. The hospital interne to-day is much in the same position as the medical student of a few years back, who was allowed to graduate in three years. New subjects, histology, bacteriology, pathologic histology, hygiene, experimental physiology, etc., were added to his requirements, but the length of the curriculum was not increased commensurately with this increase; consequently his medical course was a feast of reason, a large proportion of which he was gulping down and never digesting. The uncomplaining, enthusiastic, conscientious interne does not realize until nearly the end of his interneship that a large part of his time has been spent in history taking. Blood work takes time, and if attempted it is slurred. This is because the work of to-day in hospitals is far greater than that of ten years ago, but the interne staff has not been increased commensurately with the increase of work. The remedy for this is that there should be in large hospitals a bacteriologist interne, and a clinical microscopist and a chemical interne. This position in small hospitals could be combined in one interne. But it is a fact beyond dispute that the senior and junior internes, and the interne in charge of a ward, can not possibly be responsible for the bacteriologic and micro-clinical work and keep their records up at the same time. The hospital interne is a very responsible officer, not only from a humane point of view, but from a scientific viewpoint as well. He is the observer constantly on hand; from his observations, carefully noted, we should be able to read the story of the disease. Unless his work be so ordered that the visiting physician can insist upon

Bellevue Hospital, New York City.
Ward Laboratory (another view of above). On left—Glass-top Table and Shelves for Blood Work, Etc. Center—Cabinet for Reagents and Apparatus. (spring-lock door.) On right—Glass-top Table and Shelves for Urine, Sputum Work, Etc.
Established January, 1900.

such records, his notes are nothing more than fiction. The observations and records should be in the hands of the senior, junior and ward internes, the bacteriologic and microclinical work being done and recorded with equal care by one or two internes, whose sole duty is this work.

ADVANTAGES OF SUCH LABORATORIES AND WORK.

It has often been contended that good work will be done in spite of poor surroundings. This must be admitted even in those branches of human pursuit depending most on inspiration. The master mind makes its own way. Handel and Beethoven on the expressionless spinnet composed music which the improved instruments of to-day show must have existed in the minds only of these great musicians; while the commonplace mind of Nero must needs have Rome aflame for inspiration which failed to appear in even so terrible a spectacle. This is indeed true, but where there is one Harvey and one Bernard there are a hundred commonplace minds which, if given some encouragement, will develop into valuable observers. The laboratory, then, increases our army of workers one hundred fold. Need we look further for an explanation for the vast strides made since laboratories have become recognized parts of medical schools. Another advantage of such laboratories is the accuracy of diagnosis and the directness of treatment. This is beyond dispute and may be dismissed with the mere mention. The only opposition, however, to this statement is that negative results so often accompany the microscopic examination. While this is true, yet when the negative finding is not in itself an aid as excluding some suspected condition, the constant observation leads not infrequently to the finding of objects not at first discerned, and which in themselves constitute diagnostic aids. The development of the eye is yet in its infancy when its field of vision is that seen through the microscope—when through generations the eye has become accustomed to observe this new world, may not new objects become discernible? Should not, therefore, the spirit of constant observation be inculcated and every object of well-known significance be noted? This brings us to the third advantage of such laboratory work—accurate taking of records. "A book," says an editorial in the *Journal of Science*, "at best is but a useful adjunct in science." It is, however, the heritage of one generation to another, and it is the starting-point for the next observer. The German mind, content to concentrate itself upon one small but essential part of the structure of science, until it be well formed and set in place, is a greater contributor to the edifice than he who throws ever so strong a light upon that portion already built. The well-taken record is the material from which the stones for further construction must be selected. What better place than the bedside laboratory for obtaining the material for such construction? Knowledge is not acquired, as Ambrose Paré says, "by sitting in a chair and thinking, but by years of hard, practical labor." And we may add, as he indeed added, by making careful records. A few practical clinical books have been placed in the ward clinical laboratory, and we have prepared record sheets containing a complete list of all objects to be seen in the various subjects of clinical, microscopic, bacteriologic and chemical observation, whether they have a known significance or not. The object of such records is that we may later draw conclusions, coupling these observations with the other bedside findings.

Johns Hopkins Hospital, Baltimore.
Ward Instrument Cabinet.

Bellevue Hospital, New York City.
Cabinet for Reagents and Apparatus in Bellevue Ward Laboratory.
Established January, 1900.

Is such record-taking confined to the bedside—to the ward—may it not with advantage be extended to the dispensaries? Dr. Cabot, in the Massachusetts General

Hospital, has already done this, and his photographs, which he has kindly sent me, show such a workshop in the outpatient department during the busy hours of the dispensary. While the writer was in charge of the heart and lung clinic of Bellevue Hospital, no case of suspected pulmonary tuberculosis or malaria had a diagnosis made until the sputum in the one case, and the blood in the other, were examined. As no facilities for microscopic work were obtainable in the dispensary, it was necessary to take the patient for this purpose across the street to the Loomis Laboratory, and in eight months, with one assistant, 129 cases were so examined.

Clinical Laboratory Examination.

Name, Date,

Address,

Examination for Dr.

BLOOD.

Red Blood Corpuscles
- SIZE. Normal (μ=1-2500 of an inch) 7μ / Microcytes / Macrocytes
- SHAPE. Normal / Poikilocytes / Crinated
- COLOR. Normal. Pale Yellow. / Colorless. Shadow Corpuscle / Vacuolated (Areas defic. in Haemogl)
- NUCLEATED. Normoblasts / Megaloblasts
- NUMBER per cubic millemeter normal 5,000 000 { Gower's / Thomazeiss
- MALARIAL PARASITE.
  - Hyaline body { Amoeboid / Non Amoeboid
  - Pigmented
    - Intracellular { ¼ grown / ½ grown / Full grown / Pigment motile
    - Extracellular { Non flagellating / Flagellating / Pigment motile
  - Segmenting
  - Crescents { Pigment motile / Flagellating
  - Round bodies { Pigment motile / Flagellating

Haemoglobin
- Gower's Haemoglobinometer
- Specific Gravity Method
- Von Fleischel's Haemoglobinometer
- Oliver's Haemoglobinometer
- Color Index

White Blood Corpuscles.
- per cubic millemeter 6,000 to 10,000 normal. { Gower's / Daland's / Thoma Zeiss / Oliver's
- Normal
  - Small mononuclear lymphocyte 15–28 per cent.
  - Large " " 6–8 "
  - Transitional " " 2–4 "
  - Polynuclear " Neutraphil 75–60 "
  - " Eosinophil 2–3 "
- Myelocyte
- Eosinophilic myelocyte
- Mastzell

Plates.

Fibrin.

Blood Dust.

Coagulation time. { Gross test / Wright's Coagulometer tubes Normal, 2–3 min.

No. 1.

Clinical Laboratory Examination.

Name, Date,

Address,

Examination for Dr.

Sero Diagnosis of Typhoid

	5 min.	15 min.	30 min.	Remark
Dilution 1 in 20				
" 1 in 30				
" 1 in 40				
" 1 in 50				
" 1 in 60				
" 1 in 70				

Clinical Laboratory Examination.

Name, Date,

Address,

Examination for Dr.

SPUTUM.
- Quantity
- Odor
- Sediment { Quantity / Appearance / Color
- Pus { Quantity / Polynuclear Nutraphiles / " Eosinophiles
- Alveolar Cells { Myelin degeneration / Heart-failure cells / Dust cells
- Elastic Tissue
- Tubercle Bacilli
- Charcot-Leyden Crystals
- Curschman Spirals
- Diplococci

System of Records to be Employed in Bellevue Hospital, New York City. (Cornell Division.)

Clinical Laboratory Examination.

Name, Date,

Address,

Examination for Dr.

SECRETIONS ASPIRATED FLUIDS and FÆCES.
- Source of Material for Exam.
- Pus
- Streptococci
- Staphlococci
- Gonococci
- Diptheria bacilli
- Tubercle
- Typhoid
- Amoeba coli
- Mucous
- Intestinal Parasites
- Albumen
- Specific gravity

No. 1.

Clinical Laboratory Examination.

Name, Date.

Address,

Examination for Dr.

Gastric Contents and Vomitus

Test Meal

Hour administered

extracted
- Quantity received
- Amount of Filtrate
- " Precipitate
- Odor
- Color
- Appearance
- Reaction { Litmus / Congo Red / Tropaeolin
- Free Hydrochloric Acid { Gunzburg's reagent (Coarse test) / Dimethylamidoazoburgh (Delicate test)
- Lactic Acid { Uffelman's reagent / Boas test
- Total acidity Decinormal Na Ho Sol 4-6 cc required for normal contents
- Microscopic
- Poisons

No. 1.

Clinical Laboratory Examination.

Name, Date,

Address,

Examinatior for Dr.

Urine
- GROSS.
  - Voided
  - Catheterized
  - Amount in 24 hours
  - Color
  - Sediment. Quantity / Quality
- CHEMICAL.
  - Specific gravity
  - Reaction
  - Albumen { Nitric Acid / Boiling } Qualitative
    - Esbach's Albumometer Quantative
  - Sugar { Fehling's / Phenylhydrazin } Qualitative
  - " { Fehling's / Pavy's / Roberts's } Quantitative
  - Chlorides
  - Phosphates
  - Urates
  - Uric Acid
  - Bile
  - Indican
  - Acetone
  - Diacetic Acid
  - Diazo reaction
- MICROSCOPIC.
  - Cylindroids
  - Casts— Hyaline / Granular / Epithelium / Blood / Pus
  - Phosphates
  - Urates
  - Uric Acid
  - Bacteriology of

System of Records to be Employed in Bellevue Hospital, New York City. (Cornell Division.)

Among the cases thus examined were estivo-autumnal malaria, having its origin in New York City; Hodgkins' disease, which was subsequently followed to autopsy; lymphatic leukemia, splenomedullary leukemia, Addison's disease, also followed to autopsy; empyema, abscess of the lungs, pneumoconiosis, in which steel filings formed the dust element and gave rise to a fibroid phthisis; tubercular leprosy in a youth 16 years old, from whom the lepra bacillus was readily obtained; these, besides many cases of malaria of the ordinary type, and anemias formed the interesting findings. May we not from such records detect the beginning of disease while yet not sufficiently advanced to incapacitate the patient? May not diseases called rare, because seldom under systematic observation, be thus found frequently enough? Have we not examples of this in the leukemias, malaria, Addison's disease and others? Is it unreasonable to conclude that, with facilities for such work and adequate assistance, valuable records could be obtained from the outpatient department? The last advantage which is to be noted in these laboratories is, perhaps, when combined with that of the records, of vast importance. I refer to the following of cases to autopsy. The pathologist is independent of the clinician, but the clinician reads the answer to all his questions in his observations and notes at the autopsy table only. The break in the chain between the clinician and the pathologist has existed only since the pathologist became a specialist. The busy practicing physician who is a hospital visitant has not the time to follow to autopsy his cases. He should have the benefit of well-taken records and the diseased viscera should be preserved and shown to him. The link connecting these important departments, clinical and pathological, seems to be the department of clinical pathology. The officer in charge of this work should have access to the wards and the autopsy room. He and his assistants should watch the cases throughout, interpreting the findings at the bedside, by those in the autopsy room. As one attempts to estimate the value of such a system, well carried out, can doubt arise that the time is ripe for a ward clinical laboratory? Is not the clinician falling behind the pathologist in this matter of laboratories? Is he not depending too much upon the report of the pathologist, examining at a distance an isolated bit of tissue? Does the geologist, content with the small bit of stone, chipped from the rock, separate himself from exposed strata? Are the flora and fauna to be studied in artificial surroundings only? Are not the ward and the sick-room the laboratory of the clinical pathologist?

Johns Hopkins Hospital, Baltimore.
Record Room.

The purpose of this paper, however, will have been lost if the impression is given that here is a new specialty. On the contrary, this is an essential part of the clinician's work, and the purpose is to bring to the bedside the laboratory, which has threatened to become, like the pathologic laboratory, separated from the bedside. It was the undisputed right of the pathologist to shut himself away in his laboratory, but it is equally the undisputed obligation of the clinician to carry on his work at the bedside. The points, therefore, which, may I hope, have been brought forward in this paper, are: 1. That the time has come for a ward clinical laboratory; that such should be established and maintained; that the requirements in space and expense of establishment and maintenance are of such modest proportions as to be within the reach of the smallest hospital. 2. That these workshops, being in the neighborhood of the patients, must be kept scrupulously clean. 3. That two internes, a bacteriologist and a microscopist who is also a chemist, should, upon proper examination, be appointed in larger hospitals to have charge of these laboratories. The duty of these internes should be to make examinations pertaining to the work for which they are trained; to keep careful records of these findings during the stay of the patient in the ward, and if the patient come to autopsy to take brief records of the findings. 4. That the obtaining of the autopsy and the bringing of the history of the case to the autopsy be a part of the duty of these internes. 5. That a similar laboratory, with a specially appointed physician, be established in the outpatient department.

Massachusetts General Hospital, Boston.
Clinical Apparatus and Record Boxes in the center and right.

Massachusetts General Hospital, Boston.
Out patient Laboratory. Examination and Record-taking in progress.

I wish to repeat that all these suggestions are from the standpoint of the clinician and teacher, and the discussion by and the approval of those versed in hospital management is necessary.

BLOOD EXAMINATION.

ITS VALUE TO THE GENERAL PRACTITIONER.*

M. H. FUSSELL, M.D.
PHILADELPHIA.

I believe that the vast majority of the practitioners of medicine never make an examination of the blood of their patients unless such an examination is suggested and carried out by a consultant. The reasons for this may be many, but the following I believe to be the most important: 1. Blood examinations as practical diagnostic measures are of comparatively recent origin; consequently, men who graduated fifteen or more years ago were not taught the value of such examinations, or how to make them. Unless such members of our profession have had the subject forced upon them by teaching, or by continued intercourse with men trained in such work, they are quite unlikely to take it upon themselves. 2. Blood examinations, like all other valuable diagnostic measures, take time. The general practitioner is hurried; in the town competition is great; and those who depend upon the practice of medicine for a livelihood are apt to become careless about the use of these finer diagnostic measures, and depend upon less certain means of diagnosis. To once slur these valuable agents is to learn to gradually discard them, to the great detriment of ourselves and our patients. It is certain that in many cases examination of the blood is quite as important as, indeed more important than, examination of the urine. It is now an accepted fact that no case is thoroughly studied without a urine examination. I believe it will soon be accepted by the general practitioner—as it is now recognized by the specialist—that a blood examination is equally as important for a thorough study of our cases.

That such examinations are possible and practical for one who practices medicine for a livelihood and not as a pastime, I am personally certain, for I am a practitioner and by no means a hematologist; I have been slow in learning, but now make almost daily use of this most valuable help. Without the aid of an assistant, I have made examinations of blood in a practical way just as I have the urine, and I feel that it *helps me as much* in my daily work. I have as yet been unable to examine the blood of every patient, but I trust that the time is not far off when I can do that in my work. I do, however, use blood examinations in every obscure case, with the greatest possible benefit. I was led to the general use of examination of the blood by the recognition of my own mistakes and by the mistakes of others where no such examinations were made.

One of the most common errors is that of considering all pale individuals as anemic. Many mill-workers, or workmen who have but little daylight work in the open air are extremely white, but far from anemic. The cheeks may be ever so pale, the hands white, but the lips and conjunctivæ fail to show lack of coloring matter in the blood. Without an accurate blood examination such individuals are frequently given iron for long periods of time, a proceeding which is certainly useless and often harmful.

One of the most striking cases of this sort presented itself at my dispensary at the University of Pennsylvania last winter—a man, aged 32, a carpenter, presented himself with symptoms of general weakness with some digestive disturbances, but without loss of flesh. His skin was extremely pale, but repeated examinations showed his hemoglobin to be 90 per cent., with a normal number of red corpuscles. Certainly any one, without most careful observation or without a blood-count, would have considered this man anemic and have uselessly given iron. The examination of his blood excluded any form of anemia.

The opposite condition of affairs is just as frequently present. A person may have at the time of examination a flushed face and give every indication, as far as the skin is concerned, of a normal blood-count, yet examination will show a decided reduction of the hemoglobin. An example of this condition presented itself in my office while this paper was in process of preparation. A girl of 17 was brought by Dr. Evans, of Philadelphia. She had been told a number of years ago, that she was likely to die of aneurysm of the arch of the aorta. She was extremely nervous, and presented all the symptoms of a neurasthenic. Physical examination at once disposed of the question of aneurysm. Her face was florid, unusually red for one who was ill; her lips, however, suggested that she might be lacking in some of her blood elements. Examination for hemoglobin showed only 65 per cent., notwithstanding her florid appearance.

Perhaps no class of patients are treated with less foresight or with less accuracy than are chlorotic girls. They present themselves to their physicians with symptoms such as these: dyspnea, palpitation of the heart, perhaps edema, or hemorrhage from some mucous membrane. Probably a slight cough accompanies the disorder, together with loss of appetite and rapidly increasing pallor. Time and again such individuals have presented themselves at our clinic with a diagnosis of tuberculosis or of heart disease. An accompanying bronchitis or the rapidly beating heart with hemic murmurs have lent color to this diagnosis. An examination of the blood with the proper instruments, which is done very quickly, shows the hemoglobin to be from 20 to 50 per cent., with but little reduction in the number of red corpuscles. The physical signs then become explicable, and what was a hopeless case becomes one amenable to treatment. Such a mistake in diagnosis occurred in my own practice. In my first year I was called to see a girl of 16 years; she was pale, and had a general edema; her heart's action was tumultuous, and a loud systolic murmur was heard over the entire organ. I made a diagnosis of organic heart disease, but fortunately put the patient upon Blaud's pill. She rapidly improved, and is to-day a buxom woman of 30, perfectly well. A blood examination in this instance would certainly have shown me the error of my diagnosis; and would have saved the family much unnecessary worry; but I would not have had their unmerited praise, for so great is the faith of the family, because this patient was apparently cured of a fatal malady, that to this day they believe I permanently cured the patient of heart disease. Unfortunately for patients generally, no such happy ending occurs until a proper diagnosis is made, which can be reached by a blood examination alone.

In cases of chlorosis perhaps the most important use of blood examination is to determine when the patient is recovered. I have frequently seen cases of chlorosis which had all of the typical symptoms return after one or two weeks of proper treatment and declare themselves entirely well. True, all symptoms were much less, but a blood examination showed but little change in the hemoglobin or in the number of corpuscles. Doubtless many of the cases which have dragged on almost indefinitely in the hands of other physicians have done so because of the failure to be accurate, by carefully examining the degree of hemoglobin and the number of blood-cells in all cases before they are discharged. No case of chlorosis should be discharged until the hemoglobin reaches a degree of 80 or 85 per cent., and the corpuscles 4,000,000 to 5,000,000.

---

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

For years malaria has been made the scapegoat for all conditions of the character of which we may be uncertain. Every patient with an intermittent fever associated with malaise of uncertain origin—especially if such a patient resided in a malarial district—was said to be suffering from malaria. Malaria is to-day one of the few diseases that can be positively diagnosed. I believe that no case should be diagnosed as malaria unless the plasmodium malariæ has been found in the blood. Examinations for this organism need a microscope and the knowledge how to use it. Unfortunately the blood is not frequently submitted to this test. If this were done, beginning cases of tuberculosis and intermittent fevers in pneumonia would be much less frequently called malaria.

During the last winter the following case came under my care: A lad of 8 was suddenly seized at midnight with a chill, followed with temperature rising to 104. By noon the next day the temperature was normal. The next day at 1 p. m. there was a chill, followed again by a rise of temperature to 104, which declined to normal by midnight. This was repeated the third day. A careful examination of the blood showed the absence of the malarial organism and the presence of a moderate leucocytosis. By the fourth day an undoubted consolidation of the lung occurred and the case followed the ordinary course of pneumonia in childhood. Examination of the blood in this case absolutely excluded malaria and directed attention to the lungs, which gave no sign whatever until the fourth day.

In cases of anemia of obscure cause, frequently a simple examination of the blood with a microscope will make at least a suggestive diagnosis. Egregious errors in diagnosis of cases of leukemia and pernicious anemia may be made by a very simple view of the blood under the microscope, as exemplified in the following cases; I was requested to see a case which had been treated for two years, first for tuberculosis, and later for malaria, in the first instance, because of increasing pallor and loss of strength, in the latter, because of an enormously enlarged spleen. A simple microscopic slide of blood showed a large increase of the white cells; a later count showed 170,000 per c.c. It is true that neither of the diagnoses made in this case was justifiable, but they would never have been entertained had the gentlemen—both excellent and wise practitioners of medicine—cultivated the habit of examination of the blood in obscure cases.

Another case came to me at the University of Pennsylvania with a diagnosis of cancer of the stomach, made on account of rapid failure of strength with severe gastric symptoms, together with increasing pallor. Physical examination showed no signs which would warrant a diagnosis of malignant disease; and blood examination showed a decrease of the hemoglobin to 20 per cent., with a marked diminution of the red-cells to 900,000. A slide showed marked poikilocytosis, and later a stained specimen showed the marked histological characteristics of pernicious anemia. Here, too, a blood examination, not necessarily extensive, would have saved the patient the absolute hopelessness occasioned by a diagnosis of malignant disease, and the doctor an avoidable error. Widal's serum reaction is to-day practiced by nearly all; a combination of this test with that of examination of the blood for the malarial organism will serve to positively determine between typhoid and malaria, a combination of the two diseases, or neither.

It is known that a count of the leucocytes will frequently decide between a specific fever such as typhoid and some inflammatory condition. The following case is an example of this fact: Miss P. was seen in consultation, with the following symptoms: Four years ago the patient suffered with typhoid fever, and at that time the attending physician noticed disease of the mitral valve. Four weeks before I saw her, she was seized with an intermittent fever, with occasional severe chills followed by an exacerbation of the fever and exhausting sweats. Physical examination showed an enormously dilated heart as the result of a double mitral disease, with no other physical signs. The fever was intermittent in type with marked daily remissions, though a true intermittency did not exist. The fever was not typical of malaria, which was the diagnosis that had been made. Examination of the blood by the board of health showed Widal's serum test to be positive. On account of the previous undoubted attack of typhoid fever, however, this was of little value. Examination for the plasmodium, repeated, showed its absence, and proved the case not malarial. The blood-count showed 40 per cent. hemoglobin; 3,000,000 red cells and 20,000 white cells, a most important factor in connection with valvular disease of the heart, in determining the diagnosis of an ulcerative endocarditis. The diagnosis was confirmed by the subsequent behavior of the case.

It is a well-known fact that in certain cases where the physical signs in the lungs are delayed, an increasing leucocytosis will help to determine the case as one of pneumonia, much to the benefit of the patient and the comfort of the physician.

It will be seen that I have not referred to the staining of the blood and the invaluable and often absolutely necessary steps toward the full study of the case. I have avoided this because such steps need a special training and familiarity with methods not always practicable in everyday practice. But if the preliminary and frequently entirely satisfactory steps be taken, then almost invariably some one can be found who will complete the examinations. The apparatus to be used in this means of diagnosis which I advocate are a microscope, slides, coverslips, hemoglobinometer and hemocytometer.

By the use of a microscope and a slide of fresh blood, one may observe, 1, whether the leucocytes are largely increased in number; 2, whether the red cells form properly in rouleaux, and whether they are of odd shapes; 3, the presence or absence of malarial organism. The first two observations may be made with an ordinary 1/6 objective. The last requires a higher power, preferably an oil-immersion. I have constantly at hand a case containing the latter two instruments, together with diluents and a most necessary rubber bulb. It takes but a few minutes—fifteen—at a patient's home to get the blood properly. The counting and examination can be done at leisure at home. Then, too, there is no undue display of instruments in the presence of the patients. The fresh blood may be preserved for several hours by using oil of cedar run under the edge of the slide. The diluted blood in the tubes can be easily preserved by putting an ordinary gum band lengthwise about them.

In conclusion, let me insist that this most valuable diagnostic measure is practicable for the ordinary, everyday physician. It will enable him to avoid many errors in diagnosis. It will help him to take a deeper, more scientific interest in his cases.

DISCUSSION ON PAPERS OF DRS. CAMAC AND FUSSELL.

DR. WILLIAM OSLER, Baltimore—I have been for many years impressed with the value of the clinical laboratory and the small laboratory in the wards; we can not any longer do without either; they are really associated; they are as essential to the proper equipment of the hospital as the internes. They are to the physician just as the knife and scalpel are to the surgeon. I was glad that Dr. Camac referred particularly to the need of the clinical laboratory in the outdoor department of the dispensaries, for, after all, it is in the dispensaries that cases are most frequently not only diagnosed, but where they come for diagnosis. A very much larger number of patients would receive good treatment if they received proper diagnosis; and so I think the dispensary should have the aid of a small clinical laboratory. An interesting point is that the equipment need not be elaborate. A small equipment will suffice. An important and essential equipment is in the brain of the dispensary physician and his assistants.

I am particularly glad to hear Dr. Fussell and to see his bag. I would rather see his bag than see Dr. Fussell. The doctor can be seen at any time but not his bag. That is the sort of practitioner into whose hands I should like to fall if I had a case of ulcerative endocarditis; that is the sort of a man who not only has a microscope but knows how to use it. The average practitioner needs a microscope, needs it with him in his bag.

Therapeutics.

Lasting Anesthesia.

Lasting anesthesia can be produced by spraying ethyl chlorid over a surface previously moistened with a concentrated watery solution of cocain. Cocainized ethyl chlorid has been employed for opening abscesses, etc.—*Bardet: Med. Rec.*

Pruritus Senilis and Its Treatment.

Parisot, in the *Revue méd. de L'Est*, associates pruritus senilis with an autointoxication which has its origin in the intestinal tract and is accompanied by the incompetency of the kidneys present in old age. The blood is thus saturated with poisons, which produce a direct irritation of the nerve-terminals. In old age the liver, in an autotoxic sense, does insufficient work, the activity of the kidneys is diminished and, on account of retardation of digestion, the intestines always contain large quantities of fecal matter. The conclusion is that senile pruritus is a toxin-urodemia. The senile changes in the skin produce only a local pruritus, never a general condition. The treatment which the author recommends consists of benzoic acid, naphthol in daily doses of thirty grains, careful regulation of the bowels and a milk cure.—*Albany Medical Annals.*

Reflex Coughs of Children.

The editor of *Pediatrics*, referring to the two principal varieties, quotes MacCoy to the effect that hacking night-coughs of children are mostly due to nasopharyngeal obstruction, with mechanical irritation by retained secretions. The other class, a paroxysmal hacking cough, described by Dr. Francis Warner, of London, occurs in emaciated children with poor appetites, but who have a normal temperature and apparently healthy lungs, and is attributed by him not to peripheral irritations, as of intestinal worms, but to unbalanced central nerve-action. This opinion, somewhat at variance with that generally held by the profession at large, is based on the examination of 22,000 school children.

Acute Intestinal Catarrh.

Professor Ewald prescribes in obstinate acute intestinal catarrh:

℞.	Resorcini	gr. lxxv
	Bismuthi salicylatis.	
	Tanningen, āā	ʒss
	Sodium carbonate	℥ii

M. ft. pul. Sig. Small teaspoonful every two hours.—*Georgia Med. and Surg. Jour.*

Urticaria.

Mr. Skinner, pharmacist to the Great Northern Hospital, recommends the following formula for allaying the itching, burning sensation of urticaria:

℞.	Liquoris hammamelidis	℥ii
	Salis maris	℥ss
	Aq. dest.	Oi

M. Sig. To be applied freely.

He also speaks highly of the following cold cream:

R.	Adipis benzoinat	℥iv
	Ceræ albæ	℥ss
	Cetacei	ʒi
	Boracis	ʒss
	Glycerini	ʒi
	Aq. coloniensis	℥iiss

M.

—*Therapeutic Gazette.*

Migraine Accompanying Anemia.

R.	Ext. cannabis indicæ	gr. 1/6
	Ac. arseniosi	gr. 1 1/60
	Ferri pulv	gr. i

M. Ft. pil. No. 1. Sig. One pill three times a day.

Or:

R.	Ext. cannabis indicæ	gr. 1/6
	Pulv. digitalis	gr. ss
	Ferri lactatis	gr. ii

M. ft. pil. No. i. Sig. One pill three times a day after meals.

—*Med. Standard.*

Inhalation of Balsam in Catarrh of Upper Air-Passages.

In laryngitis and catarrhal bronchitis, a few drops of the following mixture is to be placed in a caraffe-shaped bottle and heated gently over the flame of a spirit lamp. When the bulb becomes filled with the vapors they are drawn by the patient through the nose by means of a tube with a flaring end.

℞.	Eucalyptol	25
	Menthol	4
	Terpinol	2
	Essence of pine	07

M. For local use.—*Kafemann: Med. Rec.*

Instant Relief of After-Pains.

According to Winterburn (*Jour. of Obstetrics*), in many cases a nice warm meal is better than any medicine; "still, where the pains are exhaustingly severe, I turn to amyl nitrite. This potent drug is a very efficient controller of after-pains, and used cautiously, I see no reason to apprehend harm from it. A neat way of using it is to saturate a small piece of tissue paper with five or six drops, stuff this into a 2-dram vial and request the patient to draw the cork and inhale the odor when she feel the pains coming on. It acts with magical celerity."—*Med. Prog.*

Painful Dysmenorrhea.

The *Progrès Médical*, citing *Presse Médicale*, attributes the following to Dalché:

R.	Ergotin	gr. 1½
	Sulphate of quinin	gr. 30/100
	Powdered digitalis leaves	15/100
	Powdered coca, q. s.	

M. For one pill. Sig. Three to five may be taken daily.—*N. Y. Med. Jour.*

Acute Coryza.

M. Sanger urges (*Therap. Monatschrift.*) the importance of adopting the right mode of administering topical agents in this complaint, e. g., medicated snuffs, vapors, etc. They should not be introduced into the nose by forced inspiration. Such forced inspiration increases the existing hyperemia of the nasal mucous membrane, and the swelling, hypersecretion and tendency to sneezing. The best remedial agents are: turpentin, 2 to 5 per cent., alcoholic solution of menthol-camphor, with tannin, cocain and menthol. A mixture of equal parts of peroxid of hydrogen and water is recommended for use in spray. These remedial substances should be introduced into the nose by mechanical means—sprays, insufflators, etc. Hot aqueous vapor is also useful, and the writer has had excellent results with compressed air, introduced by means of a Politzer ball. In using the last, in order to protect the middle ear, the other nostril and the mouth must be kept open. Relief is also to be obtained by preventing nasal respirations by plugging the nose with cotton-wool. Diaphoresis is a rational means of combating the disease, and will often cut short the commencing attack. The writer considers the nasal douche as irrational. For the causal treatment he recommends quinin, salicylic acid, antipyrin and above all tolipyrin.—*Med. and Surg. Review of Reviews.*

Abortive Treatment of Erysipelas.

Dr. Labit (*Amer. Jour. of the Med. Sciences*) recommends the use of a 10 per cent. solution of iodol in collodion. The affected area is thoroughly painted, and the coat extended for an inch over the healthy skin. If upon the scalp, it is first shaved, then painted. That the iodin contained in the iodol is absorbed is shown by its appearance in the urine. Frequently within twenty-four hours all symptoms of the disease will disappear. It is not claimed that iodol is the only specific for the streptococcus of Fehleisen; doubtless other antiseptics can produce the same result. The pressure produced by the collodion, and its penetration, carrying with it the remedy into the tissues, are important. The method is not painful, but on the contrary, is anodyne.—*Mass. Med. Jour.*

Caffein Treatment of Heart Disease.

In the *Nord Médical*, M. G. Lemoine states that for fifteen years he has given caffein every day to patients suffering from myocarditis, and he feels certain that this treatment has prolonged their lives by avoiding the various discomforts, attacks of oppression, and temporary asystole to which they had formerly been subject.

M. Lemoine gives an account of a case in which, owing to the permanent and prolonged use of caffein, the patient enjoyed better health than she had for many years. The author refers to five similar cases, in the most recent of which this treatment has been employed for three years. One case was that of an emphysematous subject with cardiac degeneration, in whom this treatment had been instituted seven years ago, and, owing to the influence of the caffein, he had been enabled to resume his work.

M. Lemoine states that it is not necessary to employ large doses of caffein in order to obtain these results; on the contrary, he recommends weak doses, and as much as possible doses that vary more or less from day to day. This method has the great advantage of not accustoming the organism to the same dose always; consequently it is possible to continue the use of the drug without increasing the doses.

This method he considers the most logical, although, he says, it may be objected to, on the ground of accustoming the organism to a drug and of the physician's being obliged to gradually increase the doses until they become excessive. The author thinks, however, that he has answered this objection in presenting the facts themselves of the case referred to. He concludes that the caffein treatment is indicated in patients who suffer from cardiac weakness due to a disturbance of the pulmonary circulation. He states that he has employed this treatment with admirable results in emphysematous subjects with weak heart disease.—*N. Y. Med. Jour.*

Digitalis in Heart Trouble.

Dr. J. Groedel, in the *Practitioner* for April. says that cardiac insufficiency is an inevitable result of advancing heart changes. Compensation is established in most cases of valvular disease and may last for months or years, but if the patient lives there is sure to come a time in which heart failure is more or less pronounced. In those cases he recommends the combined administration of digitalis, and advises that we should not wait until signs of want of compensation develop, such as dropsy, anemia and tachycardia. He recommends that the digitalis be given in doses of from 8 to 10 grains, once each week.

At such wide intervals the drug has no cumulative effects, but during its administration the quantity of urine should be carefully determined, and if it is not augmented the drug should be withdrawn. In the great majority of cases the digitalis is well borne by the patient, and the charge which is made that the drug causes a loss of strength and increases the weakness of the patient is unfounded, these changes occurring as a result of the disease for which the drug is given, and not of the drug itself.

He is convinced that where fatty degeneration is markedly benefited by digitalis there is sometimes a subjective cure of these cases.—*Medical Summary.*

Chloral in Eclampsia.

Dr. E. Blanc considers the chloral treatment of eclampsia the most reliable, and has satisfied himself that it exercises a favorable action upon the inflamed and obstructed parenchyma of the kidneys. The only safe method of use is by the stomach or rectum. If the women is in a comatose condition it is, of course, impossible for her to swallow, and accordingly the rectal method is generally preferred, the chloral being emulsified by means of milk and the yolk of eggs.

Inasmuch as the enemata are usually expelled, Dr. Blanc prefers the method of Prof. Fochier, whereby an esophageal tube is introduced into the stomach and the chloral injected. If it is impossible to open the mouth, the tube may be passed through the rectal fossæ. The chloral solution should be made in the strength of 1/30 to 1/40. The dose should not exceed 45 to 60 grains. In this manner two to four drams of chloral may be administered in twenty-four hours. As the remedy appears to have a pathogenic action, it is well to give 45 to 60 grains a day in severe albuminuria of pregnancy. Its administration should be combined after the disappearance of the crisis for the purpose of eliminating toxic matters from the blood.—*Jour. de Méd. de Paris.*

Cacodylic Acid in Pulmonary Tuberculosis.

The Paris correspondent of the *Practitioner* (May, 1900, 552) describes cacodylic acid as a tasteless, almost odorless, organic compound of arsenic, containing a large percentage of this substance in soluble form, and being at the same time nontoxic and easily tolerated by the organism. It is a feeble acid, and not at all caustic. It has been employed successfully in the treatment of profound anemia, malaria, and tuberculosis. In cases of tuberculosis the drug is better given hypodermically, rather than by the mouth, in the form of sodium or potassium cacodylate, in doses not exceeding .10 gm. of cacodylic acid daily, the average being from .02 to .05 gm. The injection should be continued for seven or eight days, followed by a free interval of eight or ten days, after which the treatment should be resumed. Loss of appetite or elevation of temperature is an indication to cease the treatment, as also are signs of saturation, which is manifested by congestive flushings of the face or restlessness. Hyperalimentation should be practiced at the same time. The diet should preferably be rich in phosphorus and calcium, and may include fish, brain, milk, the yolk of egg, vegetables and bread. Phosphates with sirup or with glycerin should be interdicted. For the control of cough, hyoscyamus is preferable to opium. Exposure to dust should be avoided. A solution for hypodermic injection may be prepared as follows:

R. Acidi cacodylici .... 5|
Sodii carbonat. q. s. ad saturationem.
M.
R. Cocain hydrochlorat...... .... |08
Creosoti (dissolved in 8 gm. alcohol) .... |33
Aquæ destillatæ q.s. ad.................100|
M. Add cacodylic acid solution.
Sig. .015 c.c. to .03 c.c. hypodermically.

One c.c. contains .05 gm. of cacodylic acid. The solution keeps well. The injections are painless, and unattended with danger, although, on the other hand, when administered by the gastro-intestinal tract, the solution is decomposed into a poisonous product, causing epigastric pain, loss of appetite, a sense of fatigue, and sometimes diarrhea with loss of weight; also diminution in the secretion of urine, which becomes albuminous. The drug is well borne by hypodermic injection, and neither tolerance nor habituation is established. Small doses of potassium iodid, from .1 to .15 gm. in the twenty-four hours, may be given at the same time.

Treatment of Tabes Dorsalis.

When tabes dorsalis develops subacutely, or when subacute exacerbations occur, Benedikt (*Wiener Med. Woch.*, 1900, No. 21, p. 1017) considers antiphlogistic treatment indicated, viz., absolute rest, applications of cold to the vertebral column, possibly the use of wet cups, and the internal administration of extract of ergot. At a later stage, when sclerosis of the posterior columns is advanced, afflux of blood to the parts must be favored, and this is best accomplished by means of an active Scottish douche. Electricity is an important therapeutic measure, especially central galvanization. Faradism is of subordinate value for the relief of secondary symptoms of anesthesia, and as a local sedative for the relief of local tabetic pains. Cold-water treatment has a similar value. Warm-water bathing may be injurious; it is without effect upon the morbid process. If it alleviates pain, it increases the difficulty in movement. Bloodless extension is useful, but the most important therapeutic measure consists in exposure and stretching of the sciatic nerve: motility is thereby improved, and pain is relieved. Massage of the nerves is of subordinate importance, while therapeutic exercises are capable of a limited amount of good. Mercurials and iodids are often administered without justification. Even when a history of syphilis can be obtained these remedies should be used with care. In such an event subcutaneous injections of mercurial chlorid may be given first. Should these not yield good results, better effects can not be expected from more active treatment. Should improvement occur, mercurial inunctions may be begun, the dose being cautiously increased from thirty to sixty grains. Should improvement become stationary, or should aggravation ensue, the treatment should be suspended. Daily doses of fifteen grains of iodid will generally be sufficient, and the effect should be carefully watched. Other remedies, such as silver nitrate and extract of physostigma, are of little importance. Sodium iodid, the salicylates, phenacetin, etc., may be employed as analgesics, but morphin is still the most potent remedy for this purpose. Cauterization also is useful, especially for the relief of gastric crises.

Treatment of Alcoholism.

At a recent meeting of the French Academy of Medicine, Crivelli (*The Lancet*, May 19, 1900, p. 1473) reported that in a large number of cases of alcoholism he had observed marked improvement and occasionally permanent cure as a result of the following method of treatment: Injections of artificial serum are made and followed by complete rest, baths, massage, light diet, and coffee. Then a solution of strychnin, 1 per cent., is administered hypodermically twice a day, commencing with three drops and increasing the dose by two drops daily until toxic symptoms appear. This generally happens when the dose has been raised to between twenty and forty drops, corresponding to .003 or .095 gm. of strychnin. The dose is then gradually reduced until it reaches two drops.

Mercurial Treatment of Lupus and Leprosy.

Ehlers, editor of the new international journal, *Lepra*, in a communication, urges the general adoption of Fournier's intermittent inunction method of mercurial treatment in leprosy, from which he anticipates brilliant results, as he has found it of great benefit in lupus. The results of mercurial treatment of leprosy in Iceland, Jamaica and in Haslund's experience have been extremely favorable. Ehlers' mercurial treatment of lupus was either injections of calomel or Robin's pills with the following formula:

R. Sublimat. corros.
Natr. chlor.
Vin. thebaic., āā........................ 1
Mic. panis............................ 5
Gluten .... 2 | 5
Glycerin. 2-3
M. Ft. pilul. c. S. one to three pills a day, during meals.

How to Make a Mustard Plaster.

Never place a cold mustard plaster on a patient. The shock is like a sudden plunge into cold water. Before you commence to mix the paste be sure you have the necessary material at hand. First put a large plate where it can get warm, not hot. Then stir the mustard and flour thoroughly together before you add the water, which should be tepid; stir in enough water to make a paste about the consistency of French mustard. Place your cloth—an old handkerchief is best—on the warm plate, spreading the paste in the middle of it, leaving a margin wide enough to lap well over on all sides. Do not remove paste from the plate until ready to apply. Place a folded cloth between paste and patient's clothing.—*Ex.*

Medicolegal.

Where Non-Experts Can Not Testify on Insanity.—The Supreme Court of North Carolina makes the statement, in the case of Whitaker vs. Hamilton, that the rule, or rather exception, which was first adopted in the English courts, permitting any one whose acquaintance and means of observation of the party whose sanity is in dispute are sufficient to express his opinion as to his mental condition, has been received in all the states of the Union, except Massachusetts, Maine, New Hampshire and Texas.

Sufficient to Connect Death with Injury.—A man, in apparent good health and vigor, it is assumed by the appellate division, second department of the Supreme Court of New York, in Thurber vs. Commercial Travelers' Mutual Accident Association, receives an injury sufficient to cause death by deficient circulation, through weakening the action of the heart. Under treatment for a month he exhibits to skilled physicians the unmistakable conditions which tend to indicate, the presence of this apprehended danger. Yet he starts unhealed upon a considerable journey. A few days later, he dies, without any other known cause or illness, and upon postmortem examination no cause of death is revealed excepting such as is necessarily and directly traceable to the injury itself, the evidence of which cause is distinctly visible. Surely these facts, when fortified by the opinions of medical experts, are amply sufficient, the court holds, to connect the death with the physical injury, and to supply a certainty of proof not always obtainable in cases of this character. The proof, unrefuted, it adds, establishes the injury received at the time of the accident as the sole and proximate cause of death.

On Artificial Limbs.—A man, 59 years of age, who was a carpenter by trade, but who had most of the time been engaged in mining, met with an accident, which necessitated the amputation of his left leg about three and one-half inches above the ankle-joint. A physician, who said that he knew the kind of work that was required of a carpenter and of a miner, was asked whether a man could perform the work of a miner with an artificial limb, such as this man had obtained, with as much safety and readiness as if he had his natural limbs. This was objected to. But the United States Circuit Court of Appeals declares, Southern Pacific Company vs. Hall, that it is unwilling to say that it was error to allow the physician to give his opinion as to what the effect of the fracture and amputation would be in regard to the man's capacity to perform manual labor. The conditions resulting from the use of an artificial limb, it thinks, may be said, to a certain extent, at least, to be more clearly within the knowledge of, and may be presumed to be better understood by, a physician, than it is by the common knowledge of men engaged in the ordinary affairs of life. The purchase of the artificial limb in question, the court further holds, was an expense incurred by reason of the result of the injury, for which, if properly alleged in his complaint, he being entitled to recover damages, would have been entitled to recover. But the limb, it holds, did not fall within the category of any expense which could be allowed under an averment as to general damages.

Value of Opinion Evidence.—Evidence which is made up of mere theory and speculation, and which suggests mere probabilities, an Iowa judge said, in the case of Brush vs. Smith, ought never to be allowed to overcome clear and well-established facts, and, he declared that, further, the law recognizes expert testimony as the lowest order of evidence. This statement was made at the conclusion of giving the jury the usual instruction with reference to the value of expert evidence in general. The Supreme Court of Iowa holds that it was error. No doubt, it says, evidence which consists merely of the opinions of witnesses should be received with caution, for it is well known that a witness testifying to an opinion is more likely to be mistaken than a witness who testifies to a fact.

But, while it is to be received with caution, it is not always true that it is of little value, or the lowest order of evidence. In some cases it may be of great value, and of the highest character. To partially illustrate: Here, two veterinarians had given evidence respecting the disease known as "hog cholera," and had testified that certain hogs were infected with it at the time they were sold to the plaintiff. Now the disease among animals denominated "cholera" is so well known and established, has been the subject of so much investigation by experts, and its symptoms and effects have become so well recognized by professional veterinarians, the court holds, that the evidence given in this case, based on proven facts, should not have been disparaged as it was by the language above condemned.

Consulting Physician for Priapism.—An applicant for life insurance being asked how long since he consulted a physician, the word "consulted," the United States Circuit Court of Appeals holds, does not relate to the opinion of a physician concerning a slight or temporary indisposition, speedily forgotten. Furthermore, the applicant having denied ever having had any disease or ailment, the court holds that, the physicians testifying on this point having each pronounced the applicant to have had a specific malady which the other did not discover, it was clearly a question for the jury whether each was not mistaken, and that no malady existed. On the other hand, the court holds, Hubbard vs. Mutual Reserve Fund Life Association, that where there is a question practically asking what "disease or ailment" any physician consulted discovered, the words "or ailment" broaden out the expression, and cover mere symptoms, so long as they are in themselves troublesome, as priapism is troublesome. In consequence, it does not consider that the fact that the physician describes priapism as only a symptom aids the case any more than it would for one to maintain that, though he had consulted a physician for a persistent and troublesome cough, lasting for years, it was not a disease, but only a symptom. To this it adds that, in the supposed case of such a cough, there would be an unquestioned concurrence that it was an "ailment," within the meaning of questions of this nature, and the same concurrence would exist with reference to priapism, if it were so well known as coughs.

No Excuse for Not Having License.—The defense to the Mississippi case of Bohn vs. Lewry, an action brought to recover for professional services, was that the plaintiff had not been examined and had not obtained the required license to practice in that state. At the trial, he testified that by profession he was a physician; that he had practiced medicine seven years; that he was a graduate of Tulane University, and of the Charity Hospital of New Orleans, La.; that he had applied for and received a temporary license from the Mississippi State Board of Health, and that he did not go before the board of examiners at the meeting held just prior to the expiration of such license because he was sick. But, even under such circumstances, the Supreme Court of Mississippi holds that he could not maintain an action for professional services without the license required by law. That he was a graduate of Tulane University, and a skilled physician, it says, was not to the purpose. That he was disabled by sickness from obtaining a permanent license, which, doubtless he would have done, if he had been before the board, was his misfortune. Looking back, it seems that it would have been a reasonable and wise provision of law that it should have authorized the board of health to extend a temporary license for inability to attend a meeting of the board on account of sickness or other adequate cause. But, after saying so much, the court adds, it is for the legislature to insert such provision, and not for the court to ingraft it.

Board of Health May Employ Inspectors.—The mere complaint of a nuisance, the appellate division, second department of the Supreme Court of New York says, in Kent vs. Village of North Tarrytown, will not have the effect of determining that a nuisance exists. Neither will a declaration of a board of health establish a given condition to be a nuisance, when in fact it is not so. Hence, when a board of health is required to execute the health laws, suppress nuisances, and to make rules and regulations therewith, the court holds that, in the execution of law, it is quite within its powers to make employment of persons when necessary to inspect, report and describe a given situation, in order that it may intelligently act thereon. Nor does it consider that because there may be statutory language giving it power to employ persons to carry into effect its rules and regulations, the power of employment is thereby necessarily limited to the right to employ after the nuisance has been declared. It holds that such language is broad enough in its scope, when taken in connection with the purposes and objects of the law, to authorize the employment of necessary persons in connection with the whole subject-matter, as well as for the duties which they are obligated to perform. However, where the board is authorized by statute to fix the compensation of an employee, the court does not think that has reference to the audit of a bill of an aggregate amount for services extending over a considerable period of time, but rather refers to a contemplated hiring for a specific period, and relates to the fixing of a per diem or other compensation, measured by the length of service and its character.

Locating City Pest-House in Rural Community.—Section 2568 of the Iowa Code provides that the mayor and council of each town or city, or the trustees of any township, shall constitute a local board of health within the limits of such town, cities or townships of which they are officers. The board, it then says, shall have power to make such regulations as are necessary for the protection of the public health respecting causes of sickness and quarantine, and to proclaim and establish quarantine against all infectious or contagious diseases dangerous to the public, and maintain and remove the same. This statute, the Supreme Court of Iowa says, in Warner vs. Stebbins, specially defines the territorial limits within which a local board of health may act. With the limits defined, it is by law made the guardian of public health, and it is its duty to stand as a wall between the inhabitants of the territory over which it has jurisdiction and dangerous contagious diseases. Beyond its prescribed boundaries it has no power or authority. The power given to local boards by this statute is broad. It is in the nature of legislative power delegated to the officers of a municipality for the preservation and promotion of the public health, and, while its use as an instrument of oppression by the local authorities will not be permitted, acts done thereunder, in good faith and for the purpose of promoting the general health, and for the purpose of preventing the spread of dangerous contagious diseases, will be upheld by the courts. Now this was an action brought by the board of health of one township to restrain a neighboring township board of health from establishing a pest-house on land purchased in the first mentioned township for hospital and other purposes by a city forming part of all said neighboring township. Moreover, section 880 of the Code provides that cities may acquire and hold ground outside of their municipal limits for cemetery and hospital purposes. But the supreme court does not think that this statute was intended to establish pest-houses in thickly-settled rural communities. The health regulations of the state are a part of its police powers, and, if their enforcement abridges private or corporate rights, it holds, such rights must yield to the general public good. So the conclusion of the court on the merits is that the defendants, acting as the board of health of the city township, had no power to establish a smallpox pest-house in the other township against the objection of the board of health of that township, and that an injunction would lie to restrain them from so doing. Section 2570 of the Code, which provides for the care of infected persons by the local authorities, the court does not consider enlarged, in any way, the territorial limits of their jurisdiction, nor authorized the transfer of the disease to the jurisdiction of another board of health. Indeed, it says that the members of the complaining board of health would, as such, have been remiss in their duty had they permitted smallpox patients to be domiciled within their jurisdiction, upon the theory that the disease might not spread. It maintains, too, that if a local board of health may quarantine a person within its territorial limits who is afflicted with a well developed case of smallpox, the logical conclusion follows that it may restrain those who attempt to take him there, not because his presence there might constitute a nuisance, but upon the higher ground of public welfare and public policy.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, JULY 28, 1900.

HEALING OF WOUNDS OF THE OVARY.

Various processes in the ovary of a progressive or constructive character have been described from time to time, but there has been no detailed account of the rôle enacted by the different histologic components in regeneration so extensive and thorough as the recent work of Maximow.[1] Lothrop studied the healing of wounds in the ovaries of rabbits and dogs made by excising small portions of the organs by crushing, and by passing ligatures through them; he not only failed to note any changes in the germinal epithelium which covers the ovary but also omitted to describe the multiplication of ova which he claimed took place. Sselsnew did not find any progressive changes in either the ova or the follicles after wounds, and both Phister and Levi have described changes entirely retrogressive in the inflammations produced experimentally in the ovaries of amphibia. Although it has been asserted that a compensatory hypertrophy of one ovary may follow the removal of the other, even this rests upon an insecure basis. Maximow studied wound healing in young and adult rabbits and in a few adult guinea-pigs, using between forty and fifty animals, and at periods of from five to eighty days after the wounds were made. The previous work of the same investigator upon the process of healing of wounds of the testicle[2] enables us to form some estimate of the degree of differentiation and the ability to proliferate of the various cells concerned in spermatogenesis; and it is self-evident that a knowledge of the methods by which wounds in the ovary heal is of greater value, since with the rupture of every mature Graafian follicle a wound is produced. The wounds in this study were made by single incisions, by needle puncture, by passing silk ligatures through the ovary and by excising small wedge-shaped pieces—naturally, all under strict precautions to prevent infection. It was learned that the external germinal epithelium begins to cover defects of the surface during the first twenty-four hours, in a manner analogous to the epidermization of wounds elsewhere The columnar and cuboidal cells at the borders of the wound become flattened and spread out: in this manner alone, surfaces of considerable extent may be covered anew. The cells also possess migratory powers, and on the second or third days after the wound, multiplication by karyokinesis is marked: they may so fuse with one another that a sheet-like or syncytial membrane is produced; they also may penetrate into the crevices of wounds. When extensive blood-clots or masses of necrotic tissue fill the wound, the regeneration of epithelium is hindered; but small masses of fibrin may be coated over with new epithelium. Regeneration of this epithelium ceases on the sixth or seventh day.

In the narration of the modifications which take place in the connective tissue of the ovary, there is a careful review of the facts which have so far come to light pertaining to the so-called "segmental cells," which are larger cells, twenty-four microns in their long diameter, with usually excentric nuclei, and cell bodies, which have a dense reticular structure. They often contain small globules of fat or other substance which blackens with osmic acid. The origin of these cells has been a much-mooted question. Maximow controverts the opinion of Harz, who traced their origin to the Wolffian tubules, with the fact that they are most numerous in adult ovaries. He not only accepts the view recently advanced by Rabl that they are derived from the cells of the *theca interna* of follicles which have undergone a physiologic shrinkage, but conceives it possible that they may emanate from connective-tissue cells of the ovary. In the necrosis of these large cells a substance is produced which exerts a remarkable positive chemotaxis for leucocytes; the leucocytes are found heaped up around and within them, and eventually the disintegrated stroma cells are entirely appropriated by the leucocytes or by other phagocytic cells. Although for the most part retrogressive changes were observed in the stroma cells, they may multiply by indirect mitosis or even form multinuclear "giant cells." No evidence was found of the direct participation of the stroma cells in the formation of the cicatrix.

By the incision of large follicles, the ovum escaping, a process of healing resulted which corresponds closely with the spontaneous development of corpora lutea. Wounds afford a point of entrance for granulation tissue. In small and immature follicles in the neighborhood of the wound, no progressive changes in the ovum were noticed.

As might be expected, in a discussion of the healing of wounds of mature Graafian follicles, and of corpora lutea, reference is made to the theories which prevail respecting the large "luteal cells." Maximow concurs with the views at present held by most investigators, namely that they are derived from the *theca interna*. Evidences of the multiplication of these cells were found only after the most painstaking search; only Rabl and Sabotta have observed mitosis of these cells. On the other hand, they exhibit many signs of degeneration. Wounds of corpora lutea healed promptly; injuries of the mature Graafian follicles were readily repaired by granulation tissue. Usually, however, the ovum escaped; in short, the formation of cicatrices in the ovary can be reasonably expected, providing infection does not occur.

The value of such work as this, and other work of like character, does not lie solely in the new knowledge brought to light; by excellence and careful attention to detail standards are formed which determine how investigations of this nature should be pursued.

---

1. A. Maximow: Die histologischen Vorgänge bei der Heilung Eierstocks-Verletzungen und die Regenerations-Fähigkeit des Eierstocksgewebes. Virchow's Archiv, 1900, 160, 95.

2. A. Maximow: Die histologischen Vorgänge bei der Heilung von Hodenverletzungen, etc., Ziegler's Beiträge, xxvi.

LEUCOCYTES IN THE BLOOD IN TYPHOID FEVER.

It has become possible by means of modern methods of staining to demonstrate a series of changes in the blood of greater or lesser significance and diagnostic importance. The study of the physical and chemical properties of the blood is attended with such difficulties, and is so time-consuming, and its results, further, are of such a general character, that it can not be expected to be of distinctive value. The study of the morphology of the blood, especially of the colorless corpuscles, is, however, more feasible, and productive of better results, and there is reason to hope that a knowledge of the variations in the leucocytes may prove an important and trustworthy aid in diagnosis.

With the object of shedding light on one aspect of this subject, Naegeli[1] undertook a study of the blood in more than fifty cases of typhoid fever, making as many as from fifteen to twenty-five observations in the individual case. As a result, he concludes that examination of the blood, especially systematically continued enumeration of the varieties of leucocytes, constitutes one of the most valuable methods in the diagnosis and, to a certain extent, in the prognosis of typhoid fever. The variations in number of the neutrophiles, eosinophiles and lymphocytes are regular and pursue a definite specific course at the various stages of the disease. They are due to the action of the typhoid toxin upon the bone-marrow, the formation of neutrophile and eosinophile cells being inhibited; and probably, also to the influence upon the functions of the lymphatic structures, in consequence of which the number of lymphocytes is altered. The anatomic expression of the action of the toxin upon the bone-marrow is a definite pathologic result as exhibited in a marked preponderance of the myeloblasts and as marked a reduction in the neutrophile and eosinophile myelocytes. In the first stage of typhoid fever, when the temperature pursues an ascending curve, there is probably a neutrophile leucocytosis of moderate degree, which soon subsides and yields to a diminution in the neutrophile cells. The eosinophile cells disappear almost, if not wholly; the lymphocytes undergo moderate reduction. The second stage, with continued fever, is attended with further reduction in the neutrophile cells and the lymphocytes, although the latter frequently undergo increase toward the close. In the third stage, with remissions in temperature, the lymphocytes begin to undergo increase and their number may even now be considerable. The number of neutrophile cells becomes still less, and eosinophile cells begin to reappear at the end of this period. In adults the lymphocytes often remain still in small number. The fourth stage, with a declining temperature, is characterized by still further reduction in the neutrophiles, which now reach their minimum. The lymphocytes are generally still further increased, and are often more numerous than the neutrophile cells. The eosinophile cells increase slowly and regularly. In the first days after defervescence, the neutrophile cells begin to increase in number, the lymphocytes are quite numerous, and the eosinophile cells steadily increase in number. Some time after the termination of the disease, considerable lymphocytosis is encountered, with marked eosinophilia, and a normal or slightly increased number of neutrophile cells. This condition is less marked in adults than in children, and generally disappears in the course of a few months, while it persists a longer time in children. Also, during the course of the disease, all fluctuations in the leucocytes are more marked in children, particularly the increase in the lymphocytes. On the other hand, even in severe cases in children the figures do not fall so low as in adults, evidently in consequence of slighter injury to the bone-marrow and the lymphatic structures. Complications not of typhoid origin influence only the neutrophile cells, which, as a rule, increase in conjunction with suppuration, cystitis, parotitis, pleuritis, bronchopneumonia, nephritis, etc., but generally not to so marked an extent. An absence of leucocytosis in spite of complications, indicates the threatening condition of insufficiency of the bone-marrow, with inability to produce neutrophile cells.

In prognosis valuable guides are derived from the failure of the eosinophile cells to disappear, or their early appearance from the slight diminution in the neutrophile cells, and the marked increase of the lymphocytes, in a favorable direction; and from the marked diminution in all varieties and absence of leucocytosis in association with complications, in an unfavorable direction. Relapses are attended in all particulars with the same conditions as the primary disorder. The earlier views as to the fluctuations in the leucocytes in cases of typhoid fever—unequal division, absence of exudation, influence of splenic enlargement, positive and negative chemotaxis, etc.—are to be replaced by the assumption of the action of a toxin upon the bone-marrow and the lymphatic apparatus in the sense of an inhibition of function.

THE NEW YORK STATE MEDICAL ASSOCIATION.

The long struggle for supremacy between the New York State Medical Society and the New York State Medical Association has at last terminated in favor of the latter, which is the accredited representative of the American Medical Association, and it is now hoped that there will soon be a union of the medical profession in that commonwealth. The special charter recently granted by the legislature, followed by the decision of Justice McAdam, of the Supreme Court, that the Association, as the accredited state representative of the American Medical Association, has the right to legally represent the profession of that state, places the State Medical Association at the head of medical organizations as the representative of the medical profession in that locality.

As published in our news columns two weeks ago, the question raised was whether the Association could prosecute and collect fines imposed upon illegal practitioners of medicine, and the attorney of the New York State Medical Association made a test case for the purpose of determining the legal standing of the Association by a decision of the court. It is exceedingly unfortunate that the old state society has been placed in its present position, and the physicians of other sections regret that such a condition exists, but the few who dictated the policy that brought it about should shoulder the blame and be the first to return to lift those who have followed their advice up to the plan of organization promulgated by the State Association. This, if carried out, is bound to make the profession felt as a unit in advancing the interests of the public and in demanding the recognition of the rights of the physician and surgeon.

---

[1] Deutsches Archiv für Klinische Medicin, 67. B., 3, u. 4. H., p. 279.

The time is ripe for a thorough organization of the profession of the whole country, but before this can be perfectly done each state must have an individual, not a two-headed organization. There can not be two state societies in New York affiliated with the American Medical Association any more than in any other state. It is believed that the continued rapid growth of the New York State Medical Association, added to its new plan of organization, will soon result in ending the unhappy and unsatisfactory conditions of the past. The old bitter feeling is practically at an end, and a desire for a coming together is evident on both sides. A united profession in the Empire State will be a power for good, not only to the local profession, but to that of the whole country. It may be necessary for each side to make some sacrifice, to give a little here and take a little there, before a final union will be brought about, but, with few exceptions, all on each side are ready for this.

THE MEDICAL ASPECT OF THE CHINESE TROUBLE.

Now that it seems probable that the United States has before it, as a portion of its "white man's burden," serious and possibly prolonged and extensive military operations in China, it is well to face openly some of the sanitary problems it involves. China is by no means a healthy country; over a large part of its extent it supports a dense population, who live in conditions of hardly calculable unwholesomeness, and by their methods of agriculture, thrifty and thorough, but unsanitary, keep their land in a state of a midden heap. The water-courses are practically open sewers. Human life is comparatively cheap in China, and it is probable that the mortality rates of their cities and country districts from gastrointestinal disorders would be found higher than in most other countries, had we any reliable statistics. This is taking into account, also, the immunity they must have acquired during centuries of such conditions, and their tea-drinking habits, saving them perhaps from many of the perils of contaminated water. Our experience in the late war with Spain, and that of the British just now in South Africa, are enough to show us that there is no more serious peril to an army than this class of disorders, even under comparatively favorable conditions. What the sanitary problems of the medical staff in China will be, with the state of affairs that exist there, is a rather appalling question.

That the authorities are wide awake to the needs is shown by the precautions already taken, but not all the exigencies or possibilities of a campaign can be provided for, even with the best of foresight and care. If the war in China is to be prolonged over any considerable period of time there is no telling what medical problems will arise. The Chinese themselves may not prove an altogether contemptible enemy, even against the world, but whatever fighting injuries they can inflict seem to us to afford a far less serious prospect ahead than do the possibilities of army disease if the conflict is to be to any extent a protracted one, and our army has to be long on China's soil. If the troubles are to extend and involve the southern provinces of the empire there will be still other factors of disease to provide for than those mentioned. It is to be hoped that there will always be an intelligent co-operation between the military and the medical authorities, and that some of the mistakes made during our war with Spain will not be repeated. Matters are likely to be bad enough at the best, but any inconsiderate disregard of health needs by high military authority would make them incalculably worse.

QUACKERY IN FRANCE.

The bone-setters, magnetizers and the like that infest American civilization are making trouble also elsewhere. It is said that there is in France a regular school of magnetizer-masseurs that sends out its diplomated graduates to prey upon the public. This would not be a startling idea here, but one has had the notion heretofore that they manage these things better in France and that quackery had not so free a hand there. It is said, moreover, that the courts, with the same tendency of the legal mind that makes some of our jurists propagandists of Eddyism and lobbyists for osteopathy, show a tendency to recognize these frauds as legitimate medical practitioners. We have troubles of our own, but they make us none the less sympathetic with our French confrères.

THE NEW YORK MEDICAL JOURNAL.

Owing to the financial trouble of D. Appleton & Co., the *New York Medical Journal* has been sold, the new owner being Mr. A. R. Elliott, owner and publisher of the *American Druggist*, who conducts an advertising agency in New York. We are glad to note that Dr. Frank P. Foster, its efficient editor, has been retained. The *New York Medical Journal* is one of the old reliable journals of this country, has always been ably edited, and is recognized as one of the leading medical weeklies. It was started as a monthly in April, 1865, with Dr. William A. Hammond as editor. In 1871, the late Dr. Wm. T. Lusk and Dr. Jas. B. Hunter assumed the editorial management, these being succeeded by Dr. Frank P. Foster, in 1880, who has edited it since. In January, 1883, the journal was changed from a monthly to a weekly. D. Appleton & Co. became the publishers in 1868.

CHICAGO DIPLOMA MILLS.

The Chicago diploma mills that have by various names eluded the justice that the State Board of Health has sought to deal to them seem likely to be at last brought to book or at least seriously crippled in their future operations. Heretofore when legally suppressed under one name they could start again under another, since articles of incorporation were cheap and easy to secure in Illinois. Now, since Uncle Sam has taken a hand, as has been noticed in our news columns, the better part of their business, the advertising and correspondence portion, is cut off and bids fair moreover to bring serious trouble upon their operators. It is quite interesting to read the comments of the daily press upon this as compared to its stand when President Rogers tried to induce the last legislature to pass an act regulating the degree-giving powers of chartered institutions. Now it appreciates the discredit that the laxness of the laws has brought upon the city and state. Then it went spasmodically virtuous in behalf of the poor but worthy institutions that should not have their degree-conferring rights taken away by a grasping president of a highly-endowed university. Had Dr. Rogers' bill prevailed there would have been a few less small medical and other colleges in Illinois with the rights to give degrees, but there would not have been a continuation of the diploma-mill disgrace that has made Illinois degrees disreputable throughout the world. We are fortunate that our federal criminal code makes a crime of using the mails for purposes of fraud, but we should also have state laws strict and efficient enough to prevent it.

THE GLAMOUR OF THE ULTRA-SCIENTIFIC.

Dr. Patrick, in his Chairman's Address, published in this issue of THE JOURNAL, alludes to the charges that the neurologic specialists are practically therapeutic nihilists, and offers some figures that apparently point that way. In examining the issues for a year of four leading neurologic journals, he found that out of 199 original papers only three were on treatment, and out of 1033 abstracts only 74. In two years of two other high-class journals he found only one out of 115 original papers on a therapeutic subject, that is, he says, only 2.2 per cent. of the original contributions related to the cure or alleviation of disease. While his calculations are not altogether accurate, the figure is certainly a small one and if we are to accept it as indicating a tendency on the part of the neurologists especially, the showing would justify the charge. It ignores, however, the fact that treatment is not altogether neglected in articles in which it is not the leading theme. However, the neurologists have not been the only sinners in this respect, for the tendency to magnify the ultrascientific as contrasted with the merely practical is, so far as it exists, a common one in all the departments of medicine. There is a tendency on the part of some to be led off from equally important matters by the more showy, in a scientific point of view, results of pathology and clinical diagnosis. The tendency to minute observations seems, in a sort of way and to a certain extent, hostile to that broader view that covers the whole field, it may be said, more superficially, but in some ways more advantageously. We are apt to be captivated by the brass and glass of the laboratory and forget that it is just as important to know how to cure as to know how to diagnose a disease. The glamour of the ultrascientific is not confined to medicine alone, for almost the last public utterances of one of the greatest of American naturalists deprecated its existence amongst his fellow workers. It is well from time to time to have our attention called to such possible tendencies. The widening of medical science should not lead us to confine ourselves too exclusively to limited departments or let us fall into ruts. Medicine is a broad subject, but it is all the more necessary that its followers should be broad in their scope and not encourage too much their limitations by too exclusive attention to narrow fields.

PNEUMOTHORAX WITHOUT EFFUSION IN THE ABSENCE OF OTHER DISEASES.

The presence of air in the pleural cavity is known as pneumothorax, but it is only rarely that air is present alone, inasmuch as the causative factors are almost always irritating, if not actually septic: thus effusion also generally results, often serous and sometimes purulent, and the condition then becomes one of hydropneumothorax or pyopneumothorax. Air may gain entrance into the pleural cavity as the result of perforating wounds of the chest, perforation of the pleura through the diaphragm or the esophagus, or perforation of the lung. The last-named variety of perforation may occur in the normal lung from the rupture of air-vesicles, or as a result of local disease of the lung, and, also, in consequence of destructive or ulcerative disease of the pleura. Finally, pneumothorax may result from the generation of gas in the pleural cavity by the bacillus aerogenes. One of those rare instances in which the disorder appears in an apparently healthy individual, and is attended with effusion, was reported by F. Parkes Webber (*British Medical Journal*, May 19, p. 1224) at a recent meeting of the Clinical Society of London. The patient was a piano-fitter, 31 years old, with no previous history of pleurisy, hemoptysis, or pulmonary disease, and with no family history of pulmonary tuberculosis. Without violent strain or excitement, while at work, he was suddenly seized with pain on the left side of the chest, as if stabbed with a knife. Breathing gradually became embarrassed, and the pain was greatly increased by attempts at walking. When seen, a short time later, the respirations were about 30 and the pulse about 65. The movement of the chest was equal on the two sides, but no cardiac impulse could be felt. The area of cardiac dulness was displaced to the right of the sternum, and there were distinct signs of pneumothorax on the left side. When the patient was kept quiet in bed, the dyspnea and severe pain in the chest rapidly subsided. No splashing sound nor metallic tinkling was heard, and the signs of pneumothorax gradually disappeared in the course of thirty-two days. The first evidence of partial return to the natural condition was afforded by the absence of the bell-sound from the upper anterior portion of the affected side of the chest while the most persistent of the abnormal signs was the displacement of the heart. In the process of recovery from the pneumothorax the patient did not appear in any very ill. There was never any expectoration, nor sign of pleurisy or pleuritic effusion of serum, blood or pus. It is pointed out that this case and others like it, including the rare instances of recurring pneumothorax, can be best explained on the supposition that a subserous emphysematous bulla has burst, or that a minute tuberculous nodule has broken down and established a communication between the air-passages and the pleural cavity.

CONGENITAL WORD-BLINDNESS.

The mechanism by which expression is given to thought is most complex, and the modes in which the defects thereof comprehended in the designation "aphasia" may arise are correspondingly varied. The faculty of articulate speech bespeaks an accumulation of sound-memories, and that of written or printed speech an accumulation of visual memories as well. In addition, the motor mechanism of speech must in each instance be intact. A lesion of the auditory center in the first temporal convolution of the left cerebral hemisphere may give rise to total inability to appreciate the significance of sound—mind deafness, while a more circumscribed lesion will be attended with inability to understand or to repeat spoken language and with inability to read and to write from dictation, while the power of voluntary speech and writing, and of writing by transcript, is preserved, although words may be improperly used—paraphasia. This condition is known as word-deafness. Sounds are heard, but are not properly appreciated, although sound-memories can be revived. Lesions of the visual area in the postero-inferior portion of the parietal cortex on the left side may prevent conceptions of visual impressions, a condition that is known as mind-blindness; while the defect resulting from less extensive lesions, that cause only loss of the visual appreciation of written or printed language, is known as word-blindness. Aphasia has rarely been observed as a congenital condition, and Henshelwood reports two cases under his own observation exhibiting congenital word-blindness, as well as two others recorded in the literature. In all of these four cases, while there was no impairment of vision proper or of general intelligence, there was difficulty in recognizing by the sense of sight the letters of the alphabet, and especially words, although figures occasioned no difficulty. The disorder is believed to be due to some congenital defect in the center for the visual memory for words and letters. It is pointed out that the faculty of reading comprises two stages: one in which the individual letters of the alphabet are stored up in the visual memory through the intermediation of the auditory faculties, and another in which visual memory of words is gradually acquired and stored up. These visual memories of letters and words are supposed to be registered in the angular and supramarginal gyri of the left cerebral hemisphere in right-handed persons, and any abnormality within this area, from disease, injury at birth, or defective development, would be attended with great difficulty in learning to read. It is pointed out, finally, that similar instances may be by no means so rare as the absence of recorded cases would lead one to infer, as they may be commonly overlooked. The importance of their early recognition must be obvious, as much can be accomplished by patient and persistent training.

---

1. The Lancet, May 26, 1900, p. 1506.

THE ACTION OF CELLULAR POISONS (CYTOTOXINS) OF ANIMAL ORIGIN.

One of the latest developments in pathology is the discovery and study of cytotoxins of animal origin produced by the injection of an animal with the various cells of another animal of a different species. The serum of the first animal gradually becomes toxic for the corresponding cells of the second animal. In this way there have been produced hemotoxins—substances that destroy red blood-corpuscles—leucotoxins—substances destructive of leucocytes—spermotoxins, destructive of spermatozoa, etc. Some reference has been made in these columns to these cytotoxic serums and their actions[1]. The fertile Metchnikoff sees in these demonstrations a number of far-reaching possibilities, and has busied himself in working out their application to human pathology and therapy. The success of serum treatment in diphtheria serves as an encouragement to work of this kind. This is the day of serums and of ferments, and everywhere investigators are engaged in preparing serums for the treatment of diseases of known as well as of unknown etiology. Returning to cytotoxins, Cantacuzène[2] has shown that the injection of small doses of hemotoxic serum has the paradoxic effect of greatly stimulating hematopoiesis, the red corpuscles of the rabbit mounting up to 9,000,000 per cubic mm., and hemoglobin reaching a value of 110; and Besredka[3] demonstrates that in small but repeated doses leucocytic serum causes a marked hyperleucocytosis. Metchnikoff, in conjunction with Besredka, reports an investigation of the action of serums of this kind in leprosy. For some time leprologists have been interested in the treatment of leprosy with the serum of Carrasquilla, prepared by injecting large animals with the plasma of the blood of lepers, and Laverde, produced by similar means, including the injection of the extract of leprous proliferations. Good results, but no full cures, have been obtained with serums of this character. Metchnikoff injected goats with defibrinated human blood; the serum of the goat soon acquired the power of dissolving the red blood-corpuscles of human blood. Two lepers were treated with injections in small quantities of the hemotoxic goat serum. Considerable improvement in the local lesions took place; about some of the nodules congestion and suppuration appeared, succeeded by cicatrization; the number of red blood-corpuscles increased unmistakably, also the quantity of hemoglobin. The local suppuration is explained as due to the increased number of phagocytic leucocytes produced by the leucotoxin present in the serum, and all the good effects are explained on the score demonstrated by Cantacuzène and Besredka to follow small doses of hemotoxins and leucotoxins. Besides, the action of the antileprous serums of the kind mentioned is to be ascribed to the presence of cytotoxins rather than to specific antibacillary substances. The general conclusion to be drawn from these novel experiments is that feeble doses of cytotoxins produce an increased activity of the corresponding cells. How far serum, containing hemotoxic and leucotoxic substances, may prove beneficial in other conditions, accompanied with anemia, awaits further study.

---

[1] See editorial "Intercellular Struggles and Anticellular Serum," The Journal, xxxiii, 25; also "Spermotoxin and Antispermotoxin," Ibid., xxxiv, 10.

[2] Annales de l'Inst. Pasteur, 1900, xiv, 378.

[3] Ibid., 390.

Medical News.

Professor Toldt has been elected dean of the medical faculty of the University of Vienna.

Knighthood has been conferred upon Drs. Hector Cameron, Glasgow, and G. Hare Philipson, Newcastle-on-Tyne.

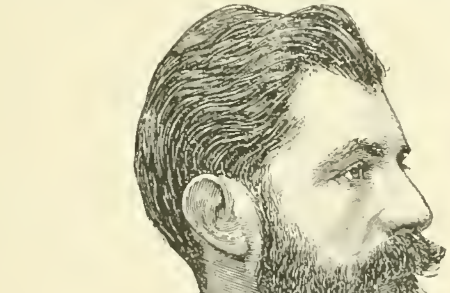
The monument to Lavoisier, the distinguished chemist, in Place de la Madeleine, Paris, was inaugurated by the Minister of Public Instruction, July 27.

The Maharajah of Gwalior has offered the Government of India for service in China a fully-equipped hospital ship, upon which he proposes to spend twenty lakhs of rupees, or more than half a million dollars.

Russian army surgeons to the number of 180 passed through St. Petersburg on their way to Khabarovsk to join the forces proceeding to the front. Several strong Red Cross corps are soon to be sent to China via Moscow. At present 100 ambulances are in operation with Russian troops in the field.

The National Red Cross Association met in Washington, D. C., July 10, and reorganized under the act of incorporation granted at the last session of Congress. The old association passed out of existence and a new advisory board was chosen, consisting of fifteen members, five elected for three years, five for two years and five for one year. Miss Clara Barton was chosen president.

Legal proceedings have been instituted by the authorities against the assailant of Professor Pozzi, as the French penal code provides protection for magistrates in the exercise of their functions, and Pozzi's official course in the *Haute Cour* and the Senate was the cause of the attack. He has made every effort to have the matter dropped and prevent the expulsion of Dr. Devillers from the Medical Club, where the incident occurred which led to the famous duel.



Professor S. Pozzi, Senator, President of the Club Médical de Paris. (From the Gazette Medicale de Paris.)

The transports *Grant* and *Sumner*, now on their way to China, carry twenty-five trained female nurses, a part of the thirty recently requested for service in the reserve hospitals in the Philippine Islands. It is thought that some of these nurses will be ordered for duty on shipboard in Chinese waters. There are now in service nearly 200 female nurses, who are doing excellent work in the reserve hospitals in the Philippines.

Tuberculosis in Paris.—Nearly 26 per cent. of the deaths in Paris in 1899 were due to tuberculosis—12,314 out of a total mortality of 46,988. The percentage of tuberculosis mortality at various ages was as follows: 1 to 20, 37.2; 20 to 40, 60.2; 40 to 60, 30.5, and over 60, 3.3.

Reciprocity in New Jersey.—The State Board of Medical Examiners of New Jersey, on July 5, 1900, adopted the following resolution: "Resolved that this Board will indorse the license of any State Board of Medical Examiners in the United States, in lieu of an examination; provided, first, that the candidates for indorsement shall present satisfactory evidence of having the academic and medical education required by this Board, and that the license presented for indorsement shall have been issued after a State examination of the same grade and kind as that required by this Board.

PENNSYLVANIA.

Dr. Horace Heysham succeeds Dr. J. E. Eisenberg in the Charity Hospital at Norristown.

Dr. Beriah Edwin Mossman, Jr., Greenvilie, has received the appointment of resident physician in the Allegheny General Hospital.

The Dairy and Food Department announces that during June there were 119 suits brought against violators of the oleomargarin laws, resulting in fines amounting to over $1800.

SUSPECTED CASE OF LEPROSY.

The town of Olyphant is considerably exercised over a suspicious case of leprosy. Soo Kee, a Chinese laundryman, had for some time been suffering with a disease of the skin, and as it was suspected of being leprosy his laundry was closed. From the fear that the Board of Health would place him in quarantine the man packed up his belongings and left town.

Philadelphia.

Dr. George E. de Schweinitz has gone to Europe.

Dr. B. Franklin Stahl will spend the summer at Rangely Lake, Me.

Dr. Eugene Lane Vansant will be in attendance at the International Medical Congress at Paris.

Dr. E. E. Montgomery will sail at an early date for Paris, to attend the International Medical Congress.

Dr. Melvin M. Franklin has been appointed a surgeon on the staff of St. Joseph Hospital, to fill the vacancy made by the resignation of Dr. John S. Miller.

Through the bequest of Mary Rose Smith, $5000 has been given the Episcopal Hospital for the purpose of endowing a free bed.

The prize of $100 offered annually by Dr. John B. Deaver for the best report of the surgical clinics at the German Hospital has been awarded equally to Dr. A. G. Ellis and Dr. H. F. Godfrey. An extra prize was given Dr. Cooley.

The Children's Country Week Association is using every means to dispatch the children of the slums to the country as fast as possible during the hot weather. One day of the past week, 341 children and 71 mothers were sent to different outlying districts.

The extreme heat which has prevailed here for the past ten days shows no signs of abatement. During the week, there have been upward of 150 prostrations and a large number of deaths from this cause. The same condition seems to prevail throughout the entire state.

MORTALITY STATISTICS.

The number of deaths occurring in this city during the week ended July 21, was 564; a decrease of 69 over that of last week. The principal causes of death were: apoplexy, 13; cancer, 17; cholera infantum, 89; tuberculosis, 45; heart disease, 27; inflammation of stomach and bowels, 42; sunstroke, 17; diphtheria, 9; scarlet fever, 2; typhoid fever, 5.

PHILADELPHIA HOSPITAL.

Dr. C. S. Gans has been appointed on the staff to succeed Dr. J. Abbott Cantrell, resigned. Dr. M. B. Hartzell was also elected a member of the corps. Dr. Ella M. Anderson was elected assistant physician to the department for the insane. The number of patients in the hospital was 3684, an increase of 95 over the corresponding period of last year.

SANITARY ASSOCIATION.

This association from June 7 to July 14 admitted 83,319 persons, an average of 2653 for each working day. The number comprised 10,990 adults, 9179 infants; 53,765 children from 2 to 10 years of age, and 11,385 over 10 years. Last summer 166,554 women and children were taken to and from the sanitarium on the daily trips made by the steamers.

BEULAH ORPHANAGE.

Since the discovery of the first "baby farm" in this city, the police seem to exert more diligence in looking after others which have been reported. In the latest one, called the "Beulah Orphanage," a child died some time ago under rather peculiar circumstances. The coroner therefore ordered an investigation, and learned that the "orphanage" was under the charge of two men, and that the child died without medical attention. On inquiring the reason for this, it was said that the plan was the "trust in God treatment," or faith cure. On being asked as to who first suggested the place, the answer was "The Lord by His Spirit." As to why the child had died without a physician having been called, the reply was "Our Faith in God Kept Us." The coroner told the men they could send for a lawyer, which children have been entrusted to the care of the Society for the Protection of Children from Cruelty.

MARYLAND.

NEW ASYLUM AT SYKESVILLE.

A large number of patients from the overcrowded wards of Springgrove Asylum were removed, July 19, to the new cottages at Springfield Asylum at Sykesville. The new buildings are intended exclusively for women, and are one mile distant from the male department. No men are allowed near, and there is entire absence of restraint, the patients going about at will. Bathrooms, bedrooms, diningrooms and lounging-rooms are furnished almost luxuriously. The patients are encouraged to work, and while there is no compulsion, 85 per cent. of the male patients work willingly, either on the farm or in the industrial school. Mr. W. W. Spence, of Baltimore, has presented to the institution a handsome pool-table and equipment. The Waring system of sewerage has been put in, and all the buildings are connected by telephone. The crops are excellent, and 400 tons of ice are stored away, having been gathered by the inmates last winter.

Baltimore.

Dr. H. Burton Stevenson has been appointed demonstrator of obstetrics at the Baltimore Medical College.

The members of the Baltimore County Medical Association enjoyed an outing at Tolchester, July 19.

A boy, aged 14, died July 12, whose death is attributed to his having swallowed some of the water of Jones' Falls, a foul stream that traverses the city. He took a bath on July 4 and became ill the following day. There occurred symptoms of typhoid fever, delirium, and "dark spots all over his body." It is said that similar cases have previously been noted in this city.

NEW OFFICERS OF THE MEDICAL JOURNAL.

At a meeting of the *Medical Journal* company, held recently, the following officers were elected: president, E. J. Farber; vice-president, Dr. R. T. Wilson; secretary and treasurer, Dr. H. M. Simmons; Dr. John Fulton is editor-in-chief. The remaining directors are Drs. William Osler, John D. Blake, Wilmer Brinton and Hiram Woods.

MARYLAND MEDICAL COLLEGE.

This college, established about three years ago, will shortly erect a new hospital building to cost $25,000. The following appointments have recently been made in the faculty of the college: Dr. Harry Gross, elected to chair of operative and clinical surgery; Dr. Ernest E. Quandt, elected to the chair of chemistry and toxicology.

MORTALITY STATISTICS

The death-rate for the week ending July 14 rose to 318, 171 being under 5 years of age. The death-rate was 30.47 per 1000. The following show the effects of high temperature: Cholera infantum, 99; diseases of infancy, 35; dysentery, 9; sunstroke, 7; senile debility, 13. The last figure shows how fatal to the old are spells of very high temperature. It is rather remarkable that there should have been 14 deaths from pneumonia and 22 from consumption.

A MEDICAL IMPOSTOR.

A man claiming to be "Dr. Charles A. von Ahlefeldt, of the Staff of Surgeons in the Navy of Germany," has been victimizing the Stafford Hotel and some of the profession here. He occupied the best room and entertained freely. He went to the Hopkins Hospital in a hack, presented his card, and being a good talker, with polished manners, and representing himself as a German surgeon on his vacation, he soon ingratiated himself there and had the Hopkins surgeons repeatedly to dine with him. When the bills were presented he disappeared, leaving an indebtedness of $238. He appeared to be about 40 years of age, had a military bearing and was faultlessly dressed.

ILLINOIS.

STATE BOARD OF CHARITIES.

The quarterly bulletin of the state commissioners of public charities shows that the number of inmates of the several eleemosynary institutions at the beginning of the quarter was 10,220; at the close, 9251. The northern insane hospital had 1102 inmates; the eastern, 2248; the western, 661; the southern, 1097; the central, 1446; the charitable eye and ear infirmary, 356; the asylum for feeble-minded, 830; for the blind, 251, and for the deaf and dumb, 511.

Chicago.

Dr. Sarah Hackett Stevenson sailed for Europe on the *St. Louis*, July 25.

Drs. D. W. Graham and W. T. Montgomery have just returned from a six months' trip abroad.

By the will of Timothy B. Blackstone, five institutions have received $25,000 each. Among them are St. Luke's Hospital and Passavant Memorial Hospital.

Dr. Edwin Klebs, professor of pathology in Rush Medical College and director of the laboratory in the Post-Graduate Medical School, has resigned, and after a few months spent in Switzerland, will locate in Germany.

Dr. Nicholas Senn's article on "The Humane Side of Warfare," which appeared in The Journal, March 31, has been reproduced in full "by special request" in the *Indian Medical Record, Calcutta,* of June 13.

A crusade against unsanitary rag and junk shops has been started. The chief sanitary officer has placed most of his force on this work and will compel every owner of this class of shops to comply with the health regulations. It is said that at present many of the rag-dealers are so anxious for business that they purchase rags which they know to be unsafe.

HEALTH DEPARTMENT.

The report of sickness and mortality for the week ended July 21 is very satisfactory, considering the various changes in temperature, humidity, etc., during that period. The death-rate per thousand was 12.78, which is a marked improvement on that for the corresponding week of 1899, which was 17.27. The total deaths from all causes were 454, 263 males and 191 females; 136 who died were under one year of age; 53 between 1 and 5 years, and 64 over 60 years. The principal causes of death were: acute intestinal diseases, 100; Bright's disease, 17; bronchitis, 11; consumption, 45; cancer, 21; diphtheria, 11; heart disease, 29; nervous diseases, 52; pneumonia, 15; suicide, 4; violence aside from suicide, 26; and sunstroke 15. During the twenty years from 1880 till 1899 the death-rate of the city has progressively decreased, as follows: 1880-1884, 12,319 deaths, 21.9 per thousand mortality; 1885-1889, 14,860 deaths, 19.2 per thousand mortality; 1890-1894, 25,363 deaths, 17.9 per thousand mortality; 1895-1899, 33,515 deaths, 14.2 per thousand mortality. The decrease has been marked as regards infant mortality. In 1880-1884 the deaths under 5 years of age were 52.2 per cent. of the total; in 1885-1889 this percentage was reduced to 48.7; in 1890-1894, to 45.5, and in 1895-1899 to 38.8.

Thirty-four cases of diphtheria were reported during the week, 34 of scarlet fever, and 2 of measles. There were 466 samples of milk and cream analyzed in the laboratory, 6 per cent. of which were found below grade. No new cases of smallpox have been discovered. Twelve individuals who had been exposed to contagion from the case last reported, and who had not been previously vaccinated, were vaccinated, and in each case typical primary results followed.

KENTUCKY.

Louisville.

GRAY STREET INFIRMARY.

THE GRAY STREET Infirmary will enlarge its building considerably, and will construct a modern private operating-room.

DR. THOMAS S. BULLOCK, because of pulmonary trouble, has been compelled to remove from Louisville to Colorado. His successor in the University of Louisville has not yet been appointed.

DR. JOHN G. CECIL, who resigns the chair of theory and practice of medicine in the Louisville Medical College, has been elected to succeed Dr. Bailey. Dr. Cecil was formerly assistant to the chair of obstetrics and gynecology in the University of Louisville, before his election to the chair in the Louisville Medical College, which he has held for four years.

Dr. WILLIAM BAILEY, who for fifteen years has occupied the chair of the medical department of the University of Louisville, has resigned his position because of failing health. Dr. Bailey is a member and ex-president of the American Public Health Association, ex-president of the Kentucky State Medical Society and a member of the State Board of Health. He was a member of the Faculty of the Hospital College of Medicine before his association with the University of Louisville.

SUMMER VACATIONS.

Dr. J. B. Marvin and family will spend the month of August in Nova Scotia; Dr. L. S. McMurtry and Dr. J. M. Mathews will spend August at Rockaway Beach with President-elect C. A. L. Reed; Dr. Henry E. Tuley will spend his vacation the latter part of August at Woodmont, Conn.

KENTUCKY UNIVERSITY.

The Medical Department of the University will erect a commodious chemical laboratory building in the campus adjoining the college building, so as to make a large amphitheater in the upper portion, with a seating capacity of 350.

DOES NOT REFER TO THEM.

We are in receipt of the following protest from Dr. M. F. Coomes, of the faculty of the Kentucky School of Medicine:

> *To the Editor:*—Our attention has just been called to a criticism of a medical college by the Illinois State Board of Health, published in THE JOURNAL of July 7, p. 45. As this criticism refers to no particular school, but mentions that the gentleman matriculated in January, and was to have been graduated about the 1st of July, it must be considered to apply to one of the only three schools in this country that begin sessions in January and close in July, namely: the Kentucky School of Medicine, the Hospital College of Medicine, and the Medical Department of Kentucky University, all located in Louisville. As a member of the faculty of the Kentucky School of Medicine, I appeal to your sense of justice, and request that you publish this letter, and give the name of the school referred to.

In a letter of same date Dr. P. Richard Taylor, Secretary of the Hospital College of Medicine, says:

> I do not wish to put any school in an awkward position, but I do not want the Hospital College of Medicine to receive censure for the violation of the Association's rules when the blame justly rests elsewhere. I think an explanation of the article through the columns of your journal is due the Hospital College of Medicine.

As Drs. Coomes and Taylor deny that the item refers to the colleges they represent, it is not necessary to mention the name of the college referred to, especially since it has acknowledged its mistake by correcting it. Further, there are six medical colleges in the United States whose sessions begin in January—not three, as stated by Dr. Coomes.

NEW YORK.

DR. MARY L. BENOIT has been appointed physician at the State Custodian Asylum for Women at Newark.

DR. WILLIAM A. WHITE has been appointed first assistant physician at the Binghamton state hospital.

New York City.

THE Brightside Day Nursery and Kindergarten is to have a new five-story brick structure that will cost $35,000.

DR. LUCY HALL-BROWN sailed on the *Mesaba*, July 14, for Europe. She is a delegate to the Congress of Hygiene, the International Medical Congress, the Congress of Electro-Therapeutics, and the Congress of Secondary Education.

A FIVE-STORY brick hospital building for the German Hospital and Dispensary is to be erected at a cost of $120,000. Plans for changes in the building adjoining the above site at a cost of $30,000 are also before the building bureau.

THE FLOATING HOSPITAL.

The twenty-fifth anniversary of the St. John's Floating Hospital was celebrated by a trip down New York bay by members and officers of the guild. These, together with the children, left the dock on the *Emma Abbott* and returned to the city on the *Helen C. Juillard*. The *Emma Abbott* was the first boat fitted up by the Guild as a floating hospital, and, since her first trip, on July 19, 1875, she has carried 826,312 mothers, sick babies, and delicate children. The first three years of her service she made three trips a week from two landings, and from that beginning the work has increased until now two boats make six trips each a week from the two sides of the city, touching at Harlem, Williamsburg, and Brooklyn, and from 500 places of distribution tickets for the trips are given out to the mothers of children who need the fresh air and attention of the nurses and doctors, with good sweet milk, a substantial dinner at noon for the older ones, and salt-water baths for all. The trained nurse department was started in 1887, the salt-water bathroom the following year, and improvements large and small have been made each year until a system of handling and treating children almost perfect has been reached. The salt-water bathroom on board of the boat is one of the ideal features.

INDIANA.

DR. F. M. WELLS, Charlestown, has been appointed a surgeon in the United States Army, with the rank of captain, and has been ordered to Manila.

Indianapolis.

AT A concert given recently for the benefit of the Eleanor Hospital for Sick Children, about $150 was made.

THE NEW staff of St. Vincent's Infirmary has been appointed, as follows: visiting physicians, Drs. Frank Morrison, C. E. Wright, W. M. Wright, R. O. Alexander, S. E. Harp, Hannah Graham, C. Hadley, A. B. Graham, F. Wynn, T. Potter and E. A. Brown; visiting surgeons, Drs. J. H. Oliver, J. H. Ford, H. O. Pantzer, J. A. Sutcliffe, W. M. Wright and D. Ross; eye and ear, Drs. J. L. Thompson, F. A. Morrison, D. A. Thompson and J. J. Kyle; gynecologists, Drs. L. H. Dunning and O. G. Pfaff; rectal surgery, Drs. Geo. J. Cook and A. B. Graham; obstetrics, Dr. L. Burkhardt; throat and nose, Dr. L. C. Cline; house physicians, Drs. D. M. Reynolds, R. Hester and G. L. Guthrie.

LOUISIANA.

The following additions have been made to the staff of the New Orleans Polyclinic: E. M. Dupaquier, professor of clinical therapeutics; Otto Lerch, clinical diagnosis; J. J. Archinard, clinical microscopy and bacteriology; H. S. Cocram, clinical gynecology; J. A. Storck, diseases of the digestive apparatus; F. A. Larue, operative surgery and applied anatomy. The same institution has purchased the New Orleans Sanitarium, which will be conducted, as heretofore, in connection with the New Orleans Training School for Nurses, but on an extended scale.

MINNESOTA.

Dr. Percy Aling has been installed resident physician in Stillwater City Hospital, to take the place of Dr. T. R. Thomas, resigned.

Dr. F. F. Westbrook, director of the state bacteriologic laboratory, has made a report on rabies. Since October, 1896, 31 positive cases have been examined. St. Paul had 8, Minneapolis 5, Montevideo 4.

The State Board of Health has recommended that medical inspectors be employed by the boards of education in the various cities of the state. They believe that it would be of special advantage at the opening of the school year.

CONNECTICUT.

Dr. Henry Fleischner has been elected president of the New Haven Board of Health.

Dr. G. W. Russel, of Hartford, has been elected president of the medical board of the asylum for the insane at Middleton, and Dr. G. R. Shepherd, Hartford, secretary.

The report of the State Board of Health for the month of June shows that there were 1121 deaths, being 100 less than were reported for May, and 73 more than were reported for June of last year. The death-rate was 15 for the large towns and 14 for the small towns, making it 14.7 for the state.

NEW JERSEY.

Dr. Frank Scott Gordon has been appointed assistant house physician in St. Nicholas Hospital, Newark.

Dr. W. W. Fox, formerly resident physician in the Atlantic City Hospital, has accepted a post in the Orthopedic Hospital, Philadelphia.

The state dairy inspector is conducting an examination into the quality of the milk furnished by dealers in different parts of the state. In Bridgeton, two persons have already been arrested for selling milk of a poor quality, and a number of dealers in Trenton will shortly be arrested for using formaldehyde as a preservative.

CALIFORNIA.

A new hospital will be commenced at once in Redding, plans having been accepted for a $10,000 structure.

At the annual election of officers of the San Jose Board of Health, held July 14, Dr. J. Underwood Hall was chosen president, and Dr. Robert Caldwell, secretary.

The new St. Luke's Hospital in San Francisco will have four large pavilions, and work will be commenced immediately on one, for which $50,000 has already been appropriated. For the entire group about 225,000 will be required.

OHIO.

Dr. John Upham has been appointed to the department of the principles of surgery and clinical surgery in the Ohio Medical University at Columbus.

The opening of the new Lawrence Hospital in Columbus occurred July 6. It will be devoted exclusively to the treatment of women. Dr. F. F. Lawrence will be surgeon in charge and chief of staff. Dr. Starling Loving is consulting physician, and Dr. E. G. Carpenter, neurologist.

CANADA.

British Columbia.

The fight over lodge practice continues in Victoria, B. C. The doctors have now carried their grievances into the lay press. It is understood that the two physicians who were expelled from the Victoria Medical Society on account of contracting with the societies, have abandoned the work, but are still at loggerheads with their confrères.

QUARANTINE ON THE PACIFIC COAST.

Dr. Montizambert, Director of Quarantine, has left Ottawa, accompanied by Dr. Higgins, of Montreal, a skilled bacteriologist, for British Columbia, for the purpose of investigating the conditions under which the quarantine service is being maintained along the frontier and at Pacific Coast points. The Director-General will make a personal investigation with a view of determining whether the present quarantine restrictions governing travel in Canada may be relaxed, as it is now understood that the outbreak of smallpox in the American mining camps has been completely mastered by the medical authorities there. Then the drawbacks to travel by steamer between the United States and Canadian points in the West will be minimized as far as possible, provided no risk will be run of the disease entering British Columbia. Dr. Higgins has been appointed assistant to the quarantine officer at Williamshead, B. C. This appointment has been made at the present time, as one can never tell at what moment a suspected case of plague might be landed at the Williamshead quarantine, and the importance of having a practical and proficient bacteriologist on the spot, prepared for any emergency, is apparent.

Toronto.

Dr. W. Lash Miller, who since the resignation of Professor Pike has been acceptably filling the chair of chemistry in Toronto University, has been offered and will accept a position on the staff of Cornell University. He has been connected with the department of chemistry here for many years, is a Ph.D. of Munich University, and his loss will be a keen one to Toronto, for he is looked upon as one of the strong men in chemical science.

The contagiousness of consumption and the dangers to the public from the proximity of a consumption sanitarium has been aired in the Toronto courts this week. A short time ago Dr. Playter rented a dwelling-house on the northern confines of the city and started in to run a consumption sanitarium. The neighbors objected; and the medical health officer condemned the institution in unmeasured terms. Judgment has been deferred, but it is altogether likely that it will be discontinued, as public opinion in the neighborhood is too strong against it.

Montreal.

Smallpox is spreading rapidly. Four deaths occurred during the past week, and six new cases have appeared in different parts of the city. Nine doctors have been engaged by the Hygiene Committee to go the rounds of the houses, to see if persons have been vaccinated, and if not, to vaccinate all who do not oppose the operation. Those who refuse will be reported to the health officer, who will decide what shall be done with these cases.

The death-rate in Montreal the past week was exceedingly high. No less than 116 children died. The normal death-rate, including children and adults, is 125 per week. The total number of deaths in the city last week was 199. The principal causes of death were as follows: infantile debility, 116; diphtheria, 2; scarlet fever, 5; typhoid, 1; smallpox, 1; and consumption and other chest diseases, 30.

REPORT OF CASES OF TYPHOID FEVER IN THE ROYAL VICTORIA HOSPITAL IN 1899.

Ninety-eight cases of typhoid fever were treated in the wards of this hospital in 1899. Of these, 65 were male and 33 female. The mortality was higher for 1899 than for any other since the hospital was opened, there being seven deaths, or a mortality of 8.16 per cent. Hemorrhage was the cause of three deaths; another from hemorrhage and perforation; another from perforation alone; and two cases from profound intoxication. On an average the patients were admitted on the seventh day of the disease. With reference to the age, the average age of all the patients was 23 years, the youngest being 5½ years; the oldest 58. Under 10 years there were 4 cases; between 10 and 20, 21 cases; between 20 and 30, 40 cases; between 30 and 40, 16 cases; between 40 and 50, 4 cases; over 50, 1 case. During August the largest number of cases were admitted; the smallest during the month of December. Of these 52.3 per cent. developed during July, August and September; 18.6 per cent. during April, May and June; 18.4 per cent. during October, November and December, and 11.7 per cent. during January, February and March. The average number of days in the hospital was 39.5 days; the average duration of fever was 24.6 days; the longest period of fever was 58 days, while the shortest period was 8 days. A study of the symptoms is interesting: in 95.4 per cent. of the cases the onset was gradual. In two of the cases pain in the abdomen was severe, localized and of sudden onset, simulating appendicitis. Chills occurred at the onset or during the first week in 17.4 per cent. Enemata were given in all cases of constipation. Epistaxis occurred at the onset in 18.6 per cent. Vomiting was present at the onset in 34 per cent. of the cases. Delirium was present at the time of entry into the hospital or during the course of the disease in 18.6 per cent. of the cases, and in nearly every case it was of low muttering character. An eruption was present in 72 per cent. of the cases, the earliest appearance of the rash being on the fourth day, the latest appearance on the fortieth day of the disease. In one the rash appeared only during the relapse. The shortest duration of the rash was three days; the longest, 27 days; the average, 11 days. The spleen was palpable in 67.4 per cent. of the cases; in one on the first day of the disease; on the average, it was palpable for twelve days. A definite relapse occurred in 11 cases, 12.7 per cent. The longest duration of relapse was 29 days; the shortest, 8 days; the average, 18 days. The highest temperature recorded was 106.4. The average maximum temperature in all the cases was 103.4 F. With regard to the Widal test, this test was employed in all the cases, and in only 4 of them was it negative throughout the course of the disease; three of these were regarded as abortive typhoid. The reaction appeared in one case as early as the fourth day of the disease. In one case it was not positive until the 18th day. It was present on the average on the 8th day. The reaction has been tried in six cases at date of discharge from the hospital, and in every case has been positive. The following is a summary of the number of cases of typhoid fever admitted into this hospital for the six years ended 1899: In 1894, 84 cases, 3 deaths; 1895, 84 cases, 4 deaths; 1896, 72 cases, no deaths; 1897, 75 cases, 7 deaths; 1898, 93 cases, 4 deaths; 1899, 86 cases, 7 deaths.

New Brunswick.

MARITIME MEDICAL ASSOCIATION.

The tenth annual meeting of this Association was held in the city of St. John on the 18th and 19th of July, there being an exceptionally large attendance present. In welcoming the Association, Dr. Christie, the president, was followed by Mayor Daniel, himself an M.D., who closed his address by referring in a touching manner to the death of Lieutenant Borden in South Africa, who before offering his services in the Transvaal was a third-year medical student at McGill, and who was the only son of Canada's Minister of Militia, the Hon. Dr. Borden. Mayor Daniels moved a resolution of condolence to Dr. Borden, which was seconded by Dr. Farrell, of Halifax. Drs. Daniel, Farrell and McLellan were appointed a committee to draw up the resolution of sympathy. On the afternoon of July 18, the members of the Association were taken down to Partridge Island and given an opportunity to inspect the quarantine station there, which possesses the most modern disinfecting plant in the Maritime provinces. Later on, in the afternoon, the medical graduates of McGill College met in the Medical Society's rooms, Dr. Scammell in the chair. In the place of the provincial societies, the Maritime graduates decided to substitute the Maritime Society, with the following officers: Dr. W. H. Hattie, Halifax, president; Dr. J. H. Scammell, St. John, first vice-president; H. D. Johnson, Charlotte County, second vice-president; G. G. Corbett, Musquash, secretary-treasurer; executive committee, F. H. Wetmore, Hampton; C. M. McLean, Sussex; J. G. MacDougall, Amherst; Alex. McNeill, Kensington, P. E. I. They will meet next year in Halifax on the day previous to the meeting of the Maritime Medical Association. The papers read at the meeting of the Association were of the first order, and the discussions were keen and interesting, the meeting being a pronounced success and one of the most successful in the history of the Association.

Prince Edward Island.

PRINCE EDWARD ISLAND MEDICAL SOCIETY.

The annual meeting of the Medical Society took place on the 5th and 6th of July, and there was a large attendance. Advertising was a theme for much discussion, as there had been several who had been complained of on account of the publication of "brilliant" operations in the lay press. It was unanimously condemned by the Society. The election of officers resulted as follows: president, Dr. Sutherland, Bedeque; vice-president for Prince County, Dr. Rose; for Queen's Dr. W. Robertson; for King's, Dr. Barnes; secretary, Dr. S. R. Jenkins; treasurer, Dr. F. F. Kelley.

PARIS LETTER.

HOW THE CONGRESS WILL BE REPORTED.

It is not known as yet how the daily reports of the meetings of the Thirteenth Medical Congress will be published. The *Bulletin Médical*, which is under the direction of Professor Grancher and Professor Lannelongue, the president of the congress, was to have undertaken this work, which would cost about $500. This paper would have borne the title of "Official Journal of the Congress." Everything had been decided, but unfortunately one of the members of the syndicate of the medical press was not present at the meeting which took place, and he objected to this title being given to the paper, saying that such a course had never been followed before. As a result of these complaints, the director of the *Bulletin Médical*, Dr. Janicot, has given up all idea of doing the work, and at present it is hard to say how it will be carried out. Dr. Chauffard, the secretary of the congress, is at present occupied in finding some means of getting together a sufficient number of men to write out the reports by stenography. Such an undertaking would necessitate ample time and can not be undertaken at such short notice, so that as far as official reports are concerned, it may be questioned whether any very good result will be obtained. A description of the medical exhibit in the Ville de Paris building has already been given. Besides this there are, of course, at the Champs de Mars different sections where surgical instruments are shown. At the end of the Champs de Mars, on the right-hand side, the Presbyterian Hospital of New York has established an exhibit representing part of its hospital equipment. There is also an exhibit of the "Femmes de France." This association of the Women of France was founded some six or seven years ago, and is intended to render service in time of war. One of the small steamboats that carry passengers on the Seine was chosen as a means of showing how the transportation of wounded can be carried out, and the advantages that accrue from using this means of moving them from place to place. A species of tent has been raised over the middle part of the boat, and such cases as are not too badly wounded would be placed under this awning. The hammocks are hung by springs so that jarring is prevented, and the floor is covered with linoleum. This is not a type of a hospital-ship, but only serves to illustrate one of the most advantageous methods of carrying the wounded.

The Secretary-General, Dr. A. Chauffard, states that special and independent rooms will be set apart for the different national committees, in the buildings of the Faculty of Medicine. The members of the Congress will find installed, a post and telegraph office. The members can have their correspondence addressed as follows: Dr. X——, Membre du XIIIe Congrés International de Médecine, Paris.

THE NEW TREATMENT OF PHLEBITIS.

One of the subjects of discussion "à l'ordre du jour" in the hospitals is the new treatment of phlebitis, advocated by Dr. Dagron, a former interne of the Paris Hospitals. The leading feature is the use of massage to prevent ulterior stiffness and loss of power due to prolonged immobilization. Instead of following out the routine treatment of keeping the patient in bed for a very long period, Dr. Dagron, in his recent article in the *Presse Médicale*, advocated massage after the first general symptoms were over. During the first week, or rather as long as general symptoms of infection exist, nothing should be undertaken. The case should be watched, and perfect quiet and rest of both limbs insisted on. Two days after all general symptoms have disappeared and the edema has begun to diminish, mobilization can be undertaken very gently at first. These movements must be undertaken by the physician, and should be tried in a progressive manner from the foot upward. The toes are to be flexed and extended, and made to describe different movements, the tarsus and metatarsus are brought into play, but great care should be undertaken not to flex the thigh upon the pelvis, however. It should be borne in mind that no pain should be caused by these movements. The following days the patient herself can undertake these movements without following out any special order, but during the course of the second week, no flexion of the thigh should be allowed, and the patient must not be allowed to sit up in bed. During the course of the second week an experienced anatomist would have been able to map out the dangerous zones and the safe ones, and exercise a little gentle massage. At this period the education of the venous circulation can begin. The patient can be placed with her legs hanging outside the bed, and in this position they will of course get congested and edematous. A little gentle massage will be found of service afterward. A few days later she can be placed on an inclined plane and lifted up to an angle of 45 degrees, then perfectly upright. During the fourth week some passive movements of flexion of the thigh are carried out; the patient is allowed to make a few steps: the latter should be of the same length. No sticks nor crutches should be allowed, so as to prevent any bad habits being acquired. A certain amount of redness and edema may appear, but will vanish after rest in bed. As for trying to sit up, it is found useful to use a number of cushions to cause variations in the angle allowed. When this has once been carried out, the patient can be told to carry out the treatment by herself. Dr. Dagron would seem to have derived good results from this form of treatment.

SYPHILIS OF THE INTESTINES.

At the last meeting held by the Academy of Medicine, Dr. Lereboullet and Dr. Fournier spoke on a very rare affection: syphilis of the intestine. Dr. Lereboullet spoke of a case where he had found symptoms of enterocolitis, abdominal pains, and discharges resembling the expectoration in pneumonia. There was also noticed pronounced swelling of the cervical, axillary and inguinal glands. The patient had a history of syphilis. Dr. Fournier advised a syphilitic treatment which was carried out by using injections of mercurial oil and iodid of potassium. After eight days the patient had improved very much, and after a certain lapse of time he was quite transformed. Dr. Fournier said he had only seen twelve cases of this disease in his practice, and added that it was often enough not recognized. Dr. Fournier also spoke of infantile diarrhea, which was sometimes due to hereditary syphilis, and would be readily cured by the use of Van Swieten's solution. Mercury was the best preparation, as it had a fundamental and eradicating action, iodid of potassium could only efface temporarily the lesions that had been formed. External treatment should be used so as to spare the intestines and stomach, and frictions or injections employed.

IS SYPHILIS A PRODUCT OF THE OLD WORLD?

It has been a question often brought up to know whether syphilis was of European or American origin. Dr. Zambaco Pacha, who has become quite an authority on such subjects as leprosy, Morvan's disease and kindred affections, presented some photographs of bones found in Upper Egypt, and dating from eighty centuries back. The bones showed indications of suppurative osteitis, and enlargement of the femora, tibiæ and peronea was plainly perceptible. The disposition of the lesions was such that Professor Lannelongue admitted that they seemed to be of syphilitic origin. This would seem to prove that syphilis has existed in the Old World from primeval times. Dr. Fournier examined the photographs and declared that there was no sure sign that the lesions were of syphilitic origin. The simple examination of a bone is not sufficient to demonstrate the existence of syphilis. The common varicose ulcer produces sometimes hyperostosed tibias which are similar to those caused by syphilis; the same can be said of typhoid fever. Dr. Zambaco insisted on the great number of lesions observed, but Dr. Fournier said that tuberculosis would sometimes produce similar results.

Correspondence.

The Plague.

New York, July 18, 1900.

To the Editor:—May I presume to commend entirely your most timely and well considered article upon the plague situation in San Francisco? The infection with plague of San Francisco's Chinese quarter; the destruction by fire of such a shameful aggregation somewhere in American territory—and the consequent scattering of infective material broadcast—and the tedious and hampered efforts to control the infection, which can not be assured and can only succeed as the result of the most patient attention and inconceivable expense, were matters of confident prediction by me as long ago as the summer of 1896. The present justification of my then statements is not a matter for rejoicing: but I do take unusual pleasure in stating that the only persons who interested themselves in studying the bacillus of plague, which I brought to the United States with me then, were Dr. Douglas W. Montgomery, of San Francisco, and then P. A. Surgeon J. J. Kinyoun, United States Marine-Hospital Service, who was at that time in charge of the bacteriologic laboratory of his service in Washington. The singleness of purpose and the devotion of these gentlemen to true professional ideals are beyond any commendation of mine; but I am endlessly pleased at your thorough recognition of their intents.

In conclusion, I trust that my interest in the matter of plague and my slight acquaintance with it may justify these protests against current errors: 1. That humbleness of station in life and disregard of occidental ideas of personal or of domiciliary cleanliness are essential factors of predisposition to plague. It might, I think, quite as reasonably be contended that a thoroughbred horse is not as liable to glanders as a cart-horse, nor so likely to die of the disease, should it nevertheless have been contracted. I should not consider it a mistake to repeat to the laity, with the iteration and insistence of a machine-gun, that plague, like glanders, and the various specific acute infections to which nearly all animals in their turns are subject, seems to have been designed *to kill*, and that there is much evidence to show that it will do its work fairly well under almost any conditions. Its unusual danger lies in the fact that it may be spread by many more diverse agents—such as the rodents, blood-sucking insects and vermin—than most other acute infectious diseases. 2. The weak, not to say maudlin, wails that there is no specific against its ravages. Haffkine's inoculation is a reasonable protection during active exposure; and Yersin's serum affords more chances of recovery to a victim seized by it than is usually believed, so it seems to me. I hold it greatly to the shame of the hygienists of the United States that the work of this single-minded man of science should have been almost entirely neglected in this country. 3. That street-cleaning and the like is more important than the insuring of correct death certification. By knowing absolutely what is being dealt with and by the correct management of cases as they occur, *and by these means only*, in the humble opinion of the undersigned, may plague be successfully dealt with. And the cost will be large—very!

Yours most sincerely,
W. F. Arnold, P. A. Surgeon, U. S. N.

The Paris Exposition.

To the Editor:—I send you this, thinking that a letter relative to medical and surgical matters at the Exposition might be of interest to readers of The Journal.

The exhibits in this line constitute Class 16 in Group 3 of the catalogue, and include not only everything pertaining to medicine and surgery but also all objects dental and the instruments of the veterinary surgeon. The jury for this class is composed of fifteen members, only three of whom are not Parisians and one of these three is a Frenchman, viz., the noted surgeon, Reverdin, of Geneva. Only one member is not a physician, Leclerc, our secretary, and also a leading local manufacturer of surgical dressings, sutures, etc. But one of the resident members is not a native-born Frenchman, though he has lived in Paris for the past fifteen years. I refer to Dr. de Christmas, who is a Dane, and is physician to the Danish legation here. For the rest, they are men of high standing, being, for the most part, professors to the Faculty of Medicine and members of the Legion of Honor, and all are Fellows of the Academy of Medicine. The president of the jury is Professor Pinard, the obstetrician. Then there are Galippe, chief of laboratory to the Faculty of Medicine; Pozzi, the gynecologist, at present also senator of France; Professor Berger and Dr. Tuffier, the well-known surgeons; Nocard, the head of the Agricultural and Veterinary School at Alfort; Professors Dentu, Hartmann, etc. The two other members are Eschbaum, of the orthopedic firm at Bonn, for Germany, and myself for the United States. Our work, which is now almost completed, has been most interesting, agreeable and instructive.

All the prominent countries are fairly represented, yet it is much to be regretted that the United States did not send specimens of the products of a greater number of her leading houses, who understand so thoroughly the art of making things coming under this class. There are, in all of our large cities, makers of instruments and of other medical, surgical, dental, or veterinary supplies, who would, doubtless, have done well to show their wares. Such names, for example, as Tiemann, Meyrowitz, S. S. White, and Dohme, to say nothing of many others, do not appear upon the list. In view of these facts it were almost a pity that we have not a national law similar to that of certain of the European countries, known as "Imperial Decree," which dictates concerning by whom the nation desires to be represented in any exposition, and also as to what articles shall constitute the exhibits.

One of the beneficent provisions made by the managers of the exposition is that practically all of the objects shown in any given group or class are situated close together in one building; mostly all of those in our group, for instance, can be found in the northwest wing of the structure on the Champs de Mars. A few of the smaller nations, however, such as Greece, Roumania, and some of the lesser South and Central American republics, have these exhibits installed in their government pavilions.

We began our work with the French exhibits, among which we examined examples of the best output of 125 different manufacturers, of whom, not to exceed a bare half dozen are located outside of this wonderful city itself. This means that Paris is not only the medical center of France, but of a large portion of the civilized world, besides. Many of us in the United States have no proper conception of this fact. We are, as a rule, fully cognizant of the importance of Great Britain, Germany, and Austria as regards their medical men, literature, institutions, discoveries, and manufactures, all because of the dominant races which make up the bulk of our 78,000,000 of inhabitants. We have not among us a sufficient number of those whose knowledge of France and whose sympathies with her are great enough to divert thither a just proportion of the vast armies of American students of medicine which are constantly invading Europe. But we will learn better—we are learning better.

In keeping with the enterprise which is characteristic of Frenchmen of affairs in general, has been that manifested by these exhibitors; and, in comparison with that evinced by other nations it redounds vastly to the credit of the former. By timely notices each one is warned as to what day he may expect the jury to visit his show-case. Our Gallic friend is always ready. If, for any reason, he can not be present at the appointed time, he comes before the jury in the committee-room, and asks for another occasion. Arrived at his space we find a table upon which to place the objects to be examined and chairs to seat the jury. He does not leave to a trusty foreman or other employee the demonstration of the articles on which hang his reputation, but he is on hand in person. He knows just what it is incumbent on him to show, he knows how to show it, and he knows—as none other does—how to talk to the point. Moreover, an average Frenchman is more than an average orator. Even the most arrant and unmitigated quack or charlatan among them—and we came across several of these—can almost make something out of worse than nothing.

In another letter I hope to tell of some of the more interesting things we have seen in our particular department. It may not be amiss to state in closing, by the way, that we have seen many models and embodiments of ideas which I have been proudly and confidently regarding as of American origin, but I have heard very few attributed to that blessed source.

Charles H. Beard, M.D., Chicago.
Member International Jury of Awards, Class 16.

Colored Tents for Hospital Corps.

New York, July 20, 1900.

To the Editor:—I note in The Journal for July 21, under the above caption, a letter from T. R. Perry, M.D., of Alabama, in which he makes a very apt suggestion; but would like to bring the fact to the notice of all concerned, that the National Volunteer Emergency-Service Medical Corps is the only organization in the civilized world making use of a distinct medico-military system of immediate identification. We have tents alternately striped green, red and white, the colors of our corps; our flag is also eminently distinct and appropriate; and our uniforms are gray, trimmed with green and red, easily distinguished, and neat and clean; thus our medical officers are instantly recognized. It is hoped to make this system international, some of the foremost powers have given favorable consideration to our plans already. Our office at 304 West 104th Street, will be pleased to furnish any specific information desired.

J. Adelphi Gottlieb, M.D.

Association News.

Is Your Address Correct?

A list of members of the American Medical Association will be published in an early number of The Journal. It is important that this list be correct, and we would, therefore, ask each member to examine the label on his wrapper and, if not correct, notify us immediately so that the name may be correctly printed in the list. Subscribers who are eligible for membership and desire to be enrolled are requested to make application at once so that their names also may appear in the published list.

American Medical Association.

The following are a few of the comments on the last meeting of the Association:

The American Medical Association at Atlantic City.—The month of June is almost universally acknowledged to be the most delightful of the year, hence it is a fortunate time for the meeting of the greatest medical organization of the land. When, added to this, it chooses its place on the seacoast to hold its annual convention, especially at so charming a point as Atlantic City, there is little left to be desired as to time or place for such a gathering of distinguished men and women from all parts of the country.

The meeting held June 5-8, 1900, will ever be conspicuous for size, quality of attendance and work done, and for good feeling engendered. The weather was delightful the whole time, and everybody seemed contented and happy. The sections were well managed, and the attendance at each was more than ordinarily good, while the work in some was of a conspicuous character. The weekly journals have chronicled this and we shall content ourselves with this general allusion to the general fact.

The registration was over 2000, which classes the meeting among the largest ever held. This is an indication of the growth of the republic and of the increasing interest manifested in the advancement of medicine along the lines of scientific research. In the distribution of the offices there were no manifestations of unfairness, hence there are no heartburnings left behind. The two most conspicuous candidates for the presidency were men of acknowledged ability and both were well equipped for the task. Dr. Wheaton, of St. Paul, is one of the most eminent surgeons of the Northwest, and every way worthy of the place for which his friends urged him with a spirit of manliness that deserved success. That he was not chosen is no reflection on the candidate or his followers. The spirit in which the canvass was conducted augurs well for his success next time.

Dr. Charles A. L. Reed, of Cincinnati, the president-elect came to his office with a prestige vouchsafed to few, and perhaps surpassed by none. He is in the very prime of a well-rounded manhood, a scholar of ripe culture, natural and graceful speaker, and has an acquaintance with the profession in the Western hemisphere second to no member of the Association. That his administration will result in great advantage to the cause of medical science admits of no reasonable doubt. By a sad *contre-temps* Dr. Reed was summoned home on account of a grievous family affliction, just at the moment when his name was offered to the convention as its next presiding officer.

The president at once courteously introduced Dr. Reed, and the latter accepted the office in a few eloquent words that well bespoke the character of the man who had but just received at the hands of his colleagues the highest indication of the esteem and regard of a great profession.

That one extreme follows another was exemplified again in the selection of the next place of meeting—St. Paul, June 4-7, 1901. The remoteness from the center of the city chosen will perhaps prevent a great attendance, but it will be a good meeting, and warm hearts will greet the visitors.

As many of the members were returning home they were arrested on their way through Philadelphia by invitations to partake of hospitalities, both public and private, that further exemplified the proverbial courtesy that reigns in the city of brotherly love. The Medical Club, on Saturday evening, June 9, tendered a reception to Drs. Abraham Jacobi, of New York; Alonzo Garcelon, of Maine; Frank Billings and George H. Simmons, of Illinois; and J. W. Bodine, of Kentucky. The Bellevue, where the reception was held, was crowded to overflowing, and, between the supper, the speeches, and the geniality of the hosts, good fellowship was at large until midnight.—*Buffalo Medical Journal*, July.

Several Reasons for Attending the Meetings of the American Medical Association.—If we were asked what one thing most impresses the man who attends an annual meeting of the American Medical Association we should say a sense of littleness. Littleness in the thought that in the crowd of representative men from all parts of the country his identity is lost. He may be the most prominent physician in his community but there he finds those who never heard of him and care less for him. Instead he sees men whose reputation is not confined to one locality, and whose opinions are welcomed by even those who have no personal acquaintance. He is as effectually lost as if a stranger in a strange city. Littleness in point of knowledge—for every day and everywhere he runs across men discussing topics of which he is ignorant, displaying a knowledge which he has never had, and while if opportunity were given he might show as great superiority on some topic, as a rule the occasion does not arise, and he feels as if he does not have a fair chance to display himself.

To a thoughtful man this can have but one effect: he returns to his daily routine of work imbued with a determination to make an advance in his own personal requirements before another year, to study and understand the subjects in which he feels he is not well versed and, if for no other reason than this incentive to renewed effort, a visit to the National Association is well worth any man's while. But there are other things which make attendance valuable.

The vacation, the relief from business care and the change of scene afford needed rest, the pleasant acquaintances and the social functions give enjoyment, while the trip itself to an unfamiliar locality broadens a man and increases his sense of satisfaction that he lives in the United States.

The bad politics which for years has marred these meetings is now absent and the mutual admiration society from a certain section of the country is no longer in evidence. The general sessions are dignified, and personal ambition and petty spite have no longer the floor, and a good thing it is, too.

In many matters there is room for improvement; there are too many papers, the time for discussion is too limited, too many men desire recognition, too few do original work of merit, too many talk as if addressing a body of students, too many like to refer to "my assistant," too many talk and say nothing, the social functions are either too numerous or conflict with the scientific, there are too many side shows, but when all these objections are weighed and placed against the good features there is but one verdict.—*The Providence Medical Journal*, July.

American Medical Association.—The last meeting of this growing Association has just been held under more favorable weather conditions than are ordinarily to be expected at this time of year. The gathering was an enthusiastic one, as attested by the fact that upward of 2000 members were present. Corresponding with this attendance was a program which has rarely been equaled in the number and variety of communications presented. Of quantity, therefore, there was certainly no lack, but we are inclined to feel that in these days of excessive literary zeal in medical writing a certain censorship, tending to an improvement of the quality and the arrangement of the subject-matter, would not be amiss. Sporadic papers on such occasions are of comparatively small value, and serve rather as a personal advertisement than as a substantial addition to medical progress. It is to be hoped that this representative Association will make a virtue of necessity and bring its programs in the future within reasonable limits. Science would not suffer, and the responsibilities placed upon the broad shoulders of the medical editor would be visibly lightened. We are, therefore, quite in accord with our contemporary, the *Philadelphia Medical Journal*, when it comments editorially on the recent meeting: "There was the same plethora of papers offered, again proving how necessary it is that the officers of sections should weed and choose and limit according to their judgment and conscience, and regardless of personal influences."—*Boston Medical and Surgical Journal*, June 14, 1900.

Deaths and Obituaries.

Thomas Story Kirkbride, Jr., M.D., Philadelphia, died July 20, aged 31 years, of typhoid fever. He was a son of Dr. Thomas S. Kirkbride, the eminent alienist and superintendent of the Pennsylvania Hospital for the Insane. He received the degree of A.B. from Haverford in the year 1890, and was graduated from the medical department of the University of Pennsylvania in 1893. He subsequently spent several months in post-graduate work at the Johns Hopkins, and then entered upon his duties at the Pennsylvania Hospital as resident physician. After leaving the Hospital he went abroad for nearly three years, pursuing the study of pathology in Göttingen, Vienna, and other places. About two years ago he was elected director of the laboratories of the Philadelphia Polyclinic. He was assistant physician to the University Hospital, and assistant pathologist to the Philadelphia Hospital, and member of the College of Physicians of Philadelphia, the Philadelphia County Medical Society, and the Pathologic and Neurological societies.

Divie Bethune McCartee, M.D., for more than fifty years engaged in missionary and educational work in China and Japan, died in San Francisco, Cal., July 17. He was born in Philadelphia, in 1820, and, having secured his medical degree from the University of Pennsylvania, went to China, and in 1844 opened a mission at Ningpo. He received honorary recognition from both of these Oriental countries. In failing health for some time, he was compelled to stop off at San Francisco on his journey to New York from Japan.

S. R. Welles, M.D., Waterloo, N. Y., died July 14, aged 75 years. He was graduated from the medical department of the Buffalo University in 1848, the following year he attended Jefferson Medical College, Philadelphia, and in 1850 located in Waterloo. During the Civil War he was surgeon of the Sixty-first Regiment of New York Volunteers. He was one of the charter trustees of Willard State Hospital, and secretary of the board for fifteen years. He had served two terms in the State legislature.

Joseph E. Burke, M.D., Galveston, Texas, died July 9, aged 42 years. He was a graduate of the medical department of Tulane University, New Orleans, receiving his degree in 1882. He had won a national reputation as a yellow fever and smallpox expert, having volunteered his services during the epidemic in Brownsville and Galveston.

David P. Wolhaupter, M.D., Washington, D. C., died July 12, aged 60 years. He received his degree in medicine from the medical department of Bowdoin College (Maine) in 1862. He enlisted in the Civil War and was assigned to the hospitals near Washington. Since the close of the war, he had remained there in the practice of his profession.

John Leonard Mulfinger, M.D., died on July 21, at his residence, 926 Jackson Boulevard, Chicago, after a long illness. He was born in Chicago in 1854, and spent his entire life in that city. He was graduated from Rush Medical College in 1880, and had an extensive practice on the West Side.

J. L. COMBS, M.D., Grass Valley, Cal., died July 4, of pneumonia, aged 61 years. He was a graduate of the Washington University School of Medicine in Baltimore, Md. He located in Oregon, and lived there until 1866, when he moved to California.

ROLAND HAMMOND, M.D., a graduate of the Harvard University Medical School, 1872, died at his home in Campello, Mass., July 8, aged 58 years. He was a member of the Massachusetts State Medical Society, and vice-president of the Plymouth District Medical Society.

DAVID G. BOWMAN, M.D., died in Denton, Md., July 10, aged 63 years. He was a native of Philadelphia, and a graduate of the medical department of the state university there. During the Civil War he was connected with the Fifth Pennsylvania Cavalry.

F. A. BLACKMER, M.D., Albert Lea, Minn., died July 11, in Minneapolis, after undergoing an operation. He was born in Ohio, in 1847, and received his education at Oberlin College and the University of Worcester, Cleveland.

A. L. PATTEN, M.D., Mineola, Texas, died July 11. He was graduated from the medical department of the University of Georgia, in 1851, and afterward had practiced in Texas. During the Civil War, he was surgeon of the Twenty-second Texas Infantry.

ROBERT J. HILL, M.D., who for thirty years had practiced medicine in St. Louis, Mo., died there July 15, aged 64 years. He was assistant-surgeon of the Forty-fifth Ohio Regiment during the Civil War.

MARION E. GILLEN, M.D., Mount Morris, N. Y., died in Belleville, Canada, July 12, aged 45 years. She was a graduate of the Faculty of Medicine of Queen's University, Kingston, Ontario.

JOHN J. MCACHRAN, M.D., Salt Lake City, Utah, died July 12, aged 44 years. He was a graduate of the medical department of the University of Louisville (Ky.), in the class of 1881.

BENJ. W. BARTLETT, M.D., Rowley, Mass., died July 6, aged 50 years. He was graduated from the Bowdoin (Maine) Medical School in 1873.

JAMES S. GILLESPIE, M.D., Philadelphia, died July 20, aged 37 years, of appendicitis. He was graduated from the Jefferson Medical College, and afterward served as a resident physician to the hospital connected with it.

J. B. NEWBAKER, M.D., a graduate of Jefferson Medical College, 1852, died at his home in Trevorton, Pa., July 11.

DEATHS ABROAD.

We note the deaths of:

DR. EDWIN VON MILLENGEN, the ophthalmologist, at Constantinople.

DR. KARL LANGE, professor of pathological anatomy at the University of Copenhagen, and editor of the *Hospitals Tidende*, a weekly medical journal.

ARNOLD SCHETELIG, M.D., who died recently in Nervi, Italy, was born in Germany, in 1835. He studied medicine at Göttingen and Kiel, taking his degree from the latter in 1856. He practiced seven years in Hongkong, and then located at Hamburg, Germany. At the outbreak of the Franco-German War, the Senate of that city put him at the head of the Red Cross ambulance work. For his excellent service in this capacity he was rewarded with the Iron Cross. He never recovered from the fatigue experienced during the seige of Metz, and after traveling in Spain and Italy, he settled at Nervi, where he did much for the city in its development as a health resort. He was an anthropologist and archeologist of some note.

Miscellany.

Improved Technique for Rubber Gloves.—If thin rubber gloves are sterilized by dry heat—which can be done several times without injury—and dusted inside with the talcum powder used in new kid gloves and shoes, they slip on with ease and keep their shape, according to a communication from Wormser in the *Semaine Méd.* of June 20.

An Honor Long Deferred.—A monument has been erected to the memory of Dr. Jean Hameau (1779-1851), an obscure physician of the Gironde, who in 1836, at much personal loss, published a study on viruses, in which he partly anticipated the discoveries of Pasteur. The statue was unveiled recently at La Teste de Buch, where Hameau practiced. Addresses were delivered by Dr. Laude, mayor of Bordeaux, Professor Lannelongue, of Bordeaux, and others.

Medical Attendance on Police in France.—Dr. Laloy mentions in *Janus* as a "pearl in the history of the exploitation of the profession," the recent decree of the French war department that physicians, apothecaries and veterinarians who give their services gratuitously to the "gendarmerie brigades" will receive an official letter of thanks from the government after ten years, a bronze medal after fifteen years, one of silver in twenty years, and of enamel in twenty-five years, with the "academic palms."

Fixation Abscesses.—E. Bauer has been experimenting with abscesses induced with chemicals, usually turpentine, on man and animals, and states that they were always sterile and consequently have no effect on the elimination of microbes as intended when first suggested. But, he adds, in his communication to *Virchow's Archiv*, clvi, 3, that they induced protracted leucocytosis, and that this alone may be sufficient to favorably influence certain morbid processes, such as pneumonia, threatening chronic suppuration or pyemic or bacteriemic lesions.

Railroad Hygiene.—The exhibit of the Trans-Siberian railroad at Paris is attracting much attention, as comfort and hygiene have both been studied in the trains. The walls are smooth wood or tiles; the seats are covered with real or artificial leather; there are shower baths; appliances for cooling the air; gymnastic apparatus; cigar lighters; boiled water in the coolers, and a sanitary official on each train who is a trained nurse and barber. The draperies are reduced to the minimum and an automatic perfume spray is set in action as the door of the water closet is closed.

Smallpox in Nome City.—A dispatch from Seattle, Wash., bearing date July 19, states that the *Athenian* and *Sequola* are at anchor. The latter vessel left Nome City on July 3. The pesthouse at Nome is reported overflowing with smallpox cases. Government officials were erecting two other large structures. The disease has spread rapidly, and many cases are quarantined in the tents in which they were discovered. Every government and city official, and every doctor was working night and day endeavoring to check the disease. Dr. J. J. Tyler, of Chicago, who returned on the *Sequola*, said there were at least 200 cases, and that nearly twenty new cases were being reported daily.

A Checkered Career.—Dr. Heneage Gibbes, according to the *Saturday Evening Post*, Philadelphia, June 30, enjoys the distinction of being the only Chinese mandarin to hold an American office. He is English by birth, ran away from home at fourteen and went to sea. He was shipwrecked on the coast of China, and fell in with pirates, who turned him loose without clothes. After reaching a Chinese town he fell in with an Englishman who equipped him for a mission to a rebel army, from which he drifted into the Chinese service. In command of a gunboat, with a mixed crew, he patroled the coast, capturing outlaws, pirates and smugglers. On one occasion he seized a cargo of contraband opium and made for the sea. For this he was summoned into the presence of royalty and made a mandarin. His career since then has been a return to England for the study of medicine, a commission to India for a cholera investigation and a resignation to take the chair of pathology in the Michigan University. Dr. Gibbes is also to be remembered as the Health Officer of Detroit.

Enforced Abstention in Diabetes Insipidus.—About a year and a half ago Dr. A. Strubell published an account in the *Archiv f. Klin. Méd.*, lxii, of an attempt to deprive a patient with the insatiable thirst of diabetes insipidus of some of the water he craved. On three occasions he was left from five and one-half to ten hours during the night without the possibility of getting water, after having ingested two to five liters. The report says that the patient drank his urine to quench his thirst during these intervals and an impression of sensational clinical tortures was produced on the public, which the lay press has taken up to such an extent that Stintzing, the chief of the service at Jena, in which the incident occurred, has recently published an "explanation" in a local paper. In this he says that, while taking the responsibility of the treatment as a whole, he yet expresses his regret that certain details were carried out in a manner of which he only learned afterward. The *Deutsche Med. Woch.* observes that the deplorable incidents could easily have been prevented by a little more care and attention. Strubell established in these tests that a sweat-bath diminishes the thirst, and he also obtained data for further research by his examination of the blood during the forced abstention.

Societies.

DeWitt County Medical Society.—This Society met in Clinton, Ill., July 12. The following officers were elected: president, A. E. Campbell, Clinton; vice-president, C. C. McMackin, Weldon; secretary, J. C. Meyer, Clinton.

Stephenson County Medical Society.—This Society met in Freeport, Ill., July 12, and officers were elected for the ensuing year as follows: president, C. R. Sheetz, Freeport; vice-president, S. C. Thompson, Cedarville; secretary and treasurer, J. F. Fair, Freeport.

Iowa Union Medical Society.—The semiannual meeting of this Society was held in Cedar Rapids, July 10. The election of officers resulted as follows: president, T. J. Shuell, Parnell; first vice-president, H. S. Raymer, Cedar Rapids; second vice-president, J. W. Kirkland, Wyoming; secretary, J. DeWitt Graham, Springville; treasurer, Geo. P. Carpenter, Cedar Rapids.

Wabasha County Medical Society.—At the thirty-second annual meeting of this Society, held in Lake City, Minn., July 12, the following officers were elected for the ensuing year: president, J. A. Slocumb, Plainview; vice-president, P. N. Kelly, Wabasha; secretary and treasurer, W. F. Wilson, Lake City. The meeting will be held in Wabasha, the second Thursday in July, 1901.

American Public Health Association.—The next meeting of this Association, at Indianapolis, will be held October 23-26. The meeting of the Section of Bacteriology and Chemistry will be held, Monday, October 22, in the Pathological Laboratory of the Central Insane Hospital at Indianapolis, and that of the regular Association will open Tuesday, October 23, in the amphitheater of the German House.

Upper Peninsula Medical Society.—The fifth annual meeting of this Society was held at Mackinac Island, Mich., July 10. The election of officers resulted as follows: president, A. Felch, Ishpeming; vice-presidents, W. R. Hicks, of Menominee, F. E. Fletcher, of Lake Linden and J. H. Bogan, of Mackinac Island; secretary and treasurer, C. E. Cruse. A memorial tablet in honor of Dr. William Beaumont was unveiled. The next meeting will be held in Menominee.

Iowa and Illinois District Medical Association.—This association met in Moline, Ill., July 13. The following officers were elected: president, Henry Matthey, Davenport, Iowa; vice-president, C. M. Sala, Rock Island, Ill.; secretary, G. E. Decker, Davenport; treasurer, Emily Wright, Rock Island.

Michigan State Medical Society.—The thirty-fifth annual meeting of this Society was held at Mackinac Island, July 11 and 12. The following officers were elected: president, P. D. Patterson, Charlotte; first vice-president, D. B. Harison, Sault Ste. Marie; secretary, D. B. Biddle, Detroit; treasurer, Charles E. Hooker, Grand Rapids. The meeting next year will be held at Battle Creek. A more detailed report will be published later.

Chicago Society of Internal Medicine.

June 18, 1900.

PROPHYLAXIS AND MANAGEMENT OF INTERSTITIAL NEPHRITIS.

Dr. Charles W. Purdy, Chicago, read a paper on the above subject. See page 216, in this issue.

Dr. I. N. Danforth—I do not think very much can be added to the admirable paper persented by Dr. Purdy, because it seems to cover the ground very thoroughly. We all know that interstitial nephritis is an affection very difficult to manage. I desire to say a few words concerning diagnosis, and then pass on to the consideration of my own treatment for this disease. My observations have been that not more than about one-third of the cases that come to me with a diagnosis of interstitial nephritis are really that disease. I should say that about one-third are simply cases of catarrhal nephritis. I had such a case to-day from Indiana. The patient was a boy, 18 years of age, whose disease had been diagnosed some months ago as interstitial nephritis, or contracting kidney. He had none of the symptoms or characteristics of this disease. He had never been exposed to any of the causes of interstitial nephritis, as far as could be learned. There was no heredity that led to it. It is true, there was a trace of albumin in the urine; the urea was up to 1.75 per cent. The urine was cloudy, and contained a little mucus. The heart was normal. There was now and then a hyaline cast, and there were quite a number of what we have stupidly called "cylindroids," that is, mucous casts. I see many such cases of so-called contracted kidney, not quite as marked as this, however, and I have for a long time wrote and taught that we ought to recognize as a distinct lesion, catarrhal nephritis. If we can make an accurate diagnosis in the catarrhal form of the disease, it is curable. There is about another third of the cases which are not interstitial at all, but which occur in advanced cardiac disease, where the cardiac affection is the initial trouble. Under these circumstances the kidneys become enlarged, congested, somewhat indurated, but not contracted. It is a type of kidney disease that Formad described first as the "pig-back kidney." The kidneys become enlarged and rounded; the capsules are distended and stretched. If you cut them a little the kidney begins to bulge out. The kidney tissue will be grayish in appearance, perhaps mottled, but not indurated. These are often mistaken for cases of interstitial nephritis, but they are what we now know as "cyanotic induration."

I desire to pass on now to a consideration of the alterative treatment, which I have long used, and, I believe, with some success, for true interstitial nephritis. I believe in the use of alterative remedies in small amounts for periods extending over weeks, months, or even years. For example, I have a case to-day, a man, 50 years of age, in whom a diagnosis of interstitial nephritis was, I think, correctly made. This patient has been under my care for seven or eight years; he is no worse to-day than he was when I first saw him, and I think he is somewhat better. He has a slight trace of albumin in the urine; there are always present a few hyaline casts, and there is more or less cardiac tension. There is a thickened left ventricle, but it has not enlarged for the past five years, so far as I can determine. He has taken almost continuously for the last three years either bichlorid of mercury, or the iodid of mercury in some form. He is taking now the fortieth of a grain of bichlorid of mercury, three times a day. Probably nine out of ten will laugh at that treatment, and those who speak after me will be very likely to ridicule it. Yet I have seen many patients improve on this treatment, and have seen the disease apparently arrested in its progress under it. In connection with this treatment attention must be directed to the diet, to sanitary measures, etc. Stimulants must be cut off, and meat and tobacco to a great extent. I agree with what Dr. Purdy has said regarding milk, and I do not think we can starve a man to death any quicker than we can by giving him a milk diet exclusively. I use the iodids, the biniodid, or the green iodid of mercury in these cases. Sometimes one seems to agree with the patient much better than another. Of the green iodid I would not give more than gr. 1/10 to gr. 1/20, but I would keep up the treatment uninterruptedly for weeks and months. Of the red iodid I would not give more than gr. 1/60, three times a day; but I insist that its effects are only realized by giving it for weeks or months together, the patient being kept under observation. During this treatment the patient must be taught as to diet, and symptoms must be met as they arise. This long-continued alterative treatment is absolute and certain in its effects. The iodid of potassium is almost as efficient, although given in small doses, not more than a grain four times a day, which is hardly enough to be worth giving, and yet it is this continuous effect which produces the favorable results. Of late years we have been dropping the old idea of the use of alterative remedies in an alterative manner, as we were taught many years ago, giving small doses of remedies which are in themselves potent, but which are continued over long periods of time, so that the patient is continuously under their influence, but their efficiency when given properly and continuously can not be doubted by any one who has thoroughly tried them.

DR. ARTHUR R. ELLIOTT—The statistics published by Dr. West, in the Lettsomian lectures of 1898, came to me in the nature of a surprise. I have not looked up the statistics to refresh my memory, but if I remember rightly, the observations he conducted, which were very striking in manner, consisted of post-mortem examinations of all cases dying in St. Bartholomew's Hospital from whatever cause, and showed that thirty-eight and a fraction per cent. of all such cases presented pathologic evidences of contracted kidney. Mahomet's earlier observations corroborated these findings in a striking manner. According to these and other observations, chronic interstitial nephritis was shown to be the most frequent of all degenerative lesions. Dr. Danforth has told us that not more than one-third of his cases diagnosed as chronic interstitial nephritis were characteristically this disease. That may be true, but I venture to say that one-third of the cases of interstitial nephritis, perhaps the majority of them, run their course to a fatal termination and die without the kidney lesion having been diagnosed or suspected during life. The disease masquerades in death reports as "heart failure," "apoplexy," "dropsy," etc., the latter a designation which has, however, fallen into desuetude. The true secret of successful prophylaxis of this disease is an early diagnosis, for when the patient is seen in the early stages of the disease, his case is extremely amenable to treatment. After the disease has progressed or advanced to that period when there are marked cardio-vascular changes, cardiac dilation, failing heart, etc., comparatively little can be done, so that the earlier a patient with this disease comes under our observation, the more amenable is he to treatment, and the more satisfactory are the results. Early diagnosis of the disease will depend upon a more widespread, careful examination of the urine, and the realization and significance of the cardio-vascular changes, since they are the most marked of the symptoms in this form of renal lesions. A more careful examination of the urine, and a clearer understanding of the significance of the cardio-vascular changes, attracting attention to the heart and arteries, would result in the discovery of a greater number of these cases. The sphygmograph is not by any means as often resorted to as it should be. The pulse of these patients in the earlier stages of the lesion is of great value in diagnosis and extremely significant. The appreciation of tension by the finger in the early stages is not by any means as striking as by the use of the sphygmograph. The treatment of interstitial nephritis is one which is almost entirely hygienic in the early stages. The less drugs the better. The regulation of the diet, as Dr. Purdy has pointed out, is in the direction of excluding nitrogenous foods. The majority of these cases have decided polyuria, although some are marked by the absence of it. The effects of the free use of drinking water are lauded in articles which have been published from time to time in medical journals, and it is customary with some practitioners to invariably direct these patients to partake freely of pure drinking water. This recommendation is one which may be too rashly interpreted by the patient, and it has been my experience to have these patients partake so freely of water as to increase the flow of urine immensely. The effect on the kidney of this excessive secretion of urine is deleterious. I have seen a number of cases in which hematuria has resulted probably from renal congestion, and also increase in the albuminuria, these urinary evidences of irritation passing away with restriction in the amount of fluid. Dr. Purdy touched upon the character of heredity in many of these cases. The hereditary character of interstitial nephritis is pretty generally recognized, but I have not seen pointed out very many times the peculiar course which the hereditary cases pursue. It has been my experience to have treated not a few cases where distinct hereditary influence was present. Perhaps it is not possible to trace in the family history a direct story of a preceding nephritis or kidney disease in the immediate ancestors, but we have as significant the history of relatives in the immediate line dying of apoplexy and of heart failure, which, in all probability, are just as likely as not to have been cases of interstitial nephritis with dilated, failing heart. With such heredity, one is justified at least in inferring the cases to have been instances of interstitial nephritis. These cases are not characterized by any peculiar symptomatic feature; they present the same picture as do others. The manner in which they differ from cases of the non-hereditary type is the way they react to treatment. The results are much less satisfactory in these than in the cases of the non-hereditary type. The disease pursues a more uniform and progressive course toward a fatal termination.

DR. ROBERT H. BABCOCK—In your note to me, Mr. President, you kindly asked me to consider the subject of nephritis in its relation to cardiac disease. I assume by that you mean not the cases of interstitial nephritis or renal changes which are encountered in connection with cardiac symptoms, and which really antedate the cardiac manifestations, but those conditions of the kidney which are associated with heart disease as the effect of the cardiac lesion. These are a congestion of the kidney which constitutes the large, red kidney, and later, after years of congestion, more or less development of interstitial connective tissue, or induration, a condition known as cyanotic induration of the kidney. I do not expect to say anything new or novel on this subject. The cases which I see, as a rule, simply present changes of the urine indicative of passive renal congestion. The cases I have under observation rarely live so long a time that the changes in the kidney have gone on to contraction of the organ, therefore, as this evening's discussion is confined to interstitial nephritis, my remarks will not be apropos. I have had a great many urine analyses made, and I am astonished to find in my chronic cardiac cases, commonly valvular diseases of course, how seldom a report comes to me, from the Columbus Laboratory, of albumin in the urine. Of course, albumin in this class of cases is due to nutritive disturbances in the glomerular epithelium, and it seems rather strange that I do not more frequently find albumin in the urine of these patients. I do occasionally encounter a case in which there is albuminuria, as typified by the following case: I have under observation a young woman with mitral regurgitation with adherent pericardium, and compensation has been partially destroyed. It has only been with the utmost care that during the past three years the condition has been held pretty much in *statu quo*. Examination of the urine has not revealed anything special other than the change of congestion. But last April, after having been very well during the winter, she began to lose flesh and to complain of pain of a neuralgic character in various parts of the body, and although there was nothing in the heart findings to explain the loss of strength, she steadily went down. Soon after this an examination of the urine showed a total volume of 660 c.c., specific gravity of 1028, urea of 3 per cent., albumin, 2.75 per cent., granular and hyaline casts. At this time she was weak and felt very miserable. The heart's action was rapid, and the usual treatment did not in any wise control its action. I immediately forbade animal food, ordered a restricted diet, including some milk, and made her drink large amounts of water. The urine changed, and examination a week later showed that she was now passing 1500 c.c. of urine in twenty-four hours, with a specific gravity of 1013; 1.3 per cent. urea, with no albumin, no casts. This was evidently not a case of interstitial nephritis, and albumin did not appear on account of congestion. There was acute nephritis, but to what it was due I do not know. Had it been a renal congestion merely, it seems to me the increased intake of water would not have remedied it. Her other treatment remained the same. Analysis of the urine since has shown practically the same findings as were noted in the second analysis. I would call your attention to the readiness with which cardiac patients who have a passive hyperemia of the kidney may contract an acute inflammation of these organs. I do not refer here to embolic infarcts. Of course we must recognize their occurrence in the kidneys as part of the changes which occur in the course of heart disease. But a chronic cardiac patient, just as a chronic nephritic patient, is for some reason specially liable to infection. He becomes infected from one cause or another without our being able to say why, and under this condition of infection the kidneys become readily inflamed in consequence of the elimination of the toxins, or of the micro-organisms of the infection. I think that in the management of chronic cardiac cases physicians should examine the urine more frequently than they do with a view to detecting evidences of acute nephritis, when, in fact, there have been no marked constitutional symptoms to lead the physician to suspect infection. Regarding the management of congested kidneys of heart disease, physicians are apt to err in the way of urging patients to drink too freely of water. If patients drink too much water in the hope that it will act as a diuretic, they only increase the congestion of the kidneys, and will really aggravate rather than ameliorate their condition. The urine is scanty, and there is frequently, notwithstanding its high specific gravity, an actual diminution in the total amount of solids eliminated. As pointed out by Oertel, in the management of cases of cardiac disease we may get better results in the way of elimination from the kidneys by a restricted ingestion of water, or in allowing just the amount of fluid which will produce the greatest amount of urine. When contraction of the kidneys occurs as a result of chronic heart disease the prognosis is most unfavorable, both because the cardiac lesion is unfavorably affected by the increased blood-pressure secondary to the renal change, and because there is not cardiac power sufficient to maintain adequate pressure in the renal arteries.

Dr. James B. Herrick—I want to take exception to some of the statements made by Drs. Danforth and Elliott, as too broad. The statement made by Dr. Danforth is to the effect that two-thirds of the patients that come to him with a diagnosis of chronic interstitial nephritis have something else. Possibly that is true with regard to the patients that come to him, but I believe the diagnosis of chronic interstitial nephritis as made by the majority of physicians is correct. Dr. Elliott made a statement, using the same figures, that two-thirds of the cases of chronic interstitial nephritis are entirely overlooked or pass for something else. I do not believe that this is true as regards the majority of physicians. Both these statements I would criticise as too sweeping. I would also take exception to one thing Dr. Purdy has said. I fully indorse what he has said regarding the importance of treating the heart in cases of chronic interstitial nephritis; there can be no question of its immense value. But if I understood him rightly, he made the statement that a very large number, even the majority, of the cases of chronic interstitial nephritis die, in reality, of heart disease. There can be no doubt that a great many patients do die with all the evidences of cardiac failure —dilatation of the heart, murmurs, insufficiency, cardiac dropsy, etc. But when we think of the great number of patients with chronic interstitial nephritis who die of uremia: when we think of the great number of patients with chronic interstitial nephritis who die from some intercurrent or complicating disease, we must admit that a great many, I should say the majority, do not die of cardiac insufficiency: and particularly would this be true if we are allowed to include those cases that die of cerebral hemorrhage, though the relation of the heart to cerebral hemorrhage may be very intimate.

I would fully indorse everything that has been said relative to the importance of heredity, enabling us to institute early prophylactic treatment. There are family cases on record where not only from one generation to another, but in one and the same generation, many members of the same family have chronic interstitial nephritis, and sometimes at a very early age, even in childhood.

Dr. Danforth said he believed he would be criticised for what he said regarding alteratives, and particularly regarding the value of these remedies. I do not recall who it was who told me of the great value of the alteratives in chronic nephritis. But I have given, I believe, with benefit, the alteratives in these cases, and oftenest in the form of Donovan's solution of arsenic or minute doses of calomel. One other point I would like to refer to; this pertains to prognosis. I have never seen a case of chronic interstitial nephritis, in which there was albuminuric retinitis, that has lived for more than a few months. I do not remember to have seen a case live longer than twenty to twenty-four months. Possibly there is nothing in this point, yet, after hearing that statement made I have watched my cases since, and whenever in chronic interstitial nephritis albuminuric retinitis was present, death has occurred inside of two years.

It may not be out of place to say a word regarding the treatment of uremia, which occurs so frequently in the course of chronic interstitial nephritis. I wish to speak of the great value of normal salt solution where the secretion of the kidneys is locked up. In many cases of chronic interstitial nephritis we find relative anuria; the albumin is increased in amount, as well as casts, and the patient has uremia in one or the other of its manifestations. The results following the subcutaneous injection of large quantities, say a pint to a quart and a half, of normal salt solution, once, twice, or thrice in twenty-four hours have at times seemed remarkable. The kidneys and skin act much more freely after this, and best of all, the patients in many instances make a beautiful recovery. I would also call attention to the value of the normal salt solution just preceding the sweats so commonly given in cases of uremia. When we sweat a patient we abstract a certain amount of water from the blood, and but a relatively small amount of toxic material, the blood being surcharged with this toxic material is rendered more concentrated by the abstraction of water. By first injecting normal salt solution under the skin, and then sweating the patient, we not only obtain much better diaphoresis, but we lessen the danger that comes from the concentration of the blood. Cases have been reported in which, following a sweat, uremic manifestations were worse, and in which it seems the blood, from too great concentration, became much more toxic. It is certainly prudent to consider this point, and even though we do not go to the extent of giving normal salt solution under the skin, we can give large amounts of water by the stomach.

Dr. N. S. Davis, Jr.—One point, it seems to me, has not been sufficiently emphasized, and it is of considerable importance from the standpoint of prophylaxis. Unquestionably, the main thing in the prophylactic treatment of these cases is to teach patients to be abstemious as regards eating and drinking. This is a difficult thing to do, because these patients naturally are hearty eaters, and have been such for long periods of time, and usually they have been addicted to taking small quantities of water and considerable quantities of those fluids which are more or less irritating to the stomach, to the liver, and sometimes to the kidneys. When such habits have existed for a long time, it is difficult to change them, and more especially in those patients for whom prophylactic treatment is of most value, patients in whom the disease is starting. They do not appreciate their own condition, consequently it is difficult to drive home the necessity of their being abstemious as regards eating, and the need of drinking copiously of good, pure water. However, that is not the point to which I wish particularly to refer. I wish to emphasize the necessity of keeping the intestinal tract as reasonably clean as possible. In these cases we have almost invariably preceding the renal trouble, or at least coincident with it, enlargement of the stomach, more or less gastritis, more or less fermentation of an abnormal character in the intestinal tract, and it is chiefly because of the products of fermentation in the gastro-intestinal tract that renal lesions develop. Renal irritants are produced there, the lesion is not due to a surplus of nitrogenous foods only or chiefly. The kidneys, like most other organs, are capable of doing a much larger amount of work than required under strictly physiologic conditions. They can eliminate much more nitrogenous matter, without harm to themselves, than is required for the maintenance of strength and health. They are able to do the work thrown upon them, providing the nitrogenous matter comes to them in a normal condition. To prevent the constant recurrence of that irritation of the kidneys which produces necrosis and interstitial changes, it is necessary to prevent the formation of those materials in the stomach and intestines, which result from abnormal fermentation in nitrogenous food. Not only must the diet be made abstemious in order to lessen the nitrogenous elimination, but in order to lessen gastrointestinal fermentation, which is especially apt to be excessive when the organs are overworked. For this reason also laxatives must be given freely and constantly to obtain copious movement of the bowel.

A word or two in regard to the administration of milk. Most individuals can not take milk continuously for a long period. It is not to be expected, therefore, in cases of interstitial nephritis, that a strictly milk diet can be adhered to even if it was needed. But experience has shown that it is not especially indicated in these cases. It can, however, be used as an element of diet in some cases. I believe it is one of the simplest forms of nitrogenous food which we can use, and one which is least likely to undergo deleterious fermentation in the stomach and intestines, and it meets many of the dietetic indications of this disease. But milk must form only one element of diet. It has often been said that a strictly milk diet is a starvation diet. That is true for most individuals. I have seen persons, and I presume most of you have, who have adhered to a strict milk diet for a long period of time, and who upon it gained flesh and strength. They used large quantities of it. They were the unusual patients, who took milk with pleasure. But these individuals are rarely met. Therefore the general statement is perfectly correct that a milk diet is a starvation diet for the majority of patients, but it can advantageously constitute one element of diet for many of these patients.

Dr. Albert H. Burr—I was asked to speak upon the treatment of interstitial nephritis from a hydriatic standpoint. I seem to have acquired, unjustly, I think, some reputation as a medical baptist with an idea that salvation from disease can only come through tubbing. Water is an extremely flexible remedy and will often better than any other remedial measure fulfill the indications for stimulation, for elimination, and for counteracting toxic effects in renal diseases. There are a variety of ways of using water therapeutically in the treatment of conditions arising from interstitial nephritis. First, from a prophylactic standpoint, if the patient has been recognized as liable to fall into a condition of ill-health through a diathesis or tendency to nephritis, much can be done for him by hydriatic methods in warding off the condition, not ignoring, of course, other necessary dietetic and hygienic measures.

There is one element that has not been dwelt upon to-night, either in the excellent paper of Dr. Purdy, or in the discussions; I refer to the toxic element. In interstitial nephritis there has been an irritation due, I believe, to something more than the elimination of large quantities of normal wastes. The wastes from nitrogenous products are normally passed through the kidneys. That is their function. The kidneys may carry on the work of elimination to two or three times the normal amount of nitrogenous wastes without harm, as the stomach is able to bear the digestive work of overfeeding for years without serious impairment. It is astonishing to note how much abuse the stomach will tolerate and still maintain a good functional activity throughout life. To the same extent the kidneys are able to perform their function, although overworked. But there is another element—that of toxicity, auto-infections, and irritants from germ-life, and faulty metabolism—that is not due to the overwork of eliminating nitrogenous wastes. Here Dr. Danforth's idea of elimination by means of alteratives is appropriate. If the physician appreciates the tendency in the direction of interstitial nephritis he may contribute very materially toward his success in keeping the patient in a fair degree of health by suitable hydriatic measures. In these cases nothing is better as a tonic, as an alterative, or as a stimulant to the cardiac and renal functions than the morning cold plunge bath, with friction. Such a bath patients are able to take themselves. They stimulate the normal physiologic processs, and assist in carrying out efficient elimination. Let us now take a well-marked condition of interstitial nephritis, in which there will develop cardiac lesions sooner or later. There may be at times over-excitement of the heart action and over-pressure of circulation, and in this condition we often have polyuria, then the sedative effects of water are indicated, such as the application of hot or cold packs. The patient will get these sedative effects with either hot or cold, provided the application is continuous for 30 to 60 minutes. Sedation follows the continuous application of hot or cold waters and they are not antagonistic by any means. Again we may have a condition in which there is a call for stimulation. Any condition of interstitial nephritis combined with cardiac lesions, which to your mind calls for the use of digitalis, strophanthus, spartein, or any of the cardiac stimulants, can be met promptly and efficiently by the brief cold sheet rub. In dilatation of the heart, when it is not compensating fairly well, and when as a part of the condition the urine is scanty, it is efficient also. One of the quickest means of securing a diuretic effect is that mentioned by Dr. Herrick—hypodermoclysis—the injection of normal salt solution. There is a better and painless method for obtaining prompt diuretic action—enteroclysis. The colon is flushed with a hot injection of two or three quarts of water, beginning with a temperature of 110 and raising it to 120 F. The long colonic flushing-tube is employed, the colon is filled and the water allowed to pass out again through the tube. After this colonic flushing with hot water, half a pint of normal salt solution is left in the rectum. This amount of solution will be retained, and in twenty minutes' time its action is marked both on the kidneys and on the heart. Dr. Baker has reported some experiments that he has conducted upon himself in this line, and he says there is nothing more efficient as a diuretic than these hot flushings, followed by a retention injection of half a pint of normal salt solution. It strikes me that the introduction into the rectum, after colonic flushings of hot water, of one or two drams of the citrate of potassium left in this water would be very beneficial. The physiologic action of the water, briefly applied, is stimulating. You know how closely the transverse colon and its flexures approach the kidneys; hence a direct stimulating effect of the hot water upon the kidney itself is obtained, also a reflex, stimulating effect on the heart. Take the cases of marked uremia, in which we have headache, cramps in the muscles, skin irritations, and possibly a tendency to drowsiness, coma, or convulsive symptoms, nothing can relieve that condition so quickly as the hot bath or pack for the purpose of diaphoresis. I hardly see the force of the remarks of Dr. Herrick regarding condensation of the blood and the leaving of toxic principles in the blood by diaphoresis. Have you ever observed that, by these hot baths, in a condition of uremia, the skin, supplementing the action of the kidneys, is capable of eliminating an immense amount of toxic material, and that the sheet will reek with the emanations of the patient after a forty or sixty minutes' pack? This should always be followed by the brief reaction sponge of cold water. Hydriatic methods applied in accordance with varying indications do not preclude by any means therapeutic application of drugs, but they must be considered valuable aids, and in many cases are far more efficient and valuable than any possible drug treatment.

Dr. M. L. Goodkind—There are some points in connection with the prophylaxis of nephritis that have not been mentioned either in the paper or in the discussion. Dr. Davis, in his remarks, referred to a toxic element in that class of cases hereditarily predisposed to nephritis, and I think that very frequently these patients are infected through the tonsils. In the class of cases predisposed to nephritis, the use of cold baths, as suggested by Dr. Burr, should be avoided. I have seen several cases in which nephritis was brought about by the constant use of cold sponge baths. Dr. Purdy mentioned the exclusion of a strict milk diet, in the terminal stage of nephritis, where the cardio-vascular disturbances are marked, on the ground that a greater strain is thrown on the kidneys. Von Noorden showed me a dozen cases in his clinic in which he practiced the same procedure as that suggested by Dr. Purdy, on the assumption that a fluid diet overstrains the heart, and for that reason he treats the broken-down heart by curtailing the amount of fluid and paying less attention to the kidneys in such cases. Another thing that Dr. Von Noorden mentioned at the time was, that there is a common misapprehension by the profession at large that red meat, or butcher's meat, contains more proteids and extractives that are injurious to the kidneys than white meats. The contrary obtains, he claims to have demonstrated, as the result of a series of experiments. In reference to the use of alteratives, I agree with Dr. Danforth, particularly in that class of cases in which there is by heredity a uric-acid tendency, and in which arteriosclerosis is present; also in the cases mentioned by Dr. Davis in which intestinal toxemia prevails. Several assistants of Kahler, working in his laboratory some ten years ago, demonstrated post-mortem the presence of nephritis in cases in which it was not suspected during life. There had been no marked cardio-vascular changes at any time. There had not been the slightest trace of albumin, nor casts. Also a number of cases in which hyaline and granular casts, and a greater or less amount of albumin had been demonstrated *in vivo*, the patients dying of some adventitious trouble, showed not the slightest evidence of nephritis, so that the presence of a few granular or hyaline casts in the urine is not always pathognomonic of nephritis. Concerning albuminuric retinitis, and Dr. Herrick's prognosis of from twenty to twenty-four months as the extreme limit of life, I will say that there are certain cases in which we have the albuminuric retinitis of pregnancy and of scarlet fever, and yet these patients live for a great many years. These two classes of cases, therefore, offer a notable exception to the position taken by Dr. Herrick in regard to prognosis. I would like to ask Dr. Purdy whether he has had much experience in the use of morphin in edema of the lung, occurring in connection with nephritis, and whether he has found it to be a serviceable drug? Also, whether he has used the lactate of strontium in interstitial nephritis? Personally, I have used it without obtaining good results.

Dr. Frank S. Churchill—There is one aspect of the subject under discussion that has not been touched upon, and which, it seems to me, is of great importance. It should receive more attention than it has in the past. I believe we shall have to look for the solution of the cause of interstitial nephritis in the adult to an exhaustive study of the conditions existing in infancy and childhood which lead to the condition in which interstitial nephritis develops. Of course, that is a tremendous problem, and means an exhaustive examination of a large number of infants, beginning with the first day of life, and following them all through life up to the point in which they do or do not develop this disease. The magnitude of the problem is very great. Careful and repeated examinations of the urine from the time of birth up to the time nephritis has developed should be made. We ought to examine the twenty-four-hour amount of urine with a view to detecting the presence or absence of albumin, casts, sugar, and estimate also the solids of the urine. I have only reached the point of examining the urine of a number of children in a condition of health, and those observations I have already published.[1] These observations were made on the solids, the chlorids, phosphates and sulphates by the method suggested by Dr. Purdy, and also the amount of urea and the total amount of water. One of the most significant points brought out in these investigations was the small amount of water passed by these children. They were mostly of foreign parentage, but living in an asylum under American conditions of life. I could not find that these children had a smaller amount of fluid than children encountered in private practice. They passed a smaller amount of urine than is indicated by the results published by European and English observers among children, and following the subject up I was interested to see that the same results obtained among adults. The adults in America pass a smaller amount of urine than do the cases recorded by foreign observers.

Dr. Elliott alluded to the hereditary cases of interstitial nephritis, saying that these are apt to run a much more severe course than those in which there is no such heredity. I would like to throw out the suggestion, that in these cases this hereditary tendency possibly gains headway during the periods of infancy and childhood; and that exhaustive examinations of the urine of such children may show a condition of things which would perhaps put us on our guard and enable us to prevent or put off to a much later period the development of interstitial nephritis. But my chief object in speaking is to make a plea for a more extended and more exhaustive examination of the urine in children.

Dr. Edward F. Wells—I wish to call attention to two points of practical importance in this discussion. First in the management of edema of the lungs, life will often be saved by making the mouth and nostrils the lowest point of an inclined plane. This will allow the fluids to flow out of the bronchii, preventing the drowning of the patient in his own bronchial secretions. This should be employed in addition to medicinal treatment. Second, in cases of uremia, while introducing fluids into the system, and withdrawing fluids from the surface, from the kidneys and from the bowels, the blood may be actually washed and purified, in properly selected cases, by bleeding. This procedure, indicated in some cases, is also a life-saving measure.

Dr. Purdy (closing the discussion)—In replying to some of the points that have been raised in the discussion, I shall not attempt to answer them in the order in which they were given. I will first answer Dr. Herrick in reference to deaths due to affections of the heart in cases of interstitial nephritis. The statement I intended to make was that the majority of cases said to die from interstitial nephritis really die from some cardiac disease. A word of explanation is due here. I believe the statement to be correct. If we have no heart complication in cases of interstitial nephritis, they would go on and live longer than they do after the cardiac disease sets in. Although perhaps the disease is primarily in the kidney, death from uremia is more often secondarily than primarily due to the kidneys being worn out. When the cardiac complication becomes advanced it cuts off the renal function, the blood-pressure is lowered, and the urine in volume and quality is lowered; excretion is impeded, and the patient falls gradually into uremia or some complication of uremia, not directly from renal but from cardiac breakdown. If the heart-lesion had been recognized early and proper attention given to it, the patient's life would have been vastly prolonged. I have half a dozen cases on hand now in which the volume of urine is somewhat above normal, perhaps sixty ounces in twenty-four hours, with a specific gravity of 1005, 1006, or 1007, the total urea not exceeding 150 grains. I had two sisters in my office less than three weeks ago who are getting along with perfect comfort, apparently, on as near a non-nitrogenous diet as they can be put upon. When I saw these patients two years ago they were drenching themselves with enormous quantities of fluid, drinking gallons of water daily. Neither of them has any material cardiac complication. Cases of ordinary interstitial nephritis will run along almost indefinitely until cardiac complications set in and make substantial progress, then the patient will die without exception—not from renal, but from cardiac failure.

With reference to alteratives, I have not had very much experience in the use of mercury. To be frank, I am prejudiced against it. I have great faith in the iodids, and have used them a great deal. I believe, however, that their true action is as vasodilators. Perhaps I can best illustrate this by citing the case of a man of whom I have had some knowledge for over twenty years. For fifteen years he was in the hands of a well-known physician of this city, who gives alteratives freely. He kept this man on iodids most of the time for fifteen years, but did not modify his diet. What is the consequence? His kidneys are practically rudiments to-day. During the past two and a half years, while he has been under my care, I have never known him to exceed a hundred and eightly grains of urea a day. I believe the iodids saved his heart and prolonged his life.

I agree with Drs. Elliott and Danforth that much harm is done by giving an excessive amount of fluid. There may be cases requiring flushing of the kidneys for a time. I believe it is a good point to allow a patient three or four pints of fluid, say three pints each day; but sending patients to mineral springs is not good for the patients.

In regard to the diagnosis of interstitial nephritis, I was much interested in the remarks of Dr. Danforth. We all know that Dr. Danforth has made a careful study of casts. I believe there is much in what he has said; at the same time, a case of chronic interstitial nephritis sometimes becomes subacute; it has periods of acute tendencies. A man with interstitial nephritis may get some septic complication, some fever, causing slight diffuse nephritis, or, as Dr. Danforth expresses it, a catarrhal nephritis.

With reference to the visual disorders of nephritis, it must be remembered that we have a number of forms of amblyopia in nephritis. We have acute uremic amaurosis, which may come on in an hour, and disappear practically in six hours, due to uremia. The retinal-lesions are chiefly due to albuminuric retinitis, and to the hemorrhages into the retina. True, albuminuric retinitis is one of the late lesions of the disease, and the statement that patients do not live as a rule more than two years may be correct. But there are certainly exceptions to that rule. I have seen patients live over four years. I recall a case in Burlington, Iowa, under the charge of a local oculist there, which is now doing fairly well in his sixth year. But that is very unusual.

---

[1] Trans. Am. Ped. Soc., Vol. X, 1898.

The remarks of Dr. Davis as to the difficulties of carrying out prophylaxis are very pertinent to this discussion. It seems almost impossible to modify the habits of a man of fifty or sixty years of age, who has always been robust and strong. In short, the habits of a lifetime are almost unchangeable in such patients. When you consider that you have to pit your advice of half an hour against the habits of a lifetime, it is an exceedingly difficult thing to have a patient follow your suggestions as to diet and mode of life.

I quite agree with what has been said concerning laxative treatment, and, in fact, what little I suggested in the way of medication was coupled with advice in reference to diet, and the use of a saline laxative every alternate day. By the way, there is another point about the excessive use of water that I desire to mention. Where we have a hypertrophied heart, the heart taking up more space than it should in the thorax, the constant overfilling of the stomach with fluids is one of the worst things that can be done. It encumbers the heart's action greatly.

With regard to the remarks of Dr. Burr in reference to cold baths, I must say that I do not believe in them. A very important part of my treatment of interstitial nephritis is the care of the skin. I have seen many cases go along and do fairly well until they met with a chilling of the skin, which has precipitated a uremia and caused death. I have seen this take place so frequently that I have become afraid of cold baths and cold water. If we wish elimination by the skin, I do not think the hot pack, or hot water, is the best method of getting it. It stands to reason that evaporation from the skin is vastly more rapid in a dry than in a moist atmosphere. If you want to get diaphoresis in an active form, you can get it best by a dry hot-air bath. One of the first things I insist upon is that patients shall wear all wool next to the skin in this climate. The skin contains a large amount of blood; chilling the vessels will cause them to contract, driving the blood into the internal organs—the weakest organs get most of the extra flow of blood.

As to the use of opium in edema of the lungs, I think a single hypodermic injection of morphia with atropin will sometimes cut short an edema of the lungs. It is a dangerous drug to give in interstitial nephritis, unless it is restricted to a single dose, and time allowed for its elimination. The elimination of opiates is slow. If you give a patient a full dose of morphin or opium, who has interstitial nephritis in pronounced form, you will find that he will be under the influence of the drug much longer than a person whose kidneys are sound. If we use a diuretic, my preference is the citrate of potash, which, in cases of nephritis, is the only remedy that lowers the albumin in the urine. It does so invariably.

California Academy of Medicine.

San Francisco, June, 1900.

Dr D. W. Montgomery in the chair.

FRACTURED PATELLA.

Dr. Dudley Tait presented a patient 54 years of age, who, three years previously, was treated for a fractured patella. Treatment for 2½ months with splint and cast had left him with a painful, swollen and almost useless knee. Two years later he had opened the joint and found two small, porous, widely-separated fragments. Perfect approximation was impossible, even in extreme extension and after lateral incision of the quadriceps tendon and patellar ligament. The remnants of the patella were removed entirely shortly afterward, and the patient is now able to work, does not limp, and walks without the aid of a cane. He said that many have an exaggerated idea of the importance of the patella, which is merely a sesamoid bone. In the transverse fracture of the patella, without involvement of the peripatellar soft tissues, there will not be more than from 4 to 6 mm. of separation of the fragments. If, on the contrary, the lateral aponeurotic expansions are torn, there may occur a marked separation, especially in case of pressure from behind—hemarthrosis. Keen's suggestion of disinserting the patellar ligament would not have been of any service in the case presented.

Dr. G. E. Caglieri presented a young man whose patella had been fractured by falling, sustaining a transverse fracture. The morning following the accident he operated, making a horse-shoe incision. The joint was found filled with blood-clots, which were all removed by thorough flushing. The two fragments were surrounded by a silk ligature, passing it through the patellar tendon below and the quadriceps extensor tendon above. The result was excellent, the patient walking after four weeks. He said that the subcutaneous methods in fractures of the patella were not to be relied upon, and laid particular stress on the necessity of getting out all blood-clots and fragments of bone from the joint cavity.

Dr. Tait said that where there is distinct separation of the fragments and soft tissues intervening, the open treatment is always indicated. He advocates early intervention, as the resistance of the tissues is diminished by delay.

Dr. Henry Kugeler said that Dr. MacEwen wires or sews in all his cases, the main thing being to bring the fibrous tissue together. Most operators use catgut or silk in doing this, wire being not as frequently used. He said that he agreed with Dr. Tait regarding the necessity for immediate union, and that the point Dr. MacEwen makes in advocating the operative treatment in all cases is that fibrous threads fall in between the fragments almost invariably. Dr. Huntington said that prompt action in these cases is certainly the accredited one, as blood-clot forms a good culture-medium. In a recent case of his, in which high temperature and other septic symptoms developed, he aspirated the joint and found it was a streptococcic infection. The patient died, but had the joint been opened and cleaned out earlier, the result might have been different. Regarding the wiring of the fragments, he said that hard and fast rules can not be laid down, as opinion among authorities is very much divided. When the bones can be properly approximated the joint should not be opened. Scudder, of Boston, in a recent article, stated that simple fracture of the patella by the open method was justifiable, but he showed that after a given number of months, the results as far as function was concerned, were about the same as when treated without opening the joint. If that is correct, it certainly is no strong argument for dealing with an ordinary fractured patella by the open method. The procedure may be safe in hospitals; there can not be absolute immunity from sepsis when a joint is opened.

Dr. G. E. Caglieri said that under proper aseptic precautions in hospitals there was no great danger in properly opening any joint, and that he would no more hesitate to do so than to open the abdominal cavity.

Dr. H. M. Sherman said that the proposition of opening any joint was not analogous to opening the abdomen. Ideas are somewhat perverted by speaking of the synovial membrane. The wall of a joint cavity is composed of connective tissue, and there is no tissue in the joint hostile to infection like the peritoneum is. The joint is simply a space in connective tissue, and has not the same power to throw off infection, therefore we have to hesitate more in opening any joint than in opening the abdomen. In all joints, there is every tendency for infection to spread, no tendency for the focus to be walled off as in the peritoneum. The collateral features have to decide whether to open or not. When there are blood-clots in the cavity we can not very well get rid of them by means of the trocar. He had tried to devise a way of holding the fragments together, with only fair success, but good success as far as the result was concerned. His plan was to place a plaster-of-paris band around the joint, and then hold the fragments together with the fingers, by making firm pressure into the plaster until it thoroughly set.

Dr. Geo. F. Shiels said that the conservative opinion of never opening anything that can remain closed was the proper one. The method he liked best was that of passing a ligature through the quadriceps extensor tendon above, and the ligamentum patellæ below, and holding the fragments there in that position.

Dr. Dudley Tait said that he did not think Dr. Caglieri's case was presented with the intention of advocating the open method in treating all cases of fractured patella, as such a practice would prove dangerous, if not criminal, outside of a well-appointed hospital. In cases, however, in which there is great distention of the joint and extensive laceration of the peripatellar tissue, nothing will give such an ideal, sure, and rapid result as the method of encircling the fragments. This procedure is extremely easy and rapid, and should replace the old method of wiring in very many instances. It matters little what kind of union takes place. Good fibrous is as serviceable as bony union. Hence the result of treatment can not be accurately estimated by the X-rays alone.

THYROID SURGERY.

Dr. H. M. Sherman exhibited a thyroid gland which he had removed because of cysts. It had increased in size to the point of causing dyspnea and some tachycardia. There was considerable disfigurement, and it was for cosmetic purposes that he removed it. The removal was easily accomplished and he had no trouble with the recurrent laryngeal nerve. He left some portion of the right lobe to prevent the occurrence of myxedema. His principal object in reporting the case was to speak of a new drainage material that he had used, linen mesh, the material used in the manufacture of the linen mesh underwear, which has certain qualities which render it superior to gauze as a drain. The operation had been done after Treves, making a vertical incision in the median line with a transverse incision joining this at right angles dividing the muscular structures covering the gland, and making accurate end-to-end approximation of the same by suturing, after enucleation.

Dr. T. W. Huntington said that he had not found it necessary to divide the muscular structures. He uses the Kocher horse-shoe incision, which follows the crease in the neck, instead of the straight incision of Treves, and believes that it is the incision that will be followed in the future by most surgeons, by reason of the slight scar that results.

Dr. Henry A. Kugeler said that he saw Kocher operate a number of times at his clinic, and that he uses local anesthesia by Schleich's method of cocain infiltration. Regarding drainage in these cases he stated that McBurney uses strips of sterile rubber tissue, that acts well and is an excellent method, while some operators use wool thread wound up in wick.

MALIGNANT GROWTHS.

Dr. Dudley Tait showed a patient 55 years of age, who entered the French Hospital 14½ months ago with a malignant growth involving the pyloric region, the entire smaller curvature, and a portion of the greater curvature of the stomach. He had vomited all food for weeks previously and had lost 30 pounds. His condition was extremely cachectic, hemoglobin was 38 per cent. Gastroenterostomy was done with great difficulty, on account of the numerous adhesions, especially posteriorly. The patient soon gained 25 pounds and returned to work, but, for the past three weeks, he had presented symptoms of obstruction of the anastomotic opening. Palpation shows an adherent epigastric tumor and a series of nodules corresponding to several of the through-and-through stitch-holes. He proposed duodenostomy, and asked for suggestions from members of the Academy. He also exhibited a specimen showing extensive involvement of the genito-urinary tract. During life the patient had complained solely of a swollen epididymis, and had requested an operation, which was refused.

FORCEPS.

Dr. T. W. Huntington presented, before the Academy, the O'Hara intestinal anastomosis forceps and described their method of application.

Dr. Harold Brunn showed the LaPlace forceps and the Downes modification of the same.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, July 14.

1 *Primary Carcinoma of the Fallopian Tubes. Elizabeth Mercelia.
2 *Syphilis of the Brain. (To be continued.) J. T. Eskridge.
3 Atrophy of Ciliary Muscle. Norburne B. Jenkins.
4 Present State of Galvano-Caustic Operation of Bottini for Ischuria. (To be concluded.) Granville MacGowan.
5 *"Floaters" in the Urine. William F. Bernart.
6 Two Unique Rectal Cases. Samuel G. Gant.
7 *Elements of a Good Climate. Paul Paquin.
8 Proper Care of the Infant's Nursing-Bottle; An Apparatus for the Perfect Sterilization of the Same, Combined with a Pasteurizer and Sterilizer for Milk. Theron W. Kilmer.

Philadelphia Medical Journal, July 14.

9 *Total Excision of the Scapula alone, and with the Arm (Intrascapulo-thoracic Amputation): Partial Excision of the Scapula for Tumor. (Concluded.) J. J. Buchanan.
10 Case of Primary Adenocarcinoma of the Gall-Bladder with Secondaries in both Adrenals, Melanosis of Skin (Addison's Disease?), Vitiligo, and Hypertrophy of the Pancreas. (Continued.) Alfred S. Warthin.
11 *Action of Rennin Upon Milk-Digestion. (Concluded.) I. H. Coriat.
12 Case of Myoma of the Bladder. (Concluded.) Otto G. Ramsay.
13 Dislocation of the Jaw in Epilepsy. Charles J. Aldrich.

Medical Record (N. Y.), July 14.

14 *Some Clinical Observations on Lupus Erythematosus; The Pathology of Lupus Erythematosus. J. A. Fordyce and O. H. Holder.
15 *Endocardial Murmurs of Organic Origin, Localized in the Pulmonary Area of the Heart. John W. Brannan.
16 Convulsions. Clarence King.

Boston Medical and Surgical Journal, July 12.

17 *Review of Recent Studies on the Nature and Origin of Cancer. J. Collins Warren.
18 Case of Mural Endocarditis. Harold Williams.
19 Cysts in Abdominal Wall Structurally Identical with Ovarian Cysts. John Homans.
20 Case of Cesarean Section. Thomas Kittredge.

Cincinnati Lancet-Clinic, July 14.

21 *Diagnosis of the Attitude of Fetus in Utero by External Examination. E. Gustav Zinke.
22 Physical Culture. H. V. Sweringen.
23 Tubercle. H. H. Spiers.

Medical News (N. Y.), July 14.

24 *Tendon Transplantation in the Treatment of Deformities of the Hand. Wisner R. Townsend.
25 *Some Remarks on the Artificial Feeding of Infants and the Regulation of the Milk-Supply in the Country. J. Finley Bell.
26 *Subphrenic Abscess Following Appendicitis; Two Cases. J. F. Baldwin.
27 *Petroleum in the Treatment of Phthisis. Wm. Duffield Robinson.

St. Louis Medical Review, July 14.

28 Intra-Ocular Tumors. C. Barck.

Pediatrics (N. Y.), July 1.

29 *Infantile Amaurotic Family Idiocy—Report of a Case and Its Autopsy. J. Herbert Claiborne, Jr.
30 A New Back Brace for Pott's Disease. John Dane.

Medical Fortnightly (St. Louis, Mo.), June 25.

31 Significance of Fever in the Diagnosis of Disease of Infancy and Childhood. John Zahorsky.
32 Peripheral Facial Palsy with "Crossed" Hemi-Paresis. F. Savary Pearce.
33 *Serum Treatment of Tuberculosis. G. R. Spicer.

Alienist and Neurologist (St. Louis, Mo.), July.

34 *Degeneracy Stigmata as a Basis of Morbid Suspicion. (Continued.) Jas. G. Kiernan.
35 Nature and Evolution of Folie du Doute. C. H. Hughes.
36 *Inebriate Criminals and Their Treatment. T. D. Crothers.
37 *Inter-Relation of Gynecology and Neurology in Practice. C. H. Hughes.
38 *Plea for Extension of Psychiatry in the American Army. C. H. Hughes.

Iowa Medical Journal, June.

39 Gastro-Intestinal Autointoxication. Walter L. Bierring.

Illinois Medical Journal, July.

40 *Jeremiah xxxi-15. A. C. Cotton.
41 *Management of Impacted Cases. Henry F. Lewis.
42 *Mutilating Operations in Obstetrics. C. S. Bacon.

Archives of Ophthalmology (New Rochelle, N. Y.), May.

43 *The Order of Development of Color Perception and of Color Preference in the Child. Ward A. Holden and K. K. Bosse.
44 On Tuberculosis of the Eye. Ernst Lubowski.
45 Case of Bilateral So-Called Coloboma of the Macula Lutea. Dr. Kimpel.
46 Retrobulbar Neuritis, with Permanent Central Scotoma, Following the Treatment of Extensive Burns with Iodoform. L. D. Brose.
47 Hemiopia Following Poisoning by Illuminating Gas, with Report of a Case. Harry Friedenwald.
48 *Occurrence of Retraction Movements of the Eyeball Together with Congenital Defects in the External Ocular Muscles. Julius Wolff.
49 Report of Case of Retraction of Eyeball. A. N. Alling.
50 Retraction Movements in a Case of Congenital Contraction of the Internal and Paralysis of the External Rectus of the Left Eye. Herman Knapp.
51 Case of Glaucomatous Attack Following Instillation of Euphthalmin. Herman Knapp.

Pennsylvania Medical Journal, June.

52 William Harvey. John M. Swan.
53 Plea for Thorough Urine Analysis. J. Sparks Parker.
54 Valvular Diseases of Left Heart. Anson T. Clark.
55 Some Common Rectal Diseases and Their Treatment. John A. Hawkins.
56 Proprietary Remedies. T. H. Stevens.
57 Who Shall Operate? J. W. Van Horn.
58 Treatment of Phimosis by Dilation. F. Le Moyne.

Annals of Gynecology and Pediatry (Boston, Mass.), July.

59 *Relative Value of Vaginal and Abdominal Operations in Extirpation of the Pelvic Organs. I. Gustave Richelot.
60 Tumors Complicating Pregnancy with Reports of Cases. Geo. W. Jarman.
61 *Diagnosis of the Attitude of Fetus in Utero by External Examination. E. Gustav Zinke.
62 Hydatids and Hydatidiform Cysts. J. M. Fassig.

Brooklyn Medical Journal, July.

63 Recurrent Oculo-Motor Paralysis. L. A. W. Alleman.
64 Reports of Cases of Appendicitis. Arthur H. Bogart.
65 Symposium on Adenoids. Jonathan Wright, H. Arrowsmith, W. C. Braislin, and Thomas R. French.

Bulletin of the Cleveland General Hospital, January.

66 Cirsoid Aneurysm of the Lower Extremity Complicated by Lymphangioma and Giant Growth. Nicholas Senn.
67 *Conditions Requiring Enucleation of the Eyeball. Edward S. Lauder.
68 Case of Erysipelas and Carcinoma. C. B. Parker.
69 Report of Three Cases of Extra-Uterine Pregnancy, One of Cesarean Section and One of Concealed Accidental Hemorrhage. E. E. Skeel.
70 Case of Tetanus Cured by Antitetanus Serum. Joseph F. Hobson.
71 Obstruction of the Bowels from Fecal Impaction. Norman C. Yarian.

Colorado Medical Journal, June.

72 *Diseases of the Bladder and Their Diagnosis. Wm. P. Munn.
73 Consecutive Edema of Larynx. John R. Espey.
74 Urinary Casts. Edward C. Hill.
75 Injuries to the Eye from Accidents in the Mine. (Continued.) Melville Black.

Physician and Surgeon (Ann Arbor, Mich.), June.

76 *Erysipelas and Its Treatment. Albert E. Carrier.
77 *What Has Modern Science Accomplished to Prevent Consumption. Ziba H. Evans.
78 Dermoid Tumors in Gynecology. Frank D. Summers.
79 *A Critical Contribution to the Doctrine of the Motion of Lymph. Norbert Herz.
80 Postpartum Hemorrhage. E. T. Abrams.

Louisville Monthly Journal of Medicine and Surgery, July.

81 Acute Orchitis. Val. Buechel.
82 Scarlet Fever. W. E. Shepherd.
83 Report of Surgery. (Continued.) H. Horace Grant.
84 Address before Kentucky State Medical Society. William Bailey.
85 Nephritis Conventionally Considered. U. V. Williams.
86 Renal Insufficiency. John G. Cecil.
87 Nephritis: Its Frequency and the Importance of Its Early Diagnosis. J. A. Humphrey.
88 Cancer of the Uterus. Louis Frank.

Chicago Clinic, June.

89 Cholelithiasis. J. H. Salisbury.
90 *Ozena, Dry Pharyngitis and Pachydermia of the Larynx in the Light of Recent Researches as to Their Etiology. J. Holinger.
91 Reflex Neuroses from Adherent Prepuce in the Female. A. S. Waiss.
92 *Indications for the radical cure of Hernia in Children. J. N. Bartholomew.
93 Study and Dissection of the Pelvic Outlet. (To be continued.) W. T. Eckley.
94 Intubation and Tracheotomy. (To be continued.) Aime P. Heineck.

St. Louis Medical and Surgical Journal, July.

95 Aneurysm—A Report of Several Cases. Louis H. Behrens.
96 Two Cases of Chancre of Groin. A. H. Ohman-Dumesnil.

New Yorker Medicinische Monatschrift, June.

97 *Klinische Experimente mit Nirvanin. F. C. Flœckinger.
98 Bedutung Eines Verbandes deutscher medicinischer Vereine in den Vereinigten Staaten. E. Rosenberg.

Maryland Medical Journal, July.

99 A Winter in Baden-Baden. Edward M. Schaeffer.
100 *Indications for the Employment of Cesarean Section, Symphyseotomy, and Craniotomy in Contracted Pelvis. J. Whitridge Williams.

Doctors' Magazine (Chicago), June.

101 Concerning Milk. I. N. Danforth.
102 Medical Women. Agnes Turner.
103 Mortality in Early Life. A. C. Cotton.
104 Notes From My Journal. Wm. Rittenhouse.
105 Professional Amenities. G. Frank Lydston.

Buffalo Medical Journal, July.

106 *Gynecological Mistakes and Their Pathologic Bearing and Importance. H. E. Hayd.
107 Notes on the Advancement of Ocular Muscles. Benjamin H. Grove.
108 *Some Thoughts Suggested by the Local or Medicinal Treatment of Cataract. B. H. Grove.
109 Metrorrhagia and the Menopause. William W. Potter.
110 Taking Inventory of a Nervous Case; and the Effects of Season Upon the Production of Nervous Diseases. Wm. C. Krauss.

Canadian Journal of Medicine and Surgery (Toronto), July.

111 *Surgery Among the Insane: Its Difficulties, Its Advantages, Its Results. A. T. Hobbs.
112 Pre-Columbian Leprosy—A Critical Essay. (To be continued.) Robert Lehmann-Nitsche.
113 Abdominal Pregnancy—Report of a Case. H. Meek.
114 Recent Neurological Research. Ezra H. Stafford.

Memphis Medical Monthly, July.

115 Why Are We Sick? Wm. M. Mason.
116 Recent Epidemic of Smallpox. Wm. Krauss.
117 Alcohol in the Practice of Medicine. I. A. McSwain.
118 Hereditary Transmissions. J. D. Hopper.
119 Disorders of Nervous System Due to Malarial Infection. B. F. Turner.
120 Preparation of Patient and Bed for Labor. Jno. A. Blackman.
121 The Forceps. J. R. Coleman.
122 Delivery of the Child. C. H. Johnston.
123 Delivery of Placenta. J. C. Stinson.
124 Postpartum Hemorrhage. Jno. R. Fowlkes.
125 The Puerperal Woman. I. A. McSwain.
126 Placenta Previa. Robert W. Tate.
127 Adenoids. J. T. Herron.
128 Report of Case of Spina Bifida, with Treatment. J. R. Coleman.
129 Two Cases of Malarial Hematuria, with Treatment. A. E. Cox.
130 Fracture of Lower Jaw. J. T. Barbee.

St. Paul Medical Journal, July.

131 *Losdörfer's Bodies: A New Discovery in Syphilitic Blood. Victor Neudorfer.
132 Malpractice Suits: How Best to Protect Ourselves Against Them. Donald B. Pritchard.
133 Plea for Higher Standing in American Medical Collegea. Parks Ritchie.
134 State Work With Infectious Diseases of Animals. M. H. Reynolds.
135 Pemphigus Vulgaris, with Report of a Fatal Case. Burnside Foster.
136 Myasthenia Gastrica. J. A. Vieregge.
137 Case of Malignant Stricture of the Esophagus. Charles R. Ball.
138 Report of a Case of Lobulated Lipoma of the Hand. W. S. Fullerton.

International Journal of Surgery (N. Y.), July.

139 Renal Calculi. W. B. Reid.
140 *Suprapubic Cystotomy. T. W. Nuzum.
141 Treatment of Fractures. (Continued.) W. L. Estes.
142 Regional Minor Surgery. (Continued.) George G. Van Schaick.
143 Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
144 Surgical Treatment of Chronic Suppurative Otitis Media. Robert E. Moss.
145 Carcinoma of Tonsil. E. A. Montenyohl.
146 An Introductory to the Mechanical Diagnosis and Treatment of Urethral Diseases. (Continued.) Ferd C. Valentine.
147 Syphilitic Hygroma of Prepatellar Bursa; Carcinoma of Rectum; Gelatin Serum as a Hemostatic; Elevation of Temperature in Uncomplicated Fracture; Carcinoma of the Breast—A Clinical Conference to Practitioners. Charles G. Cumston.
148 Electrical Burns. F. A. Palmer.
149 Apparatus for the Treatment of Fractures of Femur in Small Children. D. A. Stanton.

Southern California Practitioner, June.

150 *Treatment of Uterine Fibroids. E. R. Smith.
151 *Comparison Between Pan- and Supra-Vaginal Hysterectomy. R. V. Rendon.
152 Legal Medicine. E. O. Sawyer.
153 Combined Anesthesia by Bromid of Ethyl and Chloroform or Ether. F. D. Bullard.
154 *Treatment of Compound Fractures. Joseph Nutt.

Southern Medical Journal (La Grange, N. C.), June.

155 Disbetes Mellitus: Its Treatment. J. W. P. Smithwick.
156 Treatment of Headaches—With Clinical Reports. Robert C. Kenner.
157 Does Sepsis Play a Prominent Causative Rôle in the Production of Puerperal Insanity? Edward N. Brush.
158 Treatment of Anal Chancroids. Martin A. H. Thelberg.
159 Magnificent Destiny of America. Bruno Wilke.

American Journal of Surgery and Gynecology (St. Louis, Mo.), June.

160 Progress of Gynecology. H. C. Crowell.
161 Cure of Old Sinuses. Herman E. Pearse.
162 *Shall the Specialist Pay a Commission to the General Practitioner? Emory Lanphear.
163 Division of the Fee as it Appears to a Southern Country Doctor. W. Shropshire.
164 Why Should not the Doctor Employ and Pay the Specialist? R. M. Stone.
165 Uterine Carcinoma. Milo B. Ward.
166 Case of Gangrene of the Tonsil. Alexander C. Howe.
167 *Use and Abuse of the Vaginal Douche. I. S. Stone.
168 Treatment of Metritis. A. Calleux.

New England Medical Monthly (Danbury, Conn.), July.

169 Preliminary Address Delivered Before the Senior Class of the College of Physicians and Surgeons. Augustus P. Clarke.
170 Convalescence After La Grippe. F. E. Hale.
171 Cerebral Phases of Lithemia and Their Treatment. John J. Berry.
172 Treatment of Secondary Anemia with Clinical Report. Eugene C. Underwood.
173 Movable Kidney. David C. Brown.

Medical Times (N. Y.), June.

174 Hemorrhoids: Horseshoe Fistula. Joseph M. Mathews.
175 *Some Observations on the Prognosis and Treatment in the So-Called Catarrhal Deafness. Dunbar Roy.
176 *Malignant Disease of the Stomach and Pylorus. Wm. J. Mayo.
177 *Notes on a Case of Rabies in New York City.

AMERICAN.

1. **Primary Carcinoma of the Fallopian Tubes.**—This paper is purely casuistic, adding one more case to the twenty or so already reported of primary carcinoma of the Fallopian tubes. Mercelis gives the determining points for the diagnosis of primary lesions and discusses the symptoms as they have been generally observed.

2. **Syphilis of the Brain.**—Eskridge first remarks on the occurrence of syphilis of the brain and its frequency, reporting the views of others in this regard without expressing a personal opinion. He says we can only say that the length of time after the initial lesions in which brain symptoms may develop is variable and indefinite, and we can not at any time state that there is no longer a danger of the brain becoming affected. He follows H. C. Wood in doubting whether any slight injury not causing inflammation can call out manifestations of brain syphilis in cases hitherto entirely free from intracranial infection. The direct effects of syphilis of the brain are few, the indirect effects are numerous. Only the specific lesions, those occurring directly from the disease, are amenable to specific treatment. The secondary effects are not specific in character and do not thus respond. Thus gumma, which is a characteristic typical lesion, carries with it numerous other disorders by compression and otherwise. Treatment, unless instituted early, is apt to be fruitless. He calls attention to the lesions that are produced by syphilis in the blood-vessels and other symptoms.

5. **"Floaters" in the Urine.**—From examinations and experiments with fifty samples of freshly voided gonorrheal infected urine Bernart concludes as follows:

1. The specific gravity of the urine is a prominent factor in the action of floaters.

2. The elements composing the floaters influence their action.

3. Their suspension at different depths in the urine is greatly due to some mechanical interference.

4. Upon filtration of the urine all but the very lightest floaters, those composed of flocculent mucus, will sink to the bottom of the beaker.

5. The action of floaters does not alone depend upon their composition or the specific gravity of the urine.

Since the difference in the length of the infection and its extent, and the influence of treatment, did not show a marked degree of difference in the results of the foregoing experiment, it is but fair to judge that some substance within the urine, which can be removed by filtration, influences the action of floaters and their diagnostic value.

7. **The Elements of Good Climate.**—The climate which Paquin thinks would be best adapted to the majority of respiratory troubles should be moderately high and dry and the air as pure as possible. It should be free from heavy winds, protracted rains and heavy fogs. It should have a soil favoring rapid drainage and evaporation; it should have a clear sky and sunlight for five-sixths or more of the time, and should neither be depressing when hot nor chilly when cold; and to afford the greatest measure of good it should have besides healthfulness, enjoyable scenery and surroundings and be unfavorable to homesickness. In any event the benefit depends on two factors: 1, rarefaction of the air; 2, dryness of the air. Mere altitude, however, combining these to a greater or less extent with each other, is not alone sufficient. The desiccating power of the air of high altitudes may itself have some disadvantages, and if as much good can be accomplished without the resort to a very high altitude it should be avoided. An important point is the blueness of the sky, which shows the pureness of the atmosphere. Moisture, which plays an important rôle, is to be considered. Heavy fogs are apt to be dangerous, but a light fog may be a cleansing agency and not be felt to have any disadvantages. Rainfalls are cleansing agencies, but if too persistent and heavy they may be damaging. The soil also must be considered. A mountain soil, not too porous, is the best. Sunshine and temperature are also to be considered, and the latter may be said to be from a climatic standpoint what it feels to one; that medium cold dry air and medium warm dry air are equally good, while the same degrees of temperature in a damp atmosphere are dangerous. He thinks the conditions which he has described are better met with for the year round in Western North Carolina than in any other part of the country. Not only the climate but the accommodations and food are elements in the success of the treatment and every case should be under the charge of a physician. This applies to the physician as well as the layman, since there is probably not a sufferer from tuberculosis whose judgment is trustworthy as regards his own case.

9. **Interscapulo-Thoracic and Scapular Amputation.**—Buchanan tabulates the cases known of total excision of the scapula at one operation for the preservation of the arm and also at two or more operations, and cases of excision of the scapula for tumor. He finds in summing up that interscapulo-thoracic amputation is primarily a very successful one, the mortality being only about 8 per cent.; 18.6 per cent. of cases whose post-operative history was definitely known were cured beyond the three-year limit. All cases operated on for enchondroma have remained free from recurrence, thus showing that these growths are comparatively benignant and do not warrant the conclusions drawn when they are included among the malignant neoplasms. Excision of the entire scapula for neoplasms has an immediate mortality of 17.3 per cent. and a record of 20 per cent. cured beyond the three-year limit in the malignant cases. Partial excision of the scapula for tumor, taking away less than the entire body, has an immediate mortality of 9 per cent. and a record of 33.3 per cent. of cures up to three years in the malignant cases. Partial excision of the scapula for tumor, taking away the entire body or more, has an immediate mortality of 26 per cent. and a record of 6.25 per cent. of cures. Notwithstanding these favorable results in total excision he does not hold it admissable to remove the entire bone, even in malignant cases, if less will possibly suffice. In conclusion he adds a note on the recent monograph of Picque and Dartignes and a paper by J. William White, who has reported cases, also some further data in regard to cases included in this paper.

11. **Rennin.**—The following are the conclusions of Coriat's article: *Action of Rennin in Digestion.* 1. The casein of milk can be digested by both pepsin and pancreatin, without being first coagulated by rennin. 2. When, however, rennin is present in order to precipitate the casein, the amount of digested proteid or albumose-peptone produced by the proteolytic enzymes above mentioned is greater in every case. 3. The presence of rennin is necessary to secure a more rapid and energetic casein digestion. 4. This increased peptone production, due to the presence of rennin, takes place in both acid (pepsin) and alkaline (pancreatic) media. *Action of Rennin on Coagulation.* 1. Combined HCl, when equal in bulk to one-tenth or less of the milk used, does not coagulate milk, even after prolonged action. 2. Combined HCl, when it exceeds one-tenth of the bulk of milk used, coagulates with rapidity, although not as rapidly as when HCl is free. 3. Free HCl, alone, coagulates milk. 4. Rennin coagulates milk without HCl being present, but when it is present in a combined form equal to one-tenth or less of the bulk of milk used, coagulation takes place in a much shorter period of time. 5. The presence of acid-albumin hastens coagulation by the enzymes. 6. Coagulation time decreases steadily, as greater amounts of absolute rennin are present. 7. Vegetable enzymes coagulate milk in a way which compares very favorably with rennin. 8. Coagulation with vegetable enzymes takes place under the same conditions of temperature, acidity and amount as rennin. 9. Enzymes exist in the plant kingdom, which have an action analogous to that of rennin.

14. **Lupus Erythematosus.**—In the first part of this article, the clinical portion, Fordyce discusses the relations of lupus erythematosus to tubercle, and seems to favor the theory that it is due to the toxins from Koch's bacilli. Three cases are reported which he thinks are suggestive in this direction. In the second portion of the article Holder discusses the pathology, giving illustrations of the microscopic findings. He thinks that if there is one thing absolutely known about the disease it is that the Koch bacillus is not present in this lesion; it is not true tuberculosis of the skin. No case has ever come under his own personal observation that shows the large percentage of tubercular antecedents given by the French observers. He concludes that everything seen in the microscope points to the fact that lupus erythematosus is a disease in which the blood-supply is interfered with. The normal capillary pressure is raised, but the cause is open to further investigation. Of the two phenomena that are characteristic of the early lesion he is inclined to place the infiltration secondary to a capillary

obstruction in the height of the erythema, but admits at the same time that it may be an effect and not a cause of connective-tissue change. He recommends to pathologists and dermatologists the use of Unna's acid orcein in lupus erythematosus.

15. **Heart Disease.**—Brannan reports a case of undoubted heart disease with obscure symptoms, which he discusses. The principal feature of the disease is, he thinks, the conduction of mitral regurgitation murmurs directly to the chest wall above the so-called pulmonary area. The diagnosis of mitral disease is reached by a sort of exclusion process in this case.

17. **Cancer.**—Warren's address covers the whole subject of the investigation of cancer, and he concludes that, so far as we have been able to ascertain by our studies, the question as to the parasitic origin must be considered as yet not proven. He thinks that it is only by long and patient research that we will be able to unlock the secret of this problem.

21.—See also No. 61.

24 **Tendon Transplantation.**—Townsend reviews the literature of tendon implantation in the case of deformities of the hand, and adds cases of his own to those which he has found to be published elsewhere. He thinks the reports of these cases show that we have at our command an operation which will do away with the necessity of the physician telling the patient that amputation is the best thing to do with a case of drop-wrist following cerebrospinal meningitis. It is important to thoroughly investigate the muscles of the hand before operation; and to get good results we must ascertain their electric reaction and their general functional capacity. It is advisable to suture tendons only that have power left, if we expect them to do active work in the future. A careful study of the muscles will tell us which one to transplant and how it can be best attached. He gives some details of the method of transplanting and discusses the probability as to the best results from operating on the tendons of the flexors and extensors respectively.

25. **Artificial Feeding of Infants.**—According to Bell, condensed milk is the most pernicious article in the feeding of infants and never a suitable substitute for mother's milk. He describes the methods of modification and finds that too great excess of proteids is especially damaging. The carbohydrates also differ. The different formulas and methods are discussed. One of the most serious problems is the difficulty of securing pure cow's milk for the modification. He suggests careful rules in regard to the care of the cows, looking after their health, frequent examinations of the milk, thorough washing of the udders, etc., and the milking being done in a room that is used for no other purpose and kept scrupulously clean. The great desideratum is a thoroughly competent and educated dairyman, as a high order of intelligence would be required to keep a model dairy.

26. **Subphrenic Abscess.**—Baldwin reports two cases of subphrenic abscess following appendicitis, and calls attention to the importance of the recognition of these cases. If it is not recognized and not treated surgically the mortality is very high.

27. **Petroleum in the Treatment of Phthisis.**—The petroleum products known as vaselin, terralin, etc., are suggested by Robinson as valuable agents in the treatment of phthisis. The material which he has used has been a perfectly refined product, and he gave it in 2-dram doses, four times a day for a period of from three to six months, in every instance with increase in weight, improvement in health, strength and feeling of well-being. The gain was from 5½ to 23½ pounds, and there was no other treatment which could be held responsible for it. The treatment gave no discomfort in any case, as the material is absolutely indigestible and unchangeable in the intestinal tract and passes through unaltered. Fermentive and putrescent changes were controlled and normal functions along the entire tract were re-established. The intestinal toxins were either not formed or were carried off by the petroleum. Indican and sulphates disappeared from the urine. The effect he considers entirely mechanical. Petroleum has also the property of being an ideal solvent for many remedies useful in the treatment of phthisis, such as creosote, the fixed oils and most volatile oils, alkaloids, and many chemicals. It is a solvent of iodin, sulphur, betanaphthol, naphtalin, menthol, etc., and by the addition of a little ether, chloroform, or oleic acid its power to dissolve is greatly increased. Its use in phthisis is by its mechanical action and its association with other remedies. It is the best medium for the conveyance of remedies by nebulization to the throat and bronchial tubes. It is an ideal remedy for the cure of all forms of constipation, and for treatment of tuberculous diarrhea.

29. **Infantile Amaurotic Family Idiocy.**—Claiborne reports a case of this disorder and discusses the condition. The patient was not a Jew. It differs from those previously reported in this respect, and general tuberculosis was also found at autopsy, with also a tumor of the corpora quadrigemina, with associated ocular symptoms. This suggested to him that special attention be called to tuberculosis as a probable general etiologic factor and to the corpora quadrigemina as the seat of a possible causal lesion. In conclusion he suggests the query whether we are justified in assuming the symptoms of this condition to indicate a definite morbid species or not.

33. **The Serum Treatment of Tuberculosis.**—Spicer reports a case of apparently rapid tuberculosis in a young woman with a bad family history, in which the prognosis was given as bad, but serum treatment was attempted as a last resort, the material used being the antiphthisic serum T. R. The initial dose was 8 minims, hypodermically, afterward increased to 15 minims. One hundred and four injections have been made in all during the seven months which have elapsed since beginning the treatment, and there are now no râles, no night sweats, and no cough, but she tires easily on exertion. Of the three other cases treatetd, in which only about 35 injections were made, two improved and one died. The inferences he deduces are, that the treatment should be begun early, it should be continued for a long time, and it should not be used in hopeless cases.

34. **Degeneracy Stigmata.**—Kiernan's article deals especially with the history of Lord Byron.

36. **Inebriate Criminals.**—The inebriate criminals which are described by Crothers are those that form the most troublesome class of asylum inmates. He thinks they require special treatment and should be classified in different groups and governed by strict military discipline in which labor is part of the treatment, and this be continued for months and years. If this class can be removed from the inebriate asylum the percentage of recoveries would be largely increased.

37. **Gynecology and Neurology.**—Hughes speaks of the inter-relation of gynecology and neurology, calling attention to the points where too much has been made of certain peculiar phases of functional hysterical diseases, etc. He thinks that too much attention has been called to the sexual function and its organs and less than should be to nervous symptoms in the gynecologist's practice. The psychic element is one that must be counted also in many cases, and special care exercised as to sexual and gynecologic suggestion in neuropaths.

38. **Military Psychiatry.**—Hughes discusses the conditions involving the mental health of the American soldier and pleads for psychiatric expert treatment in military posts. His paper concludes with some letters from the surgeon-general and deputy surgeon-general of the United States Army showing that the number of insane cases among the American soldiers in the Philippines is not apparently greater than the proportion that occurs ordinarily in time of peace.

40.—See abstract in The Journal of June 2, p. 1413.

41.—Ibid., June 2, p. 1414.

42.—Ibid., June 2, p. 1414.

43. **Color Perception.**—Holden and Bosse have experimented, using colored ribbons, and worsteds, with children at various ages to ascertain their color preference and color sense, and give the results. They found that these support by analogy singularly well the Gladstone theory of development of color perception in the human race, so that this may have a certain value, though we must go farther down in the mammalian scale than to primitive man to find the beginning of color perception. They found that all infants choose colors

from the red end of the spectrum rather than the blue, but as the psychic development proceeds and the child becomes more distinguished from the animal, and mental processes dominate the earlier more physiologic reactions, we find first an indifference to all colors and a little later as a rule a dislike for the exciting reds and yellows and a preference for the less exciting colors of the blue end of the spectrum. At the age of eight a blue or violet preference is almost universal, but red has begun to advance again from the lower end of the scale. In adults, as others have found, the end colors of the spectrum, blue, violet and red are the preferred ones. They find that untrained children as early as the third and fourth year, with the exception of those that were palpably color-blind, match fairly saturated colors with great accuracy, blundering only usually in confounding blue with violet. With worsteds of less saturated hue, the results are very different and a tendency to match according to luminosity rather than hue was frequent. When the child is 5 or 6 years old this tendency to match according to luminosity was lost and the matching even of tints and shades is done usually with considerable accuracy, though there still may be a tendency to confound blue with violet, which is outgrown only later.

48. **Retraction Movements of the Eyeball.**—The following is the summary of Wolff's paper: Retraction movements of the human eye have been described in only seven cases, to which five are herewith added. The retraction movements never occur as a solitary symptom, but always form part of the same group of clinical symptoms, producing a well-defined clinical picture, whose characteristics are as follows: The condition is always congenital. Retraction occurs during attempted adduction, which may be absent or present, but is always less than normal. Retraction is accompanied by narrowing of the palpebral fissure. Partial or complete paralysis of the external rectus of the retracted eye is regularly present. Some cases present a moderate constant retraction and narrowing of the fissure even in the primary position. In these cases attempts at abduction produce a propulsion of the globe and widening of the fissure. When the retraction is considerable the cornea is turned upward in some cases, downward in others, even when the fellow eye makes a purely lateral movement. This is due, probably, to resistance made by the optic nerve. Two explanations are offered to account for the retraction; the faulty insertion and the fixation theories. Though the former is supported by some evidence, the latter accounts more satisfactorily for all the symptoms and is even better supported by evidence. Surgical interference may benefit some of the cases. There is reason to believe that the retraction movements are often overlooked and that these cases are not so rare as the small number reported would indicate.

59. **The Relative Value of Vaginal and Abdominal Operations.**—Richelot concludes from his consideration of the subject that: "1. In uterine fibromas, the two methods, abdominal and vaginal, have an equal value; each one has its indications, but the upper route is the most often indicated, and vaginal hysterectomy can no longer to-day claim the same superiority as formerly. 2. In cancer of the uterus, vaginal hysterectomy is superior to every other method; it permits us to obtain, in a proportion of not less than 10 per cent., prolonged survival, and even cures which seem to be final. The best operation is that which precedes cancerous infiltration, and not that which pretends to pursue it through the pelvic cavity. Abdominal hysterectomy is an extra resource in a very limited number of cases, but, applied deliberately to invading cancers, it is an imprudence, and for limited cancers it is an illusion. 3. In pelvic suppuration the conduct to be used is variable and responds to complex indications; improvements of technique have given a great value to the suprapubic method, which ought to be preferred in certain cases. But most frequently, when the surgeon is sure of his diagnosis, if he wishes to give his patient the greatest security and the least suffering, vaginal hysterectomy is the method of election."

61. **Attitude of Fetus in Utero.**—Zinke thinks that too little attention is given in the instruction to abnormal presentations or the position of the fetus *in utero* and in this article he calls attention to the method of external manipulation to determine the position. He mentions that in nine cases out of ten the attitude of the fetus can be ascertained during the last ten weeks of gestation by external means of diagnosis alone, viz., inspection, palpation and auscultation. By the first of these we determine the contour, size and position of the uterus and frequently also the fetal movements. By the second we locate the movements, the head and back of the fetus. By the third we find the site where the impulse of the fetal heart can be heard with greatest intensity. He examines his patient in the recumbent position and for convenience divides the abdominal surface into four quarters, the lines crossing at the umbilicus. The paper is illustrated with schematic drawings showing the different positions of the fetal heart, etc., in the separate positions. See also title 21.

67. **Enucleation of the Eyeball.**—The conditions requiring enucleation are given by Lauder as follows: 1. Intraocular malignant tumors. 2. The presence of a foreign body impossible to be removed. 3. Injury to the eye precluding possibility of recovery; such as rupture of eyeball from the result of a blow, though recovery may be possible even in some of these cases. 4. Where there is a condition of epiocular malignant tumors and also orbital tumors, which threaten life, but which can not be removed without destroying the eye. 5. Cases of disease which cause intolerable pain and which are incurably blind. This condition is sometimes met with in irido-cyclitis, phthisis bulbi and in glaucoma absolutum. In this case operation should be performed only as a last resort after every other less radical operation has proved fruitless.

72.—See abstract in The Journal of June 2, p. 1414.

76. **Erysipelas.**—According to Carrier, erysipelas is an acute, infectious process of the skin and mucous membranes, self-limited, and always due to the Fehleisen streptococcus. The contents of the vesicular or bullous lesions are serofibrinous in character, and when pus occurs it is the result of infection by a pyogenic germ added to the erysipelas, in other words, a complication. Internal medication exerts but little influence over the course of the disease and should be reserved for emergencies. The dietetic management of the disease is of the greatest importance, and forced feeding furnishes the best means of combating it. Little is to be expected from the actions of germicides when applied locally. Protection from the atmosphere will relieve the distressing subjective symptoms. From the known influence of cold upon the life of the germ, it follows that a reduction of the bodily temperature is of prime importance, and is best accomplished by cold bathing while the continuous application of the ice-bag upon the affected surface is the best of local applications. Where sufficient pressure can be applied to the lymph-channels to interfere with the lymph-current, spread of the lesion might be controlled by its use. Isolation, a cold room, and plenty of fresh air, in addition to the above, furnish the best treatment for the process we have been considering.

77. **Tuberculosis.**—This paper by Evans is largely an attack on Koch, whom he credits with having taken the fruits of other earlier discoveries without credit, making himself as he says a literary anastomosis, whereby he has united to himself all previous experimental knowledge regarding this bewildering subject. The general point of his article is that consumption is still very little understood and that the men most of all in error are the ones who believe it to be a contagious disease.

79. **Motion of the Lymph.**—The argument brought forward in this article by Herz is that the lymph carries the nutrition rather to the tissues than the blood. It can not be followed in detail nor abstracted adequately and fully here.

90. **Ozena.**—The principal point of Holinger's paper is that ozena is mainly due to excessive wideness of the face and nostrils. With this there may exist also a metaplasia of the mucous membrane of the nose which is not explained.

92. **Hernia in Children.**—Bartholomew holds that no child should be allowed to reach puberty with an uncured hernia. If the truss treatment diligently followed should fail, operation should be undertaken. Hernia in children in most cases is congenital and of the oblique inguinal variety, and the open-

ing is easily closed and less liable to recur than in the adult. About 8 per cent. of them are not amenable to treatment by trusses. Trusses are not well borne by children and are difficult to manage, and after three years of faithful treatment nearly 50 per cent. of cases are still uncured. Hernias thus cured frequently relapse after adolescence. Generally speaking, the best time to operate is just before the child assumes the upright position. Mechanical treatment should not be persevered in after this unless there is marked diminution in the size of the hernial opening. The indications for the radical cure of hernia are: 1, cases complicated with hydrocele; 2, irreducible, incarcerated and strangulated hernias; 3, cases in which the hernia can not be kept up by a truss without much discomfort to the patient; 4, cases unable to obtain the care requisite for success, and 5, cases in which mechanical treatment has been faithfully tried without results.

97. **Nirvanin.**—The paper by Floeckinger gives the results of experiments which he sums up as follows: Cocain has a ten-fold more toxic action than nirvanin in the same dose. Disturbance on the side of the central nervous system and toxic symptoms in the employment of nirvanin in the stated doses (0.1 to 0.5 gm.) occurred in not a single case. Nirvanin has an antibacterial action which is entirely absent in cocain. The analgesia from nirvanin lasts longer than that with cocain and it also appears earlier. We can absolutely exclude a nirvanin habit. The burning pain is only present in nirvanin injections with the too rapid flow of the injection fluid. The after-pain which is always present in cocain injections is absent in the correctly performed nirvanin injections. In the major operations he has usually employed injections of morphin one-half hour before the operation, which had a quieting effect on the organs, the dose is from 1/6 to 1/4 gr.

100. **Cesarean Section.**—Williams enumerates the advantages of Cesarean section as compared with those of symphyseotomy; the maternal mortality is no greater and the infant mortality *nil;* the operation is more satisfactory from the surgical point of view; there is the certainty of being able to complete the operation at once and the great advantages afforded in the after-treatment, by the clean abdominal incision, instead of a wound at the pubis requiring drainage, not to speak of injuries to the soft parts. There is no necessity for prolonged catheterization, and the patient is spared the long convalescence entailed by symphyseotomy. He believes that the old absolute indication for Cesarean section should disappear and instead of being placed at a conjugate of 5.5 cm. it should be extended to 6.5 cm. provided the child is alive. Questions as to sterilization in cases of deformity of pelvis, and craniotomy are also discussed. He thinks that induction of labor six weeks before the expected confinement is advisable in case of multiparous women with normal pelves who have given birth repeatedly to large children which have died during labor. By this method he thinks we will be able to save the mother and child and have better results than with Cesarean section as far as the mother is concerned and probably as good with the child. In advising Cesarean section he does not mean to say that it should be attempted by those without experience in major surgery. The average case is simple, but in a minority of cases the uterus may fail to contract and hemorrhage threaten. In such instances the only resort is to remove the uterus, and unless the physician feels competent to do this he had better not attempt Cesarean section.

106. **Gynecologic Mistakes.**—The mistakes mentioned by Hayd are, the useless operations performed for the relief of pain otherwise relievable; the useless and reckless curetting done in many cases of mild endometritis; the neglect and mistreatment of cervical lacerations, etc.; the uterine treatment for ureteritis and rectal troubles; the error of mistaking neuralgic ovarian disorder for organic disease; the misuse of the uterine sound and uterine applications; the harm done by galvanic electrode and pessaries. Although the cry is that there is too much operating done now, yet in the face of this just criticism he believes that most of the symptoms producing definite and discoverable lesions of women are cured best and quickest by operative measures and the error in the past was in not pushing surgery far enough.

108. **Medical Treatment of Cataract.**—The testimony of the laity and some physicians as to the value of certain drugs, such as cineraria for cataract, induced Grove to give it a trial. He has found it absolutely worthless. He does not have faith in any medicinal treatment of cataract. Massage may do harm as well as good and the claims of galvanization have likewise no reliable foundation.

111. **Surgery Among the Insane.**—This latest of Hobbs' papers on this subject enumerates the difficulties and advantages of surgical operations in the insane. The former are detailed as follows: 1, difficulties of diagnosis due to lack of reliable subjective symptoms and the frequent anesthesia in these cases; 2, difficulties of examination due to their mental condition and delusions; 3, difficulties of anesthesia, and these patients are especially sensitive to chloroform, which is liable to produce uncomfortable symptoms; 4, difficulties of preparation for operation, and 5, difficulties of after-treatment, both depending on the mental condition of the patients. On the other hand there are the advantages of little or no shock, the possibility of enforcing proper care in the after-treatment and the easy recovery from ether narcosis. While he does not operate for the relief of the mental condition, he again claims he has most remarkable results in the way of cures of insanity. He divides his patients into two groups: the inflammatory group, in which the improved ratio of recovery is 17 per cent., and the non-inflammatory group of cases, in which the ratio of improvement is somewhat less but still remarkable.

131. **Losdorfer's Bodies.**—Neudörfer describes as a new discovery the findings by Dr. Losdörfer, of Vienna, of certain germs or bodies in the blood of syphilitics. There is a peculiar resemblance between the name of this new discovery and the old long-known Lostorfer corpuscles, which are not mentioned in his history of preliminary work along this line in the beginning of his article. He thinks this new discovery is a long step in advance in the solution of the question as to the origin of syphilis.

140. **Suprapubic Cystotomy.**—The advantages of suprapubic cystotomy are, according to Nuzum: 1. The ease and safety, under modern antiseptic procedures, with which it can be performed. 2. The operator has full and easy view of the field of operation. 3. The operation is adapted to any disease or condition for which a lithotomy should be made. 4. It is far less dangerous than any cut into the bladder through the perineum. 5. You go through parts less richly supplied with nerves, blood-vessels, and important structures. 6. If a fistula remains, it is not constantly leaking, and with a properly adjusted urinal, the patient can pursue his occupation with very slight inconvenience or discomfort. 7. The ease with which a permanent fistula can be maintained when desired.

150. **Treatment of Uterine Fibroids.**—Smith considers the subject of the surgical treatment of uterine fibroids and concludes that curettage is the best palliative method of controlling hemorrhage though it fills no other indications. Ligation and resection of uterine arteries is advisable and should be employed with small tumors for the purpose of promptly arresting hemorrhage and growth. Castration, while yielding good results in some hands, notably Tait's, has fallen into disfavor, chiefly on account of its uncertainty and the possible dangers of the operation. Myomectomy is an operation of election in all women under 45 years of age where it is possible by this means to restore normal function, and after failure to arrest the growth by ligation of the arteries in suitable cases. In attempting myomectomy the operator should always be prepared to resort to hysterectomy if found necessary. Hystero-myomectomy is and always will be a last resort in dealing with these growths.

151. **Panhysterectomy.**—Rendon gives the description and technique of hystero-myomectomy and panhysterectomy, comparing their advantages and disadvantages, and finds that the latter does away with many of the inconveniences of other methods, and should be preferred.

154. **Compound Fractures.**—Nutt insists on the importance of early intervention in compound fractures and the utmost care as to the asepsis and prior preparation, and he

would first remove all foreign bodies, using hot water and soap, followed by disinfection, and flushing with large quantities of bichlorid solution and later sterilized water. Drainage should be placed in the most dependent part, as the vis-a-tergo action expected of gauze drainage is unreliable. Immediate amputation in cases involving the long bones need only be considered when it is a question of the patient's general condition being such as to undergo prolonged confinement in bed or to perfectly resist infection. Amputation, after traumatism and fractures completely destroying the circulation of the part, will demand such treatment as indicated in each individual case.

162. **Commissions by Specialists.**—Lanphear deals with the ethical propriety of a division of fees between the specialist and general practitioner. His conclusions are that no commission should ever be paid by the specialist for business simply referred or for ordinary consultation. No division of the fee should be thought of when the patient is taken to the specialist for consultation and operation. A division of fee is justifiable and honorable whenever the family doctor accompanies the patient a long distance and the patient can not or will not pay more than traveling expenses and the specialist's charge. It is also justifiable when the family physician is put to much trouble or loss of time in inducing the patient to submit to a specialist's treatment and the patient will not pay the doctor for his services. A division of fee is proper when the specialist operates and the physician assists and attends to the after-treatment. Division of the fee is also justifiable when the specialist and doctor treat the case jointly, as there are a large majority of people who will not pay two bills.

167.—This article has appeared elsewhere. See The Journal xxxiv, 127, p. 1060.

175.—Ibid., July 21, title 96, p. 187.

177.—See abstract in The Journal xxxiv, p. 1259.

FOREIGN.

British Medical Journal, July 7.

Use of Borax and Formaldehyde as Preservatives of Food. W. D. Halliburton.—The attention of the author was called to the use of antiseptics as food preservatives, especially boric acid and borax, and formaldehyde. His experiments have led him to condemn them for such purposes. He does not find that boric acid itself has much effect on the digestion, which is probably partly explained by its insolubility, but borax, which has been used considerably in the compound, glacialin, a mixture of boric acid and borax, has a decided effect on the rennet activity in the stomach. The proportion of 1 part to 1000 of milk completely inhibits rennet, and a smaller proportion will delay its action. Formaldehyde, which is one of the most efficient of antiseptics, disintegrates the blood, and is irritating to the skin, and hardly can be less so to the much more tender mucous membrane of the stomach. His experiments were made to test the influence of formaldehyde on gastric digestion of proteids, and showed that .5 per cent. of formaldehyde rendered gastric digestion almost impossible, and .05 per cent. considerably delayed it. The influence on pancreatic digestion of proteids was similar and even more striking, while the action on the pancreatic digestion of starch showed that the addition of a .2 per cent. solution of formaldehyde increased the digestive time from one to three minutes. The action of two drops on the rennet-curdling of milk showed the same action—in some cases complete inhibition on the action of the ferment and in all cases delay. He says the proportion in which formaldehyde is stated to be used in milk is, roughly, 2 drops of the commercial 40 per cent. formaldehyde solution (formalin) per ounce of milk, and a much smaller dose than this has a decided effect.

Seventy-Two Consecutive Cases of Removal of Goiter by Operation (Extirpation or Enucleation). James Berry.—The author reports the results of extirpation and enucleation in 72 cases of goiter. By extirpation he means the removal of a portion of the thyroid gland with its capsule; by enucleation the removal of localized tumor, a cyst or adenoma within the gland. The necessity for operation depends on the effect in embarrassing respiration of the growth, and he does not consider deformity alone a sufficient cause. Dyspnea almost always demands operation and the worse the dyspnea the more urgent the demand. In cases of malignant tumors, however, tracheotomy affords too often the only means of giving relief. There are two kinds of goiter that are especially dangerous to life, owing to their great liability to cause sudden and dangerous dyspnea. One is the rapidly growing parenchymatous and, of course, bilateral goiter occurring at the age of puberty. In such cases dyspnea may come on so rapidly and suddenly as to cause death within a few days or hours. The other dangerous variety is that in which a unilateral tumor is situated low down in the neck and tends to become jammed in the upper opening of the thorax. By being suddenly displaced or by internal hemorrhage such tumors may cause very serious symptoms. Unilateral goiter above the sternum has very little tendency to cause serious dyspnea. Small tumors at the back of the gland are not uncommon and may cause pressure symptoms and yet be difficult of diagnosis. In local operation he prefers local anesthesia as safer and more convenient, saving the patient moreover from the distressing retching and vomiting, and it also facilitates healing of the wound by avoidance of venous hemorrhage. The operation is not necessarily a painful one with local anesthesia; the only painful parts are the beginning and end, the incision of the skin and sewing it up. The single oblique incision along the anterior border of the external membrane is decidedly the best for large goiters, and where plenty of room is desired. Complicated, angular, or T-shaped incisions are scarcely ever necessary. The median incision is chiefly useful when it is uncertain which lobe is to be removed. All longitudinal and oblique incisions have the disadvantage of making an ugly scar in young persons; in middle-aged or old persons this is of less importance. The transverse incision does not give the operator nearly so much room. The operation of enucleation is done as quietly and deliberately as possible, all large vessels being tied before cut. Special care must be taken not to wound the recurrent laryngeal nerve; it is better not to disturb it by dissecting it out. Frequently he cuts through the goiter near the trachea after it has been isolated from the other parts. The capsule and small part of the goiter near the trachea are thus left to protect the nerve. He has but little to say as regards the details of enucleation; the chief difficulty is in recognizing the thin layer of altered gland tissue that covers the tumor. The incision should be carried through this and no farther. He attaches no importance to the removal of the tumor in unbroken condition. His results, some of which are illustrated and all of which are tabulated, give a mortality of three deaths in seventy-two cases, which he thinks is not unfavorable, considering the fact that these cases were formidable ones. One death was from chloroform, and one of the patients had also valvular heart disease. No deaths occurred from his enucleation operations. The ultimate results have all been good, and since the paper has been written he has operated on 20 more cases, bringing the total up to 100.

Degeneration of the Neuron. Frederick W. Mott.—In this third lecture the author discusses the chemistry of degeneration and the chemistry of Marchi's method. He suggests the possibility of autointoxication due to choline formation from nervous degeneration. He assumes that a decomposition of the myelin of the proteid matter occurs, and that it escapes into the cerebrospinal fluid and thus into the blood in larger quantities than can be disposed of by oxidization, where its accumulation may produce autointoxication. This might account possibly for some of the symptoms of paresis. Choline is not a powerful toxic substance like neurin, which may also be produced under special conditions such as the existence of micro-organisms, and have its effect. There are two forms of degeneration, he says in conclusion, that may react to the Marchi stain: 1. Secondary Wallerian degeneration due to interruption of the axon when it is cut off from its cell or origin; fibers which have their cells or origin above the lesion degenerate downward and are recognized by the black-stained products of degeneration mapped out in definite areas. 2. Primary degeneration due to an altered condition of the blood and lymph caused generally from an introduction or generation of poisonous substances, insidious in origin, progressive and generally fatal. They are influenced by hereditary or acquired tendency to nervous degeneration, and election of the particular system or systems of neurons not only constitutes definite growths of clinically definite disease, but also constitutes definite groups of physical phenomena, which admit of classification into definite diseases, and also shows that certain poisons have elective affinities for particular systems of the neurons, but this election may also be determined by occupation and habits causing stress on some particular system of neurons, or vascular conditions may lead to circulatory degenerative changes determining the early appearance and more rapid degeneration changes in some parts of the nervous system than in others. Thus certain portions of the brain should show more atrophy and degeneration in paresis than others, the left hemisphere for example.

The Lancet, July 7.

Present State of Our Knowledge Regarding Visual Sensation. R. MARCUS GUNN.—The state of our knowledge as regards the sensation of sight is reviewed by Gunn, who notices first the nature of the stimulus. The term "ether wave" must not be held to imply any actual movement in the ether, but rather an influence and rapid periodic change of some of its properties. The theory now held in regard to the vibration of ether is that they are electro-magnetic. The human retina is influenced by a comparatively short part of the entire scale, corresponding to what may be called an octave. The shortest visible waves are approximately half the length of the longest, while on either side of these there are several octaves of invisible waves. There is no real distinction between heat and light waves. The phenomena produced by light in the living cells without visual function are: 1, movement of chlorophyl corpuscles; 2, chemical activity in the chlorophyl-containing cells; 3, the contraction of protoplasm. To these we may add phototaxis, which means the position or motion of free cells in relation to light. The general characteristics of a visual cell are: 1. The end of the cell corresponding to the cuticle has usually a rod-form prolongation. 2. The opposite end is either directly continued as a conducting fiber or is connected with a ganglion cell. 3. Pigment is present in the light percipient cell, or in a distinct or closely related cell, often in both. The arrangements in vertebrates are noticed. The action of light on such cells consists in the movement of pigment and swelling of the pigment-cell processes. There appears to be an oxidization process accompanied by a substitution of an acid for a previous alkaline reaction, which seems to be communicated to the rods and cones, and varies according to the wave length. There are also with the action of light, besides this particular visible purple reaction, certain movements of the cones themselves and the effects on the visual and non-visual cells are on the whole strikingly similar. Very recently Waller has brought forward evidence showing that the light effect upon the fresh leaf is also accompanied by an electrical change, thus completing the parallelism. The conduction of impulse requires the nervous apparatus and nerve impulse, which can not be identified with the electric excitation in the visual cells themselves. The author discusses the physiology, where known, of this process. In the lower animals the fundamental idea of vision seems to be to connect it with muscular action in a protective way, and in finding food. He also mentions where changes in the color under the influence of the surroundings is shown in certain animals. As we go higher in the animal scale we find the visual fibers passing to the visual area of the cortex, but whether this is the seat of visual impression or merely a stage in the path to yet higher centers is not absolutely known. As regards our recognition of the conducted impulse we have two distinct sensations—color and brightness—both influenced by differences in the wave colors and wave lengths. Of these two sensations there is reason to believe light perception the more primitive, and that the rods are the elements concerned in this appreciation. It does not follow that the cones are functionless in this regard, but it is presumable that their office is the recognition of differences in stimulation associated with variations in the wave lengths recognized as colors.

Contagious Catarrh or Roup in Fowls, and Diphtheria in Man. J. GORDON SHARP.—The writer first distinguishes between gapes and roup, the former being due to a nematode worm in the windpipe, the latter presumably a bacterial disease which closely resembles diphtheria in its clinical features. A microbe was found which could not be distinguished from the Klebs-Loeffler bacillus, but it does not seem to transmit the disease to those handling the fowl. His conclusions are stated as follows: 1. Roup, like diphtheria—including the somewhat indefinite term "croup"—varies in its malignancy, sometimes being mild with only one or two deaths in a large hen-run, while the next epidemic may almost clear out the whole coop. 2. The disease does not appear to be transmissible to man, for those handling the affected birds without any precautions do not suffer from any disease resembling diphtheria. 3. Paralysis was, according to his observations, absent in roup cases. 4. The disease is evidently a highly contagious catarrh and may correspond to the *morve* or fowl glanders of the French. 5. Roup probably differs entirely from "fowl diphtheria," so-called. 6. As we have already seen, bird-fanciers distinguish between a "dry roup" and a "wet roup." Dry roup is most likely a simple benign catarrh corresponding to the recurring croup affecting children, especially those inhabiting valleys and near a river bank. Wet roup, on the other hand, in its malignancy resembles diphtheria and membranous croup. 7. The micro-organism of roup (the wet variety or malignant variety) probably lives for a considerable time, at least, in the earth near the surface, and thus it is readily spread from animal to animal—as well as by direct contact with affected birds. 8. Conditions of soil and surroundings favorable to the spread of diphtheria would likewise appear to favor the spread of roup in fowls.

Annales de la Soc. Med.-Chir. de Liege, April.

Foreign Body in Maxillary Sinus. E. GULIKERS.—A soldier fell from his bicycle while smoking a pipe, and for 1½ years afterward a slight swelling of the left malar region persisted, with a fistula at the point where the first upper bicuspid had been extracted six years before. The fistula into the maxillary sinus was enlarged and a fragment of the amber mouthpiece of a pipe, 5 cm. long by 1.4 wide, extracted. The sinus communicated with the nose, which explained its tolerance for the foreign body.

Forced Delivery in Eclampsia. GALHAUSEN.—An experience with eleven cases of serious puerperal eclampsia treated by forced delivery after failure of other methods has convinced the writer that this is the only rational treatment in many cases. In one observation the eclampsia commenced at the fourth month of pregnancy. He observes that rapid digital dilation, combined with the use of forceps, is most effective, and that he has never known an eclamptic seizure to be induced by these maneuvers. When albuminuria and oliguria are not noted until after several attacks, the prognosis is more favorable than when they occur early.

Perforating Appendicitis in an Infant. GOYENS.—An infant six weeks old, fed with boiled milk, suffered from diarrhea, and a tumor was noticed in the right inguinal region. The autopsy showed a gangrenous, perforated appendix with consequent peritoneal infection and septicemia.

Bulletin de la Soc. Med. des Hop. de Paris, June 14 to 28.

Nerve-Lesions in Zona. G. BALLET.—A female patient, 68 years of age, with primary zona or zoster fever, the cutaneous lesions localized on the left side of the neck, extending from the jaw to the upper part of the thoracic wall, died of a brief intercurrent pneumonia, which commenced on the nineteenth day. The posterior root of the third cervical nerve was found very much altered. The myelin was dissociated in fragments in some of the funiculi, with proliferation of the protoplasm; in others scarcely a trace of the myelin was to be seen, and no axis-cylinder. Some of the sheaths were entirely empty. The posterior root of the second cervical nerve presented similar, but much less intense, lesions, and the small cells of the corresponding portion of the posterior horn were atrophied and less numerous than on the other side.

Echo Medical (Lille), June 17.

Comprehensive Tests of "Varnish Gloves." MARIAU.—Calmette devised a special apparatus for these tests of the varnish proposed by Mariau as a durable, flexible and effective covering for the hands of the surgeons—Soehnée Frères' white varnish, No. 3. A large box shaped like a desk, with the sloping portion of glass, contained a quart dish of bouillon and the appliances for varnishing. The hands were soiled with dirt and germs and then inserted through armholes into the box, where they were thoroughly coated with the varnish and dried. They were then dipped into the bouillon and moved around in it vigorously for several seconds. The bouillon was then poured into tubes but no cultures developed after repeated tests.

Presse Medicale (Paris) June 27.

Leucocytosis in Variola. E. Weil.—Variola is generally accompanied by a leucocytosis, which is a mononucleosis of large granulated or non-granulated myelocytes, the mother-cells of the normal leucocytes in the blood. This type of leucocytosis has been noted in myelogenic leukemia alone, and it shows an interesting analogy between leukemia and variola, which also affects the bone marrow. Nucleated red corpuscles may also appear in the circulation; they are constant in the hemorrhagic forms, with one normoblast to 100 leucocytes, and possibly 25 per cent. of neutrophile mononucleated cells. The pus of the pustules contains the same variety of leucocytes found in the blood, and consequently the suppuration is evidently an integral part of the variolar infection. The differentiation of variola is possible at an early stage by the study of the blood: the only eruptive disease resembling it is varicella, in which a mononucleosis also occurs, but much less intense.

Tuberculosis and the Police. L. Landouzy.—The mortality from tuberculosis among the nurses and attendants in the city hospitals of Paris is 36 per cent. of the total mortality, and among the postal and telegraph clerks it is 25 per cent. Landouzy has been compiling similar statistics in regard to the police force and announces that policemen pay the heaviest tribute of all to the white plague. Out of 1316 deaths or dismissals from all diseases during the last ten years, in a force averaging 7678 men, the proportion due to tuberculosis amounted to 474, or 37 per cent.

Cocain for Spasmodic Retention of Urine. R. Romme.—Martel has recently called attention to the efficacy of a warm or hot injection of 6 to 7 c.c. of a 2 per cent. solution of cocain in cases of reflex spasmodic retention, after failure of the usual measures, hot cataplasms and irrigation. The effect of this intraurethral injection should be awaited for fifteen minutes or longer before resorting to catheterization.

June 30.

Vitality of the Plague Bacillus in Grain.—According to the research of Hankin and Lorans the plague bacillus in grain does not survive more than four to six days, consequently the danger from this source is slight.

Treatment of Wens with Injections of Ether. E. Sergent.—Vidal first suggested treating sebaceous cysts with an injection of pure ether into the depths of the wen, repeated every other day for four or five days; a large cyst requires an injection every twenty-four hours. Sergent has thus cured thirty cases, and states that this treatment is never painful; there is no bleeding nor danger of any kind if aseptic precautions are duly observed. It is so simple that no special skill is needed and it leaves no scar nor trace of the vanished wen. No other method combines one-half of these advantages.

Artificial Serum for Debility in Infants.—Small rectal injections of 5 to 10 c.c. of Hayem's artificial serum are given new-born infants, at the Baudelocque clinic, in case of congenital or acquired debility, with extremely beneficial results, even in the incubator. They raise the temperature and general health and are valuable as a prophylactic measure when diminishing weight suggests impending debility, and as a curative measure in cases of edema, vomiting, hemorrhage, icterus, constipation and diarrhea. If the injection is expelled, it is repeated.

Compression of the Eyeball as a Sign of Tabes.—Pitres asserts that compression of the eyeball—which is painful under normal conditions—is not felt in two-thirds of the cases of tabes; consequently this analgesia of the eyeball may be accepted as an auxiliary sign in differentiating dubious cases.

Allg. Medicinische Central-Zeitung, April 18.

Local Causes of Pulmonary Tuberculosis. Aufrecht.—The miliary tubercles found in autopsies are not an infectious process, but merely the result of infarct formation in the finer ramifications of the pulmonary artery, with proliferation of the wall elements and consecutive thrombosis. Chronic desquamative processes follow, with softening and disintegration of tissue and formation of cavities. This offers the opportunity for the tubercle bacilli. The apex is predisposed to these processes on account of the defective circulation due to a sedentary life, and also from the stretching and pulling of the apex tissue during severe physical exertion demanding unusual effort of the auxiliary respiratory muscles. Miliary tubercles are therefore, merely the cross-section of a vessel with thickened walls. This communication is preliminary to a full presentation of the subject at the International Medical Congress.

Berliner Klinische Wochenschrift, June 4.

Bactericidal Power of Alcohol. Salzwendel.—The disinfecting power of 50 or 55 per cent. alcohol—by weight—is about the same as that of 3 per cent. carbolic acid or 1 per 1000 sublimate, and it is not affected by the addition of soda or soap. The bactericidal action is less in a stronger solution.

June 11.

Malarial Infection. E. Grawitz.—Mosquitoes can not be the only medium of infection of malaria, as Grawitz states that the statistics of the military hospitals in northern Germany show that the number of cases of malaria attain their maximum during June, the increase commencing abruptly in March, before mosquitoes make their appearance.

June 18.

Gastrointestinal Disinfection. R. Schätz.—Experiments with Metschnikoff's vibrios introduced into the intestines of dogs, through a specially contrived canula for the stomach and intestines, demonstrated that calomel and other disinfectants seemed to arrest a natural bactericidal process which evidently occurs in the intestines in normal conditions. The spontaneous feces contained very few of the vibrios, but the discharges consecutive to the ingestion of calomel contained large numbers. Schätz concludes that the normal intestines possess an inherent bactericidal power of their own.

June 25.

Prognosis in Glycosuria and Diabetes. F. Hirschfeld.—On account of the variability of diabetic functional disturbances, the prognosis of the milder forms of diabetes is more favorable than is generally accepted by physicians at present. Hirschfeld's experience has been that relative recovery, i. e., absence of sugar with 200 gm. carbohydrates a day, may be anticipated when 80 to 85 per cent. of the ingested carbohydrates are still consumed in the organism at the outbreak of the disease. He has noted diminished assimilation of carbohydrates after influenza, and peculiar attacks of colic, possibly originating in the pancreas, especially intense in cases with gangrene and furuncles. The heart weakness frequently noted in diabetes is favorably influenced by an antidiabetic diet without complete suppression of carbohydrates.

Centralblatt f. Allg. Pathologie, April and June.

Unusual Invagination. F. Wachsberg.—At the autopsy on a young man who had died from obstruction of the bowels, the small intestine was found debouching into the ascending colon 16 cm. from the end of the cecum. A cicatricial constriction was noted at the tip of the cul-de-sac formed by the end of the cecum. Wachsberg explains this phenomenon by assuming that the small intestine had become invaginated into the cecum, while the portion above had become adherent to the ascending colon, with eventual perforation into the latter. The invaginated portion had sloughed off and the wall of the cecum grown over the opening.

Senile Changes. M. Mühlmann.—The works of Russian authors on senile modifications are reviewed in this comprehensive article and the various manifestations of involution are tabulated. We note that the absorption of sodium salicylate and potassium iodid proceeds much more slowly in the aged and most rapidly in children. Cataract is usually accompanied by arteriosclerosis in elderly people. The menopause occurred before 30, in 45 women out of 1555; between 31 and 35, in 55; between 51 and 55, in 139; between 56 and 60, in 40, and between 61 and 65, in 22.

Centralblatt f. Bakteriologie (Jena), May and June.

May 4.

Plague Laboratories. MARKL.—Isolation of the site is of much less importance than regulation of the intercourse between the inmates of a plague laboratory and outsiders. The furniture should be painted white to increase the illumination and there should be no sharp edges nor corners. The instruments and appliances should be sharp and light, not requiring assistance in moving them. For rat-glasses, Paltauf uses wide jars with a closely fastened wire netting cover, draining into a receptacle filled with sublimate. Carcasses should be dipped in sublimate before opening, to prevent escape of dust.

Human Tubercle Bacilli in Frogs. V. SION.—Extensive experimentation with cold-blooded animals at Bucharest showed that the tubercle bacillus does not produce any characteristic lesions in frogs; it does not become generalized nor apparently modified in any way. Guinea-pigs succumbed as usual to the action of tubercle bacilli that had been for six months in the peritoneal cavity of a frog.

Reply to Sanarelli. GEO. M. STERNBERG.—The latest research on the bacillus of yellow fever demonstrates that Sternberg's bacillus belongs to the colon group, while the bacillus icteroides is a member of the hog-cholera group. In animals, the lesions, the course of the disease, clinical symptoms, etc., produced by the bacillus icteroides are identical with those produced by the hog-cholera germ. One will immunize against the other and they reciprocally agglutinate. The blood of yellow-fever patients will not agglutinate the bacillus icteroides.

Antileucocyte Serum. M. FUNCK.—An emulsion of rabbit spleen or bone marrow injected repeatedly into the abdominal cavity in guinea-pigs resulted in the production of an antileucocyte serum which destroyed the leucocytes, even in a one-tenth dilution, in twenty-four hours. The action of the marrow-serum seemed to be limited to the destruction of the polynucleated leucocytes. No agglutination was observed.

Centralblatt f. Gynekologie (Leipsic), May and June.

May 12.

Rupture of Uterus. WALLA.—Twenty-eight cases of rupture of the uterus have been observed at the Budapesth clinic. With conservative treatment, 10 died out of the 17 incomplete, and 6 of the 11 complete ruptures. Five of the patients with complete rupture were operated on and two were saved. The uterus was removed by laparotomy in one and by supravaginal amputation in the other, with extraperitoneal treatment of the stump.

May 19.

Vaginal Cysts. L. FINCUS.—A vaginal cyst seldom causes disturbances, but in four cases that came under the writer's observation a vaginal cyst had induced cystitis and other serious troubles. In one patient a long course of bladder treatment had been instituted, with the final decision that the disturbances must be of a hysterical nature. The patient had refused to allow examinations of the genital organs. In another case the cystitis had been attributed to pressure of the uterus. In the third, the cyst had dragged on the tissues and caused prolapse of the vagina and commencing prolapse of the uterus, and in the fourth, the cyst had induced severe menorrhagia and prevented fecundation. Removal of the cysts cured all the disturbances at once.

June 2.

Operative Treatment of Tubal Pregnancy. JUNG.—Martin always tries to preserve the tube in operating on patients with tubal pregnancy. Nine cases have been thus treated at his clinic; the tube was merely incised, evacuated and sutured, in 3 cases; a portion was resected in 3, and the tube required removal in the rest—all by anterior colpotomy. He restricts the abdominal intervention to cases in which acute anemia, the size of the fetus or extensive adhesions contraindicate the vaginal route.

June 16.

Rupture of the Cervix. HAMMERSCHLAG.—In the unique observation related, the cervix became enormously stretched during delivery and ruptured, the fetus escaping into the abdominal cavity. The uterus was removed entire and found to consist exclusively of fundus and cervix, the latter 14 cm. in length, with no intermediate portion.

June 23.

Atmokausis. L. PINCUS.—The temperature in the uterus can be raised to within three or four degrees of the temperature in the kettle by intermittently closing the lumen of the tube in applying "autokausis." Pincus observes that the copious discharge that follows it is a powerful means of eliminating infectious germs, while the rampart of granulations that forms beneath the scab protects against the further penetration of the microbes into the organism.

New Treatment of Vesicovaginal Fistula. S. SPASSOKOUKOZKY.—Three patients have been operated on by the writer by his method, with such success that even the necessity of catheterization was avoided. He inserts six threads in the vesical portion of the fistula walls and, by traction on them through the vagina, transforms the fistula into a large, funnel-shaped opening into the bladder. Each edge is then slit for a short distance, equidistant from and parallel to the mucous membrane of the bladder and that of the vagina, and the threads are tied to it and drawn out through the urethra. Traction on these threads draws the bladder portion of the fistula into a tight wad projecting into the bladder and spreads the slits until the opposite edges on each side become coapted. The vaginal portion is sutured and the resulting solid vesicovaginal wall is four times as thick at the site of the fistula as elsewhere, with a broad expanse of freshened surface between the points where the mucous membrane was sutured, above and below, projecting upward into the bladder or downward into the vagina.

Centralblatt f. Harn u. Sexual-Organe (Leipsic), June 16.

New Theory for the Treatment of Gonorrhea. K. JOOSS. The chief factor in the success of any method of treating gonorrhea is the massage of the urethra. The aim of treatment should be to reinforce the normal defensive processes of the organism and this can be best accomplished without drugs, by regulating the circulation with frequent and progressively increasing massage, at first by irrigation with fluids, then by sounds and dilators after cocain anesthesia, supplemented by a weak astringent, and massage through the rectum if the posterior urethra is involved. Gonorrhea is never definitely cured until the tissues and circulation have returned to normal. This can be affirmed when the last dilatation fails to induce turbidity in the first portion of urine, when the prostate is soft and elastic and its secretion no longer yellowish, when all discharge has ceased and the urethra is dry and the urine clear in both portions except possibly for a few small floating threads or flakes. If these conditions persist for fourteen days, we can assure the patient that he is cured.

Centralblatt f. Innere Medicin (Leipsic), June 9.

Acquired Stenosis of Pulmonary Artery. A. KASEMBECK.—Mitral and tricuspid insufficiency was diagnosed from the symptoms: double hydrothorax, ascites, edema, hydropericardium, enlargement of the right ventricle and positive venous pulse, but the autopsy disclosed stenosis of the pulmonary artery. The patient was a workman, 50 years of age. The systolic murmur was very loud at the apex, muffling the sound, loudest in the second left intercostal space, while a weak diastolic murmur was most distinct in the corresponding right space. The pulmonary sound was no louder than usual. The walls of the pulmonary artery were thickened in patches—actual gummata—the lumen was constricted. The writer reports two other cases in which the same error in diagnosis was made by a colleague. Palpation of the heart region induced a systolic thrill, also loudest in the second left intercostal space.

Dermatologisches Centralblatt (Berlin), June.

Sulphur in Acne. S. BEHRMANN.—Chlorosis at puberty is frequently associated with acne and the latter disappears as the former is cured. Sulphur by the mouth has frequently a most favorable effect on chlorosis, which Behrman considers an intoxication. The purgative effect of the sulphur is supplemented by a specific elimination through the skin, thus exerting a local influence on the cutaneous glands, the seat of the acne lesion. Consequently he recommends sulphur for internal and local external application as a rational and successful method of curing acne, especially when it complicates chlorosis.

Wiener Klinische Rundschau, June 24.

Tonicity and Innervation of the Anal Sphincters. Frankl-Hochwart.—As the result of investigation of ninety-five dogs, the writer has established that anal continence depends to a large measure on a permanent muscular contraction not only of the striated internal, but also of the non-striated external sphincter. It is involuntary, but is dependent on the nervous system, although it does not degenerate after the nerve is severed, and resists the action of curare for an unusually long time. Constriction and dilatation occur even after complete destruction of the spinal cord, by stimulation of the inferior mesenteric ganglion, and even after this and the rectal nerves have all been severed, by the action of muscarin, annulled in turn by atropin.

Wiener Klinische Wochenschrift, June 28.

Trachea Tube. R. Gersuny.—Nearly twenty years ago Gersuny published in the annual report of the Karolina Hospital the description of a trachea tube of his design, which was proved its usefulness more and more every year, but is only locally known. He, therefore, calls the attention of the profession at large to its superiority over the tubes generally in use. The chief improvement is the fact that it tapers below to one half the diameter of the upper portion, and that the opening is located exactly in the center of the trachea when inserted. The tube must be made of metal, but the higher initial cost of the metal is compensated by its durability. The upper portion fills the trachea completely and prevents the extension of the diphtheritic process or the passage of secretions into the organ. The incision required for its insertion is larger than usual, but this is of no importance and facilitates the reintroduction of the tube when taken out for any purpose; it is not necessary to have a second tube ready. There is no danger from pressure-necrosis, as the tapering tube does not come in contact with the walls of the trachea below. It is inserted with so little trouble that the internes accomplish it without assistance except from the nurse.

Fracture of the Bones of the Nose. K. Büdinger.—The method of treatment advocated for fractures of the upper portion of the nose—which are usually longitudinal, with a tendency of the fragments to lateral dislocation—is a median incision and reposition of the fragments, holding them in place with a few fine stitches. No time should be wasted in endeavors to replace them from within, nor with external application of plasters, etc.

Luxation of the Acromion. K. Büdinger.—Luxatio claviculæ acromialis is difficult to reduce and hold in position. Sutures of the bones frequently fail to maintain them in a correct position. Büdinger has been unfailingly successful with his method, which consists in boring with his longest and strongest drill directly through the acromion and lengthwise into the clavicle—the bones held in normal position until it has entered a distance of 5 cm. The rest of the apparatus is then taken off and the drill left in the bone for eighteen days, when it is removed, with the conditions permanently restored to normal.

Emigration of Calculi. R. Porges.—The mother of a colleague had suffered from a fistula in the thigh for one and one-half years. She was a healthy woman, 47 years of age, with no antecedents except a record of severe biliary lithiasis at one time, with symptoms of febrile cholecystitis, requiring seven weeks' stay in bed, and pains in the cecal region persisting for a time, followed a year or so later with a tumor in the thigh, very painful, which terminated in the rebellious fistula. The operation on the latter showed that the upper portion of the thigh was traversed by a network of passages in which a large number of biliary calculi were found. The attack of cholecystitis four years before had evidently terminated with the rupture of the gall-bladder and escape of the calculi, which had worked downward, during the long stay in bed, to the back and thence down into the thigh. In 169 cases of wandering calculi collected by Courvoisier, the fistula opened in the right iliac region in 12; in the left in 1; below the navel in 11; in the navel in 12, and in the bladder in 1. Huguier has reported a case of multiple fistulæ opening in the hypogastrium, mons veneris and near the clitoris, following a fall on a beam, affecting the liver region.

Wiener Medicinische Blatter, May and June.

May 3.

Early Diagnosis of Carcinoma. A. Wagner.—When a gastric affection does not improve under general medical and dietetic treatment, and symptoms suggest a malignant lesion, the surgeon should be called in and an exploratory incision made. The mere incision has frequently a beneficial effect in relieving the disturbance.

May 10.

Uric Acid in Nervous Diseases. J. Hirschkron.—Whenever he notes an excess of uric acid in nervous diseases, Hirschkron devotes his attention to its elimination as the chief factor in treatment. He relates numerous instances in which neuralgia, myalgia, rheumatic and arthritic affections were very much improved merely by a course of Salvator water alone.

St. Petersburger Medicinische Wochenschrift, June 23.

Clinical Value of Cryoscopy. O. Moritz.—In this article, concluded from the preceding number, extensive tests of the freezing-point of the urine as a means of diagnosis are reported. They demonstrate that cryoscopy is a simple, easy and reliable test for the urine. The results coincided in every case with those of more elaborate microscopic and chemical tests.

Semana Medica (Buenos Ayres), May 10.

Unconscious Parturition. G. Serra.—The writer relates three cases of childbirth which occurred in healthy women without their knowledge, until apprised by the cry of the child. One case was Serra's own daughter. She complained of moderate pain in the abdomen one night, and he gave her a sedative on her assurance that they could not be labor pains as her time had not arrived. She complained a few minutes later of severe pain in the genital region and, on examination it was found that a fetus had just been expelled. Its foot catching in the cervix had caused the local pain.

Gazzetta degli Ospedale (Milan), June 24.

Tuberculous Toxemia. E. Maragliano.—Certain symptoms in tuberculosis indicate the action of toxins, but the existence of the toxins has never yet been scientifically verified. Maragliano has filled this gap in our knowledge of the disease by a series of experimental tests on guinea-pigs and other small animals, and has conclusively demonstrated that the fresh blood, the glycerinated extract of the blood and the precipitate of the urine, in persons affected with tuberculosis, have a toxic action on both sound and tuberculous animals, as manifested by the familiar clinical phenomena. His research also showed that these toxins can be neutralized by tubercular antitoxin.

Arteriosclerosis of Myocardium. G. Berghinz.—An infant, 18 months old, died suddenly in the midst of apparent health, with sudden, paroxysmal dyspnea, accompanied by a spasmodic cough and intense cyanosis, with transient symptoms of edema of the lung, but no fever nor renal symptoms, nor indications of convulsions, laryngeal spasm nor of the habitus thymicus. The autopsy disclosed the typical lesions of congenital syphilides, localized chiefly on the myocardium in the form of arteriosclerosis of the heart. No syphilitic history on the part of the parents could be learned. The same syndrome and lesions were observed in a similar case in which the syphilitic antecedents of the father were proved beyond question. The *Cbl. f. Kindhk.* for June contains a summary of twenty-two cases of hereditary syphilis affecting the automatic ganglia of the heart, showing the possibility of interstitial myocarditis from proliferation of the connective tissue of perivascular origin, as in the observations described above.

Massage for Fractures. L. Tavecchi.—The modern treatment of fractures of the leg without immobilization is rational, according to Tavecchi, and has afforded brilliant results from every point of view in his experience, with prompt intervention with massage, passive and active movements and baths of hot sand. Histology has confirmed the results attained in the clinics, showing that muscles after a trauma present evidences of diffuse sclerosis with hypertrophy of the adjacent connective tissue, interstitial hemorrhage, engorgement of the blood-vessels and hypertrophy of their external cellular coat. On the other hand muscles massaged after a trauma are of normal aspect. There are also evidences of neuritis and perineuritis in the first case which are entirely absent in the second. The articulation also "grows rusty" from disuse.

Queries and Minor Notes.

CONTRACT PRACTICE.

Athens, Ill., July 9, 1900.

To the Editor.—The enclosed clipping from a local paper shows how it is done in Menard County, Ill., in these last days of the 19th century. The physicians of the various precincts are asked by the County Board to name a lump sum for which they will agree to furnish to the pauper poor of their respective precincts medical and surgical attendance, medicines, drugs, etc., for the year. Pauper poor is understood to mean all those who are dependent on the county. My position is that it is unethical for a physician to enter into such a contract. Am I right in this? M.D.

The following is the notice referred to by our correspondent:

"Bids for Medical Practice.—The County Board of Menard County will receive bids for the pauper medical practice of Athens precinct for one year, at its regular July session at the county court house on the second Monday of July. M. H. Levering, Clerk."

Answer:—Whether ethical or not, it is certainly foolish for a physician to lower himself and his profession by noticing such a demand by public officials. If the physicians of Menard County were organized as they should be, and stood together as they ought to do, the County Board would pay a fair sum for the services rendered.

REQUIREMENTS FOR PRACTICE.

Evansville, Ind., July 3, 1900.

To the Editor.—Will you kindly inform me regarding the requirements for the practice of medicine in Nebraska and Michigan, and give me the address of the Secretary of each State Board of Health?

How and where can one get a report of the Illinois State Board of Health for 1898? P. R.

Answer:—In Nebraska a certificate is required and no one can obtain it unless he is a graduate of a legally incorporated medical college in good standing, requiring attendance on four courses of lectures in four separate years. There is no examination. The fee for the certificate is $5.00. The Secretary of the Board is Dr. F. Crummer, Omaha. In Michigan, a diploma from a medical college approved by the State Board of Registration or an examination will be required. The Secretary is Dr. B. D. Harison, Sault Ste. Marie, who will furnish blank forms and other details.

Write Dr. J. A. Egan, Springfield, Ill., for copy of Report of Illinois State Board of Health.

Blue Hill, Neb., July 10, 1900.

To the Editor.—Will you please inform me as to the law governing the practice of medicine in Georgia? W. C. F.

Answer:—To obtain a diploma to practice medicine in Georgia an examination is required before one of the State Boards of Health of the three principal schools of medicine, and the applicant has to show that he has a diploma from an incorporated school requiring not less than three full courses of study of six months, unless his diploma dates prior to 1895, when two full courses may be sufficient. The Secretary of the Board of Registration is Dr. J. B. S. Holmes, Atlanta. The fee is $10.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending July 14, 1900.

P. A. Surgeon F. W. Olcott, detached from the recruiting rendezvous, Philadelphia, Pa., and ordered home and granted sick leave for two months.

P. A. Surgeon W. B. Grove, detached from the *Scindia* and ordered home.

Surgeon W. H. Rush, granted sick leave until October 1.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending July 12, 1900.

Surgeon G. W. Stoner, granted leave of absence for five days.

Surgeon A. H. Glennan, detailed as quarantine officer at the port of Havana, Cuba, vice Surgeon H. R. Carter, relieved.

Surgeon Eugene Wasdin, granted leave of absence for 10 days.

Surgeon L. L. Williams, detailed as acting medical purveyor during the absence on leave of Surgeon G. W. Stoner.

Surgeon W. P. McIntosh, granted extension of leave of absence for two days.

P. A. Surgeon Rupert Blue, directed to proceed to Milwaukee, Wis., and assume command of the Service, reporting at Washington, D. C., en route.

P. A. Surgeon E. K. Sprague, granted leave of absence for two days.

Asst.-Surgeon S. B. Grubbs, detailed to represent the Service at the Fourth Session of the International Congress of Applied Chemistry at Paris, France.

Asst.-Surgeon W. C. Billings, relieved from duty at Washington, D. C., and upon expiration of leave of absence, to proceed to Baltimore, Md., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon J. W. Kerr, relieved from temporary duty at San Francisco quarantine, and directed to proceed to Honolulu, H. I., and report to Surgeon Carmichael for duty.

Asst.-Surgeon F. J. Thornbury, on return of P. A. Surgeon C. H. Gardner from leave of absence, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon C. W. Vogel, relieved from duty at San Francisco quarantine, and directed to proceed to San Francisco and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon M. W. Glover, on being relieved from duty at Baltimore, Md., directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon B. H. Earle, directed to proceed to Cape Nome, Alaska, for special temporary duty.

Asst.-Surgeon C. C. Pierce, relieved from duty at Mobile, Ala., and directed to proceed to Tortugas quarantine and report to medical officer in command for duty and assignment to quarters.

Acting Asst.-Surgeon L. P. Gibson, granted leave of absence for five days.

APPOINTMENT.

A. G. Greenstreet, of the District of Columbia, appointed acting asst.-surgeon for duty at Wilmington, N. C., July 11, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended July 14, 1900.

SMALLPOX—UNITED STATES.

District of Columbia: Washington, July 1-7, 4 cases.
Florida: Jacksonville, July 1-7, 1 case.
Illinois: Cairo, July 1-7, 7 cases.
Indiana: Evansville, July 1-7, 1 case.
Iowa: Des Moines, June 1-30, 3 cases.
Kansas: Wichita, July 1-7, 9 cases.
Kentucky: Covington, July 1-8, 13 cases.
Louisiana: New Orleans, July 1-7, 18 cases, 5 deaths.
Maryland: Cumberland, July 1-7, 5 cases.
Massachusetts: Fall River, July 2-9, 2 cases.
Michigan: Jackson, July 1-7, 1 case.
Minnesota: Minneapolis, June 8-30, 20 cases, 1 death.
Nebraska: Omaha, June 23-30, 3 cases.
New Hampshire: Manchester, July 1-7, 1 case.
New York: New York, July 1-7, 1 case.
Ohio: Cincinnati, June 30 to July 6, 6 cases; Cleveland, July 1-7, 37 cases.
Pennsylvania: Pittsburg, July 1-7, 1 case.
Utah: Ogden, June 1-30, 6 cases; Salt Lake City, July 1-7, 1 case.
Virginia: Roanoke, June 1-30, 22 cases, 1 death.
Washington: Tacoma, June 23-30, 1 case.
West Virginia: Charlestown, July 7, 4 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, June 16-23, 5 cases.
Egypt: Cairo, June 10-17, 1 case.
England: Liverpool, June 16-23, 1 case; London, June 16-23, 13 cases.
France: Bordeaux, May 1-31, 1 death; Paris, June 16-23, 1 death.
Greece: Athens, June 16-23, 10 cases, 6 deaths.
India: Karachi, June 3-10, 8 cases, 7 deaths; Madras, May 26 to June 1, 1 death.
Mexico: Chihuahua, July 1-7, 1 death; Vera Cruz, June 23-30, 5 deaths.
Philippines: Manila, May 19-26, 1 case.
Porto Rico: Ponce, June 8-23, 1 case.
Russia: Moscow, June 8-16, 19 cases, 2 deaths; Odessa, June 16-23, 2 cases, 1 death; St. Petersburg, June 16-23, 27 cases, 11 deaths; Warsaw, June 8-16, 2 deaths.
Straits Settlements: Singapore, May 19-26, 1 death.

YELLOW FEVER.

Colombia: Barranquilla, June 16-23, 7 cases, 3 deaths; Cartagena, June 14-21, 5 cases, 5 deaths; Panama, June 25 to July 2, 1 death.
Cuba: Havana, June 20-30, 3 deaths; Santa Clara, June 20-25, 4 cases.

CHOLERA.

India: Madras, May 26 to June 1, 2 deaths.

PLAGUE—FOREIGN AND INSULAR.

Egypt: Port Said, April 20 to June 18, 75 cases, 32 deaths.
India: Karachi, June 3-10, 13 cases, 13 deaths.
Japan: Osaka, June 2-12, 6 cases; Shidzuoka Ken, June 2-12, 2 cases.
Philippines: Manila, May 12-26, 7 cases, 4 deaths.
Turkey: Smyrna, June 6-21, 5 cases.

Change of Address.

Dr. C. P. Aling, from Blue Earth to City Hospital, Stillwater, Minn.

Dr. S. Anderson, from Anaconda, Colo., to Collins, Wyo.

Dr. H. Allison, from 1214 Baxter St. to 323 W. Walnut St., Louisville, Ky.

Dr. Chas. Anderson, from Santa Barbara, Cal., to Ft. Brown, Brownsville, Texas.

Dr. F. E. Auten, from Ludlow and 5th Sts., Dayton, to Cor. Dowing and Ash Sts., Piqua, Ohio.

Dr. G. R. Baker, from 598 Mitchell St., Milwaukee, to Tomahawk, Wis.

Dr. B. B. Brashear, from Atlantic City, N. J., to Concord, Mass.

Dr. T. J. C. Brennan, from 1714 Fairmount Ave., Baltimore, Md., to Woodhaven, Brooklyn, N. Y.

Dr. L. M. Berg, from 2236 to 2032 Michigan Ave., Chicago.

Dr. L. A. Bolling, from Gen. Delivery to 150 Wells St., Fort Wayne, Ind.

Dr. S. D. Bell, from White River to Tucson, Ariz.

Dr. T. J. Caldwell, from 4658 State St. to 11412 Michigan Ave., Chicago.

Dr. J. E. Claussen, from 2205 Cumings St., Omaha, to 405 Court St., Beatrice, Neb.

Dr. J. A. Collie, from Williams Bay, Wis., to Manila, P. I.

Dr. Coryell Faulkner, from 807 Kansas Ave., Topeka, Kan., to Station D, Minneapolis, Minn.

Dr. H. Cushman, from Weston, Neb., to 918 Chicago Ave., Minneapolis, Minn.

Dr. J. E. Coyle, from 1522 Broadway to 1531 Broad St., Paducah, Ky.

Dr. L. Carr, from Stony Creek to 15 Victoria Ave. N., Hamilton, Ont., Can.

Dr. A. B. Davenport, from 1449 Franklin Ave. to Franklin and Miller Aves., Columbus, Ohio.

Dr. M. F. Dorsey, from Amboy to Ladd, Ill.

Dr. J. C. Dunn, from 709 Congress St., to 3700 Wallace St., Chicago.

Dr. D. D. Eads, from Paris, Ky., to 683 Washington Blvd., Chicago.

Dr. J. R. Garner, from Charlottesville, Va., to 302 2nd Ave., New York City.

Dr. O. W. Goss, from Laconia to Lakeport, N. H.,

Dr. E. B. Griffith, from 4th and Broadway to 523½ Broadway, Paducah, Ky.

Dr. R. C. Hefelbower, from Berkshire Bldg. to 22 W. 7th St., Cincinnati, Ohio.

Dr. Lee Haynes, from Unionville to Mendota, Mo.

Dr. I. M. Houston, from Stanberry, Mo., to Falls City, Neb.

Dr. J. W. Ingalls, from 848 to 874 Lafayette Ave., Brooklyn, N. Y.

Dr. J. L. Jarvis, from Calhoun to Corner Walker and Peters Sts., Atlanta, Ga.

Dr. Elmer Lee, from 52 to 9 West 45th St., New York City.

Dr. Miss J. Lyons, from 898 Jackson Blvd., Chicago, to Hume, Ill.

Dr. T. W. Morgan, from Dawson to Lowder, Ill.

Dr. M. M. Martinson, from Algona, Iowa, to 34 Hanover St., Battle Creek, Mich.

Dr. E. W. Meis, from Zwingle to Dyersville, Iowa.

Dr. E. J. Musselem, from 278 Michigan Ave. to 2502 Wentworth Ave., Chicago.

Dr. P. A. McIlhenny, from 1423 Louisiana Ave., New Orleans, La., to 513 Dearborn Ave., Chicago, Ill.

Dr. C. C. Owens, from Maysville to Feeble-Minded Institute, Frankfort, Ky.

Dr. W. L. Pyle, from 1831 to 1806 Chestnut St., Philadelphia.

Dr. S. G. Pake, from West Duluth, Minn., to 1303 Tower Ave., West Superior, Wis.

Dr. A. H. Peters, from Hillsdale, Ill., to Princeton, Iowa.

Dr. F. M. Pickens, from Winfield, Kansas, to Box 211, Indianapolis, Ind.

Dr. Rose A. Russell, from 339 S. Lincoln St. to 32d St. and Rhodes Ave., Chicago.

Dr. H. R. St. John, from 936 Barnett St., Kansas City, to Lost Springs, Kan.

Dr. C. T. Smith, from 30 Grant Pl., Washington, D. C., to Croxton, Va.

Dr. G. E. Shoemaker, from 3727 Chestnut St., Philadelphia, to Eaglesmere, Pa.

Dr. W. K. Scofield, from Cocoa, Fla., to 1217 Filbert St., Philadelpha.

Dr. H. H. Sherk, from 2647 Westfield Ave., Cramer Hill, to Camden, N. J.

Dr. W. E. Shook, from 42 Laflin St., Chicago, to Auburn, Neb.

Dr. B. L. Shellhorn, from 640 Congress St., Chicago, to Peru, Neb.

Dr. J. E. Smith, from 715 Congress St., Chicago, to Flower Creek, Mich.

Dr. E. W. Singletary, from Wilson to Morganza, La.

Dr. J. T. Smith, from 184 Dearborn St. to 65 Washington St., Chicago.

Dr. E. T. Sabal, from 45 to 29 W. Monroe St., Jacksonville, Fla.

Dr. J. M. Tirrell, from Minneapolis, Minn., to Portal, N. D.

Dr. S. M. Taff, from 2600 Pine St. to City Hospital, St. Louis, Mo.

Dr. E. L. Tompkins, from 1512 Q St., Washington, D. C., to Pine Creek Mills, Va.

Dr. C. C. Tallman, from 19 Ashland Blvd., Chicago, to Keota, Ia.

Dr. R. C. Turck, from 2346 Dearborn St. to 452 E. 49th St., Chicago.

Dr. Z. Wilson, from 742 Jackson Blvd., Chicago, to Pennsboro, W. Va.

Dr. N. W. Webber, from 535 Woodward Ave. to 26 Lathrop Ave., Detroit, Mich.

Dr. W. J. Webb, from Kirksville, Mo., to Martinton, Ill.

Dr. John H. J. Upham, from 1414 to 106 E. Broad St., Columbus, Ohio.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, AUGUST 4, 1900. No. 5.

Original Articles.

THE ANGIOTRIBE IN ABDOMINAL SURGERY.*

HUGH M. TAYLOR, M.D.

RICHMOND, VA.

In the summer of 1899, it was my privilege to see the angiotribe used by Dr. Cleveland, of New York. This demonstration and the interesting paper in which he impressed the advantages of the angiotribe, its *modus operandi,* its technique, and the very satisfactory results attending its use by himself and others, prompted me, as soon as possible, to obtain an angiotribe and to use it in selected cases.

A precaution, impressed by Dr. Cleveland, was borne out by my first experience in ordering an angiotribe. The first instrument I received was found sprung and imperfect, after having been used only once or twice. To stand the great strain upon it, fine workmanship in constructing the angiotribe is essential. We saw Dr. Cleveland break an instrument he was using, and this suggests the advisability of providing oneself with more than one angiotribe. The cost of the angiotribe—$18—is an item in the first instance, but this should not be considered, if by its use the safety of the patient is in the least conserved. Moreover, the angiotribe can probably be used indefinitely and its original cost will not exceed in the long run, the outlay for ligatures and forceps.

My experience with the angiotribe has been limited to twenty-five or thirty cases, all of which were suprapubic sections. I have in no instance used it when operating by the vaginal route. This is largely due to the fact that I have had but a limited experience in working through the vagina. The encouraging reports from so many warrant the conclusion that the angiotribe is equally serviceable as a hemostatic means in intrapelvic work per vaginam.

A majority of my cases were very simple in character, about one-half were uncomplicated hysterectomies, while the other represented a variety of ovarian cystomas, morbid conditions of the tubes, etc. In only one instance were there post-operative symptoms which suggested the occurrence of hemorrhage. This case was a large ovarian cystoma, with extensive bowel adhesions, and the trauma was considerable; the post-operative shock was quite profound and lasting. In one case there was for several days sufficient febrile reaction, etc., to make me fear sepsis. This was also a large cystoma, but was non-adherent, and nothing occurred during the operation to induce infection, unless there was some escape of the cyst contents into the peritoneal cavity. In connection with this case I may say I felt no little satisfaction in knowing that there was no intraperitoneal ligature to add to the danger. At the same time I must confess, in not a few instances, to some sense of insecurity as to the probability of hemorrhage for the first few hours after the operation. This fear of hemorrhage, however, after having used the angiotribe, is not greater than my fear of infection from the use of intraperitoneal suture or ligature. I have not used the angiotribe in many septic cases, but it is especially desirable to avoid the use of the ligature in existing or threatened septic conditions. In only one instance have I failed to secure complete hemostasis by means of the angiotribe. This occurred in resecting a section of badly-infected and thickened omentum, which had wrapped up a necrotic appendix. This experience impresses the idea that the soft omental tissue will cut through, rather than condense, under powerful pressure.

My limited experience sustains fully the advantages claimed for the angiotribe. In selected cases, I think it a perfectly safe substitute for ligatures and compression forceps. The ribbon-like line of compressed tissue left in the pelvis or abdomen looks very much better to me than the mass grasped by either forceps or ligature. By means of the angiotribe the tissues are compressed for only a few minutes; tissue necrosis is said not to occur; microscopic examinations demonstrate that the ribbon of compressed tissue is quickly revivified.

The tissues grasped by the forceps are strangulated for from twelve to twenty-four hours, while that in the loop of even the absorbable ligature is constricted for days. With the angiotribe there is no puckering and traction, as is the case not infrequently with the ligature applied en masse.

The precautions incident to the application of the angiotribe—at right angles to the blood-vessels and for three minutes—are so simple that its use would seem especially indicated by those who, from lack of experience, have not mastered the art of applying ligatures to structures in the abdomen and pelvis.

I have been duly impressed with the quite commonly observed fact that post-operative shock is markedly diminished in the cases in which the angiotribe was used, and this I think is equally true as to the intensity and duration of post-operative pain. Convalescence seems, as a further sequence, to be established at an earlier date and to progress more rapidly.

The query very naturally arises, "Is there a need for this innovation?" (If it can be said, strictly speaking, to be an innovation; for a long time instruments designed to act upon the same precept as the angiotribe have been in use, notably clamps, snares, écraseurs, etc.; Tuffier's angiotribe is merely a more perfect instrument.) With the recent evolution of the absorbable aseptic ligature in an aseptic field, have we anything more to desire? Undoubtedly, our ability to provide an absorbable aseptic ligature in a sufficiently aseptic field has immensely widened the scope of operative intervention, but unfortunately in many instances we can not secure an aseptic field, and not infrequently, in spite of our best efforts, even the absorbable ligature infects before it is absorbed. In my own experience, in more than one instance, I have been tormented beyond description by a dead silk ligature in the pelvis. One of the worst cases of wound infection I have ever met with occurred in connection with an Alexander operation in which I used Marcy's kangaroo tendon. Prior to this catastrophe, I had used this suture material in perhaps a dozen or more Alexander operations with perfectly satisfactory results.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Not long since, I lost a patient on whom I did a simple appendectomy for recurring appendicitis. Virulent peritonitis from wound infection, presumably from St. John Leven's chromicized catgut, resulted, and yet I have uniformly, prior to this sad occurrence and since, used this suture material with more confidence than any with which I am familiar. I am conscious of the fact that almost countless avenues of wound infection, other than through the ligatures and suture, present themselves during an operation; it is probably as true that accidental infection of the suture and ligature material is possible in its manufacture; and there is greater possibility of its infection in its preparation for the operator. In short, until the evolution of the aseptic ligature is further advanced there will occasionally occur, even in an aseptic field, such disasters as I have instanced; while in a septic field there can be no question as to the great advantage of not having to use even the absorbable ligature and suture.

It is interesting to consider why the ligature was abandoned, prior to its re-introduction by Ambrose Paré, about 1600. Usually Ambrose Paré is credited with having introduced the ligature, but there is abundant evidence to show that he simply re-introduced it, as a substitute for the hot iron, boiling pitch, etc. I say re-introduced, because the ligature probably simply fell into disuse during the dark period of the Middle Ages. Antillus lived in the fourth century. He is credited with the "earliest recorded treatment of aneurysm[1]. The vessel, having been exposed, was tied on each side of the aneurysm, the sac incised and its contents turned out." Observing that contused and lacerated wounds do not bleed as freely as the incised wound, especially in the pre-aseptic era, it was not surprising that the effort should be made to secure hemostasis by compression or torsion.

Torsion was quite extensively practiced in the pre-aseptic era. "In some of the London hospitals—Guy's, I think—it is used almost exclusively instead of the ligature[2]." The late Dr. Murdock, of Pittsburg, only a few years ago, urged the use of torsion in lieu of the ligature, and reported a large number of cases in which it was successfully practiced, many of them major amputations. The wound surface to which the angiotribe is applied is of the nature of a contused and lacerated wound, and Nature's method of arresting hemorrhage, i. e., by contraction, retraction, and clotting, is imitated when the angiotribe is used, and no foreign substance—neither ligature or necrotic substance—is left in the wound to act as an irritant.

---

[1] Am. Text-book of Surgery, p. 242.

[2] Cheever: Lectures on Surgery, p. 100.

A NEW periodical has appeared in Germany with the title, "*Blätter zur Bekämpfung des kurpfuscherthums*" or Campaign against Quacks. It is published every fortnight and costs four marks a year. The editors are Echtermeyer and Flatau. Alexandrinen Str. 27, Berlin, S. W.

IMPROVED TECHNIQUE IN MAJOR AND MINOR SURGERY OF THE FEMALE GENERATIVE ORGANS.*

HENRY PARKER NEWMAN, A. M., M. D.
CHICAGO.

It may be said without fear of contradiction that we owe to anesthesia, antisepsis and hemostasis not only the immense advance in modern surgery and its still greater possibilities, but a tendency to loose methods and careless work. This follows so naturally the comparative immunity from danger which surgical patients now enjoy that we need to be constantly on guard against it. With the patient before one on the operating-table, anesthetized, insensate as the raw material under the hand of the artisan and protected from immediate danger by the safeguards of hemostatis and antisepsis there is for some too great temptation to loiter over unessential details, to do showy work or to undertake daring experiments. Also the favorable conditions under which we may operate to-day make it easy to forget that in handling organs or tissues of the body we are dealing with living substances of different degrees of resisting power, and that the success of our maneuvers depends very largely on the amount of delicacy, dexterity and expedition that we use. The least possible violence must be done to delicate structures if we are to approach ideal results. In work within the peritoneal cavity, for instance, it is not enough to do an anatomically correct operation for the removal of this or that lesion of the viscera. Too often after such work we find women suffering as much as before operation. The scar tissue, adhesions and distortions that follow undue violence or careless work are frequently as great a bugbear to the patient as the condition for which the operation was undertaken. This is science overreaching herself, for it goes without saying that the main object of all operative work is to benefit the patient. And particularly is this true of all plastic surgery where a life-and-death emergency does not exist as an excuse for bungling work.

Take for example simple division and curettement of the non-puerperal uterus. I have seen the most rehensible work done here. Tearing, especially about the internal os, is most unfortunate in rapid divulsion, because close approximation of the torn surfaces and healing by primary union is practically impossible. The consequence is the formation of scar tissue about a circular orifice designed physiologically to soften, dilate and contract at the menstrual period. Thus a delicate and important function of the organ is irreparably impaired. Similar results follow the bungling or ill-advised use of the curette, especially within and about the internal os. Too vigorous or careless use of this instrument may result not only in perforation, but also in the most serious disturbance of the delicate function just mentioned. The resulting granulations and scar tissue, perhaps including the entire cervix, are practically beyond remedy, and not only seriously impair the cervical function, but at all times menace stricture with its pathologic sequelæ. Indeed, this entire subject of when and how to use the curette is so important and so pertinent to my subject, that I could well afford it more extended consideration, but as I wish to speak of other procedures, I will only say by way of emphasis that I would judge of a gynecologist not so much by his hysterectomies as by how he does his curettements.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

If we regard the infections and chronic inflammatory troubles following cervical lacerations in child-bed as evils to be corrected, if we recognize cervical constrictions or stenosis—the unyielding, imperfectly-formed neck with narrowed, tortuous canal—as pathology to be corrected; in short, if we remember that the cervix is the portal leading to the superimposed uterus and adnexa, often the storehouse of infectious germs and in intimate relation with the inflamed, enlarged or displaced structures above, we must change our methods of dealing with this important organ. The operation of a decade ago, still widely practiced, has failed to fulfill the predictions of its early advocates, though entitled to the respect due all conscientious pioneer work. We now know that we can not correct the accrued pathology of an old laceration of the cervix by removing a wedge-shaped mass at either angle and sewing up the wound. You may restore contour to a certain degree, but this is not all that is necessary. To cure the patient, one should aim to correct existing lesions in such a manner as to restore physiologic relations and re-establish normal function. One can not produce a proper and permanent lumen in a defective or ill-developed cervical canal by divulsion alone, except in those cases where pregnancy promptly intervenes. This, however, is a rare exception, as sterility is the rule in such cases, not only on account of the defective channel leading to the uterine cavity, but from the catarrhal endometritis caused by it. A cervical operation, to be successful, must at the same time, in inflammatory conditions, remove all adventitious tissue from the organ, and in deformities or imperfect development, remodel the cervix to as nearly normal outlines as possible, giving ample lumen to the canal and establishing proper menstrual and intermenstrual function. To accomplish these indications I began about six years ago to do some work which I presented to this Section at its Denver meeting under the name "tracheloplasty." The lapse of time has so confirmed its success that I feel justified in outlining it again.

With the patient in the lithotomy position, or in Sims', the cervix is seized and drawn down with an especially designed reversible tenaculum. The cervix is dilated and curetted. The curetting is done only when the indications for its performance exist, but these are so constant as to make it virtually the rule. I now reverse the blades of my tenaculum, directing their points laterally from within outward, thus making traction upon the inner area of the cervix, leaving the anterior and posterior wall free for making the flaps. The cervix is now transfixed by the right-angled knife which I designed for the purpose, and a clean cut made from above downward first in the posterior lip. The anterior lip is transfixed in the same way about 1 cm. or 1.5 cm. in front of the other and cut in the same way. The remaining plug of diseased tissue is now cut away by a single clip or two of the curved scissors, the tenaculum having been changed so as to seize and make traction upon the intervening plug referred to. The flaps now fall together and inward, resembling closely the normal cervix, and a simple method of suture will keep them in this relation. I have modified the manner of placing these sutures by substituting a right-angled curved needle, with handle, as here presented; otherwise the application of these sutures is described and illustrated in The Journal, xxxi, 556. I will only repeat here the advantages which I believe this operation to possess over others. These lie in the certainty and ease with which the flaps can be made with the special knife, the clean-cut surfaces without haggling of tissues, the easy approximation of flaps and prevention of hemorrhage beneath them by deep placing of sutures and compression of flaps; the accurate approximation of mucous membrane to mucous membrane, thus preventing granulating surfaces, formation of cicatrix and constriction of canal. Then we have the certainty of obtaining a permanently patulous canal, with well-formed cervix and pronounced reduction of the hyperplastic uterus. The after-treatment is admirably simple.

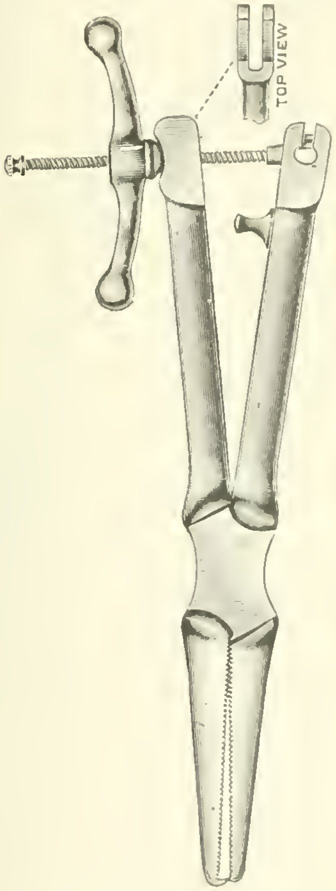


Fig. 1.—Showing the instrument with the original cross-bar and screw attachment in place.

In general, all that has been said in regard to cervical work applies with the same force to perineal, and there are the same indications for improvement in technique. To restore contour, stability and function to the weakened pelvic floor, I recommend a method which is the Harris procedure of shortening the torn or stretched fibers of the levator ani muscle, with a slight modification. In all cases of tear into one or both sulci, denude the parts, as in Emmet's perineorrhaphy, namely, by catch forceps upon the crest of the rectocele and laterally along the vaginal orifice as far as we wish to restore the perineum. Put the vaginal mucous membrane on the stretch and map out with the scalpel, and then dissect out a triangular flap along each lateral sulcus. The base of each triangular denudation is toward the vaginal orifice or torn and everted perineal mucous membrane. This latter is also denuded, as in all operations on the perineum. Now dissect out the levator ani muscle at the side of the rectum, seize its anterior fibers and draw on them to see how much slack needs to be taken up in order to hold the rectum and perineal body forward under the pubis. When sufficient of this muscle is free, fold it upon itself in its longitudinal course and stitch the redundant tissue together with interrupted or continuous catgut suture, thus drawing the rectum and perineum well up. The triangular area in each sulcus is now closed with catgut sutures, interrupted or continuous. A buried figure-of-eight—catgut—is now so placed and repeated as to draw the lateral, gaping, perineal surfaces together, and a few superficial silkworm gut sutures close the perineal wound in the median line as in the usual perineorrhaphy.

In rectal and urethral work for hemorrhoids, fistulæ, fissures and carbuncles, the best results can be obtained by clean dissecting out of these lesions and approximating mucous membrane and cut surfaces with catgut, or some less yielding suture material, if preferred. The only objection that can be raised against this procedure is, that in very vascular areas, as about the rectum, there may be considerable bleeding. For this I have lately been using the angiotribe with good results. As vaginal section and vaginal hysterectomy became more popular the technique has been varied and elaborated, and in those familiar with its diversified and perfected execution, the ease with which the uterus can be removed by this route has led to its too frequent performance as a mutilating operation. In its execution the once popular retention clamp has given place to the ligature or some variety of angiotribe or pressure-forceps.

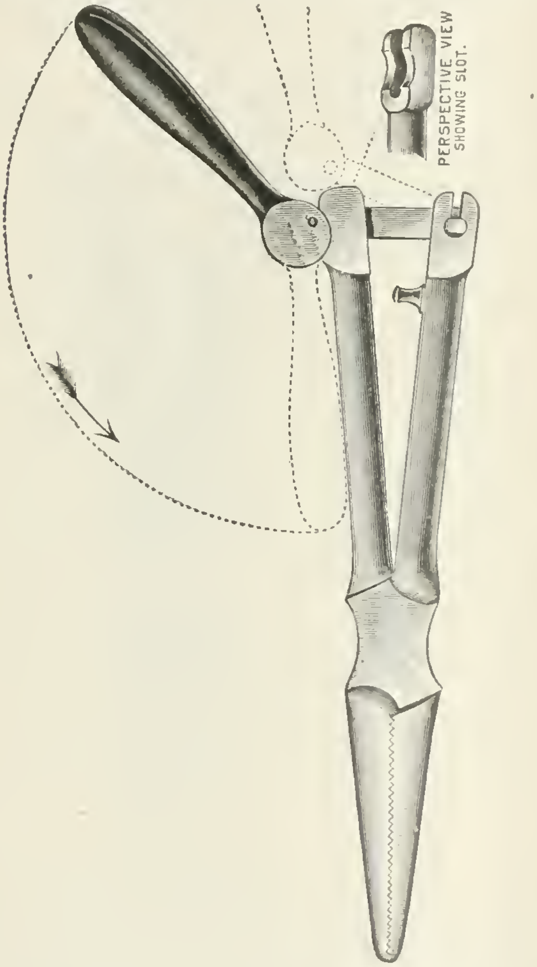


Fig. 3.—Showing the instrument with adjustable lever in place.

This instrument, wherever it has been used to any extent, has made such a favorable impression that I take some pride in the fact that I was the first to introduce it in this country. Dr. Clement Cleveland received the Tuffier instrument January 9 of last year, and performed his first operation on the same day, whereas I arrived from Berlin more than a week before with the Doyen-Thumin modification and presented it to my classes and colleagues in Chicago, which really puts the West several epochs ahead of our New York brethren.

A circumstance connected with my purchase of the model is worth recording. I was in Berlin in December, 1898, and there saw Professor Landau using the angiotribe. Doyen, who disputes honors with Tuffier, had brought it to Berlin and demonstrated it in Landau's clinic. Thumin, an assistant of Landau's, immediately set about making improvements in the mechanism, and it was in its experimental stage that I saw it. Forty-eight hours before my departure I ordered the instrument from the maker. He had none in stock, and demanded an exorbitant price for getting out one in a hurry by special workmen. I objected to the figure, named a reasonable sum, and gave him one day to reflect. Within the specified time the instruments I had ordered, including the angiotribe, were delivered to me. I had no sooner taken ship than a message came to my address from Professor Landau asking for the return of the instrument, as he had no other, and expected to demonstrate it at a clinic the next day. From subsequent correspondence I gathered that the dealers, not to lose a sale, had given me an instrument sent in by Landau or Thumin as a model, or for alterations, and that for the moment I was on the high seas with the only angiotribe outside of France.

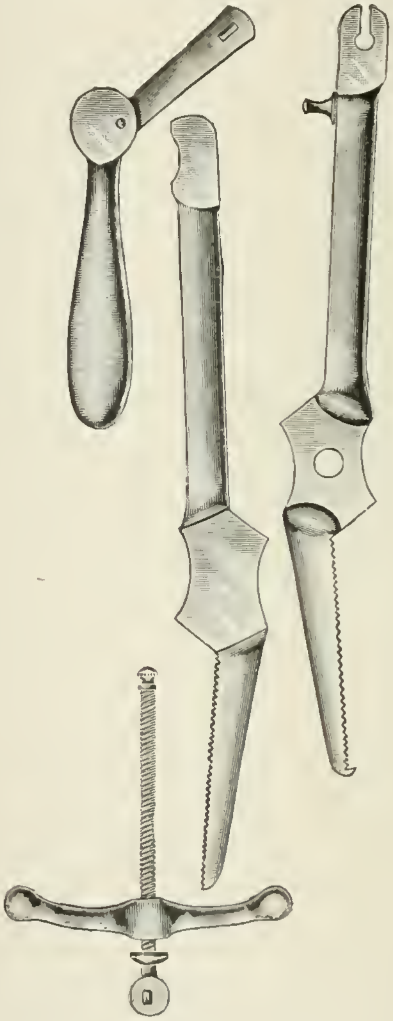


Fig. 3.—Showing the instrument with handles taken apart and its attachments separated.

In studying the mechanism of the instrument, it occurred to me at once that if useful in vaginal hysterectomy, it would be of infinitely more value in abdominal section or within closed cavities. I at once set about making such modifications as I believed would fit it for both abdominal and vaginal work. The changes which I made in the instrument and its use are so fully described in the reports I have already made to the Chicago and American Gynecological societies and this Association at Columbus, that I will only add here a few recommendations which more than a year's experience justifies.

1. It is all important that the instrument itself be of faultless make, and thoroughly tested by a competent mechanic before using. Whatever model is used, the secret of success is in its strength and the accurate adjustment of its blades.
2. Do not use it upon omental or like fragile tissue.
3. Avoid handling or disturbing the attenuated stump after removing the clamp.
4. It is not necessary to cauterize the thin edges of the stump, except when there are infectious germs to be destroyed.
5. As there is no oozing from surfaces amputated in this way, no drainage is required.
6. Compression of 3000 pounds for a minute or more should be practiced in all very vascular areas.
7. In softened, edematous conditions, there is the same danger of cutting and breaking of tissue with the angiotribe as with the ordinary ligature.
8. In applying on pedicles, care should be taken to equally distribute the tissues within the bite of the forceps.
9. The use of the angiotribe requires as much skill and judgment as other and apparently more complicated surgical procedures.

103 State Street.

DISCUSSION ON PAPERS OF DRS. CARSTENS, TAYLOR AND NEWMAN.

[The paper of Dr. J. H. Carstens appeared in The Journal of July 21, p. 159.]

Dr. W. H. Wathen, Louisville, Ky.—I have listened with much pleasure to these interesting papers. I have realized for a long time that much of the objection to surgery of the uterus and its appendages is the result of the multiplicity of technique employed, and the number of instruments used. Very often an operator uses three or four large retractors when they are not necessary. For the last four years I have never performed an operation per vaginam, for pelvic abscesses, uterine cancer, etc., in which I have used more than one retractor. I generally use none at all. Retractors, with few exceptions, are absolutely a nuisance. I use my fingers. Operations upon the cervix, for laceration or amputation, can be done by this means in one-fourth the time required when retractors are used.

As to the angiotribe—I have not used it myself, but I have on many occasions carefully examined the instrument, and I recognize that there is a field for its use. When you make the claim, however, that there is much work that can be done per vaginam by use of the angiotribe that would otherwise have to be done by the abdominal route, I must take issue. I can not conceive of any condition where I could not accomplish as much per vaginam by the use of the clamp as by the use of the angiotribe. With extensive adhesions, the operation by the angiotribe is very much prolonged. In hysterectomy per vaginam for cancer of the uterus we should clamp and divide the broad ligaments outside infected tissue, and this, I have done for many years. I do not think that this could be done so easily and safely with the angiotribe. We often find that it is necessary to apply several clamps in vaginal hysterectomy. In my early surgery I used two; I did bad work. I use many now and do better work. You have to use the angiotribe not only once but possibly four or five times, and I consider that it brings about a very serious complication. In cancer of the uterus, I have always contended that there is no field for abdominal work. When Drs. Kelly and Clark published their methods of operating through the abdomen, I on every occasion denounced the method as illogical. I have no use for it. I claim now, as then, that you seldom have a clamp infection. If you remove them in from 1 to 2½ hours you have certainly committed a great sin against your patient. I believe the vaginal operation is the only rational one; if we wish to be successful let us simplify our technique. The infection first extends between the broad ligaments, later, if ever, into the pelvic or lumbar glands. If the glands are involved, the operation is always contradicted, as I have urged since the operation was first performed.

Dr. J. Riddle Goffe, New York City—I have had considerable experience with the angiotribe, and I wish to say a word for it. It has been said that it simplifies the operation. It certainly does. It is perfectly safe in my opinion. In order to test the efficiency of it I selected for hysterectomy two cases of uterine cancer in which the disease extended out into the broad ligaments. They were strictly inoperable cases, from the standpoint of cure. I used the angiotribe exclusively to control the hemorrhage, and even in cancerous tissues the instrument worked as satisfactorily as in healthy tissue. I not only use it for hysterectomy, but also in removing diseased appendages per vaginam. Quite recently I had a case of cancer of the rectum in which I resected the rectum through the vagina. I made the incision down the posterior vaginal wall, dissected the vagina from the rectum, shelled out the rectum from its bed and dragged it down. As I reached the peritoneal cavity it became necessary to constrict the mesentery, and this instrument, snipping off the mesentery as I went along, acted like a charm, and I had the blood-supply completely under control. Moreover, I pinched the rectum off with the angiotribe, thus controlling hemorrhage from the severed end of the rectum, and obtained a perfectly dry field while stitching it to the margin of the anus. I have used it in cases of hemorrhoids and always found it a perfect hemostatic, easily handled, and convenient. I have been diminishing the time for leaving it on to 1½ minutes. I use the Tuffier angiotribe. I recently reported 16 cases in which I applied it. I have since used it exclusively in all my hysterectomies. It does away entirely with the ligature.

Dr. J. Wesley Bovée, Washington—I am very glad to hear such a good report from the use of this instrument, but it seems to me to be more like a plumber's tool than a surgical instrument. Dr. Carstens says that many operations requiring abdominal section can be subjected to vaginal celiotomy by means of the angiotribe. They could also be done per vaginam without the angiotribe. Many operations could be done through the vagina that are done through the abdomen. It seems to me that, in reaching the peritoneum, the more we work over a membrane constantly exposed to infection, as the vaginal mucous membrane is, the greater is the danger of infecting the patient. We can not expect to have the vaginal mucosa as surgically clean as a towel that we boil and lay over the abdomen in laparotomy. We can not think of such a thing. I think it is wrong to remove tumors per vaginam, pulling them down through a canal which we can not possibly sterilize. Neither can we operate as easily by this route as through the abdomen.

I do not see any reason why these cases operated on with the angiotribe should have a shorter period of convalescence than those operated with the ligature. I do not see the necessity of keeping the patients in bed for such a length of time. I do not know that I have had a case of vaginal hysterectomy in the last five years that has been in bed more than a week or twelve days; I don't believe that the angiotribe could shorten that time. I remove the gauze on the second day; and at the end of five to twelve days the patient is ready to sit up. It seems to me that the angiotribe is a very clumsy instrument. If you look up the literature in the French and German journals, you will find many cases of fatal secondary hemorrhage following the use of the angiotribe. The technique may have been faulty, as many cases die from secondary hemorrhage when the ligature is used improperly. The angiotribe, however, was gotten up as an instrument to prevent secondary hemorrhage and it is said to be safer than the ligature. I do not believe that we can remove as much of the broad ligament with the angiotribe as with scissors and ligature. In operations for cancer, the hemorrhage is best controlled by applying a provisional ligature on the internal iliac. In working up through the broad ligament, ligating first the uterine and then the ovarian artery, that can be done just as well with the ligature as with the angiotribe.

Dr. Wm. H. Humiston, Cleveland, Ohio—I believe the angiotribe is a useful and practical instrument, and will have a wide range of applicability. Any surgeon who has seen Dr. Goffe use this instrument in vaginal hysterectomy will agree with me that he is not delayed by using the angiotribe. It certainly is not a clumsy instrument in his hands. I believe that with the angiotribe vaginal hysterectomy has been so perfected that it has done away with a great many disagreeable symptoms following the use of the clamps; and avoided sloughing and the accompanying foul-smelling discharge. By using the angiotribe the vaginal incisions can be closed with sutures without danger from hemorrhage or sepsis, and the patient can arise from her bed in two weeks with safety. I predict the angiotribe will be more extensively used in the near future.

Dr. W. E. Ashton, Philadelphia, Pa.—I have listened with a great deal of pleasure to the papers read. Personally I have had practically no experience with the angiotribe, for the simple reason, not that I do not believe the instrument a good one for vaginal work, but because the majority of my operations are by the abdominal route, where I would not use the angiotribe, even if it resulted in what has been claimed for it to-day. I believe in doing my hysterectomies by the abdominal route, as we need the support of the broad ligament to support the vaginal wall. Although I have had no personal experience, I believe that in simple pelvic work, for removal of appendages, the angiotribe is a good instrument.

In reference to Dr. Newman's paper I believe that the points he calls attention to are important. Care must be exercised in curetting and also in properly selecting the operation in cases of laceration of the cervix. I have seen a great many operations of curettement done carelessly. I have done them myself. It is a simple operation, providing the proper technique is carefully observed. If not, you not only gain no result from the operation, but you endanger your patient. Therefore, more care should be exercised in these cases of curettement.

With reference to the aseptic precautions and the technique of the operation, one of the principal points is the dilatation of the uterus. The instrument we use for rapid dilatation is a powerful one and it does not take long to dilate the uterus. If this is not realized the uterus in the lower part may be lacerated and you do not get the dilatation in the upper part which you would obtain if the dilatation is slow. Dilate the uterus slowly; take ten or fifteen minutes at least to procure dilatation and you will find that the entire cervical canal is well dilated, enabling you to curette easily and safely. Unless we have a free dilatation of the cervical canal and free mobility of the instrument in the uterus, you take the mucous membrane off in patches, and in infected cases a curettement would under those conditions be absolutely useless.

With reference to the question of laceration of the cervix I believe the great mistake is often made in not performing a dilatation at the right time. In a cervix which has undergone great hypertrophy, or in which there is a diseased condition of the glands, or disease of the mucous membrane, or any multiple laceration, or a cervix in which the laceration has resulted in extensive loss of tissue, a trachelorrhaphy should not be performed, as it will leave the patient in a worse condition than before the operation. Amputation of the cervix should be done, and your patient will recover not only subjectively, but go on to child-bearing. I have seen this not only in my own work, but in that of others.

Dr. G. B. Massey, Philadelphia, Pa.—This is my first lesson with the angiotribe, and I feel that there are many more lessons before me if the surgeons are going to indorse a plumber's kit. I rise especially to take exception to the statement made by Dr. Carstens, who tells us that a prolapse of the ovary in a young girl is absolutely incurable; and that nothing but a removal of the ovary and tubes, and I presume the uterus—although I think he did not say that—is proper. Now, if the ophthalmologist were guided by that theory, where would be the eyesight of the majority of people, as there are very few of us who do not occasionally have some eye trouble of a congestive nature, and yet the eye is not removed. A large number of cases of slightly prolapsed ovary result from chronic constipation, or from lifting a sewing machine, as an exciting cause, during the prevalence of catarrhal congestion. I will say that I have cured at least a half dozen such cases, in my clinic and in my private practice, where the ovary was prolapsed and tender, but not otherwise diseased. I think it is rare to have an ovary become prolapsed unless there is disease of the uterus and usually dysmenorrhea. With that little displacement I believe it wrong to make an opening, put in this plumber's instrument, and crush those nerves and arteries. I should like to have the Doctor say whether his cases were cured or not, and whether the pain disappeared as a result of that operation.

Dr. L. S. McMurtry, Louisville, Ky.—The discussion has taken a very wide range, and I rise to call the attention of the section to one point only. The essayists have given indubitable testimony to the fact that the angiotribe in skilful hands is an efficient agent for controlling hemorrhage in the class of operations under consideration. The trend of the discussion is to imply that the means of controlling hemorrhage in gynecologic operations by established means, particularly the ligature, is unsatisfactory and in need of improvement. We should be careful to make a distinction between a novelty and a necessity. I trust the speakers who have so extolled the angiotribe will, when closing the discussion, give us the comparative data relating to the use of this instrument and the use of the ligature. The principle of the angiotribe is not new. Other instruments have been devised and extolled to close the vessels of the pedicle by crushing. Torsion also had its day, and was claimed to be applicable to vessels as large as the femoral. These methods are undoubtedly capable of controlling hemorrhage by rupturing the coats of the vessels and closing with clot the several vessels. But the question for consideration is: which is the best method? Is crushing by angiotripsy superior to the skilful application of the ligature? Will it avert hemorrhage as securely as the ligature and maintain that security as effectively? I know nothing in surgery more satisfactory than the skillfully selected and applied ligature as a means of hemostasis, and regard it as superior to any method of crushing that can be devised.

Dr. Miles F. Porter, Fort Wayne, Ind.—I should like to have the gentlemen who recommend the angiotribe tell us what a good angiotribe is; how many pounds of pressure ought to be applied, and how long the pressure should be continued. I applied an instrument with 1970 pounds of pressure, recommended to me by a friend of the angiotribe, and the patient died of secondary hemorrhage. I now have another angiotribe, and I will use it when occasion offers. What is a good angiotribe? I do not mean in mechanism nor in the method of designing its jaws; but how many pounds of pressure should be used and how long should we keep it up? Do we require more pressure on the upper part of the broad ligament than upon the lower part?

Dr. H. J. Boldt, New York City—I think several of the gentlemen who took part in the discussion this afternoon committed an error by discussing the relative value of an instrument which they had never used. In order to discuss anything we should have some experience witht the matter under consideration. I can give my opinion of the angiotribe in a very few words. Dr. McMurtry presented the whole matter in a nutshell. I used the instrument from the time it was introduced in this country, and I have it now, although I do not use it except on rare occasions for the purpose of demonstration. Not but that it is a good instrument in appropriate cases, because it will control hemorrhage when properly applied, but I feel more secure with the ligature than with the angiotribe. The disadvantage of the instrument is, that it takes more time to operate with it than with the ligature. I believe it to be safe enough, but do not consider that it is in any way superior to the ligature.

Dr. John C. DaCosta, Philadelphia—I do not want to say anything about the angiotribe except that I always want to see what I am doing.

In using ligatures in cancerous tissue I do not think one is doing good service when the tissue is much involved; and much less service with the angiotribe; and as the whole tissue can not be removed you would better leave the patient alone; she will get along much better with a palliative operation than with a radical one.

I feel that there are too many trachelorrhaphies done in cases where amputation ought to be done. When the cervix is very much involved we ought to amputate; get good sound tissue and draw the mucous membrane over it, stitching it to the uterine canal. Dr. Newman spoke of the danger of tearing the fibrous tissue of the uterus at the internal os. In cases of anteflexion that is just what you want to do. Take, for example, a curved piece of timber and when you straighten that timber out, the inner fibers are put in a state of tension, and the outer in a state of compression. When you bend an anteflexed uterus back you first stretch and then tear the fibers at the internal os, and you must do it if you want to straighten the uterus. You tear them; a blood-clot is formed which becomes organized, and when the patient leaves her bed she has a straight uterus. When you speak of a uterus with an acquired anteflexion after labor, and a torn cervix, that is the case where a trachelorrhaphy ought to be done, and after you have done it the uterus will have a normal curve. I have demonstrated again and again in cases of anteflexed uteri with bilateral tear of the cervix that one need not regard the anteflexion. Dissect the cicatricial tissue away properly, then unite the torn lips, and the uterus will be in a good position.

Regarding curetting, I do not believe that there is a safer or, improperly done, a more dangerous operation. Curettement is easy and safe when properly done, but it depends entirely upon the man who does it. A beginner who uses a sharp curette may drive a hole through the uterus; a trained man will not. I impress on the student the importance of having an eye in the fingers holding the curette so that he can see what he is doing just as the blind man does. You must have trained fingers to work properly.

Vaginal hysterectomy is a good thing—if you want to do an operation for vaginal hernia afterward. If you do not, open the abdomen, do an abdominal hysterectomy, and fasten the stump of the broad ligament down; attach it to the mucous membrane.

Dr. J. Henry Carstens, Detroit, Mich., closing the discussion—The gentleman from Louisville was discussing cancer of the uterus, about which I said nothing; I do not need to answer him. My friend from Washington, who has never used the angiotribe, is certainly not in a position to discuss its use. My friend from Philadelphia spoke about plumber's tools; I do not care whether it is a plumber's tool, or a sewer-digger's tool, or some horse doctor's; it is a good deal better than anything I have. If I want to do my patient good I use it, no matter how big it is.

I do not take out any healthy ovaries; I do not take out an ovary because it is a little dislocated, but the gentleman who compared it with the eye—well, if he gets any patient who has an eye dislocated about three inches from where it should be, I should like to see what the doctor would do if he got a sympathetic ophthalmia. Nobody takes out an ovary simply because it is in the cul-de-sac. You try all kinds of things; but if the woman suffers, the ovary undergoes all kinds of changes and becomes adherent, causing pain and trouble, that ovary must come out or you are not doing justice to the patient.

As for putting in gauze, sometimes I do and sometimes I don't. Sometimes I take it out after two days, and sometimes after five days; I try to adapt myself to conditions. I do not remove every uterus or ovary, nor do I use the angiotribe all the time. I said the angiotribe was good for certain cases of vaginal hysterectomy. I do not think it is good for cancer of the uterus, because the tissue you compress with the angiotribe is supposed to become organized again. When you have a cancerous uterus you want to take away every bit of tissue you can, and I use the clamps, removing as much of the broad ligament on both sides as I can. I can get more tissue away with the clamps than with the ligature, and that is why I use the clamp and not the ligature in cancers. I use the angiotribe in selected cases where you formerly used the abdominal route, in cases where the vagina is small and the ovary away down in the posterior cul-de-sac, and where the abdominal section is difficult.

Dr. H. P. Newman, Chicago, closing the discussion—I think Dr. Carstens has covered the ground very well. In reference to the operation on the cervix, it is not the Emmett trachelorrhaphy that I do, but tracheloplasty. I think the distinction is worthy of some notice. Tracheloplasty means a plastic operation on the cervix, the removal of adventitious tissue, followed by surgical reconstruction of the organ. Remove as much inflamed, indurated, or scar tissue as the case necessitates, leaving enough of the outer cervical mucous membrane, for flaps to use in restoring, as nearly as possible, the normal contour of the cervix, with its canal intact. Do not confine yourself to any classical operation, but conform your procedure to the needs of the individual case.

Dr. Wathen thinks that the use of the angiotribe consumes more time than former methods. I have found the opposite to be the case. It saves time, and I would reply to Dr. McMurtry, who wants to know what are the advantages in the use of the angiotribe, that among them are expedition, complete hemostasis, and the doing away with sutures, and the damage of leaving foreign bodies in the wound or cavity.

The angiotribe does away with that massing of tissue in the broad ligament stump, which too often allows the imperfectly constricted blood-vessels to retract from the grasp of the ligature and bleed into the connective tissue, forming a hematoma. Some eighty odd cases of this accident, following amputation of the ovaries and tubes, have been recorded by Tait alone.

In strong contrast is the linear stump after application of the angiotribe. In this narrow, ribbon-like affair, not thicker than an ordinary blotter, the blood-vessels have been so effectually secured and compressed that retraction is impossible. With the linear stump there is none of that drawing or tension on neighboring structures, giving rise frequently to displacements, disturbed function, tenderness and pain. It is also claimed that there is no sloughing of tissue as in ligation *en masse*, and consequently no granulating surfaces, adhesions, nor scar tissue.

MYOMECTOMY PER VAGINAM.*

J. RIDDLE GOFFE, M.D.

Professor of Gynecology in the New York Polyclinic; Visiting Gynecologist to the New York City Hospital.

NEW YORK CITY.

There are probably no two subjects that so enlist the attention of gynecologists at the present time as those that are suggested in the title of my paper. The first is the value of myomectomy as contrasted with hysterectomy in the treatment of fibroid tumors of the uterus, and the second is the superiority of the vaginal method of approach over the abdominal route in the surgical treatment of pelvic disease in women. Regarding the first, there are staunch advocates of myomectomy as the operation of choice, as the dominant operation in the treatment of fibroid tumors of the uterus; and, on the other hand, there are strong advocates of the sweeping and uncompromising dictum, that in all cases of fibroid tumors of the uterus nothing short of hysterectomy should be entertained. For myself, I believe in conservatism in gynecologic surgery. If part of an ovary can be saved and menstrual function preserved to a woman throughout her natural menstrual period, save the ovarian tissue. It is my custom to leave one healthy ovary, or a part of an ovary in cases of pan-hysterectomy for fibroid tumor. If, in addition to preserving the menstrual function by retaining ovarian tissue, there is prospect of conception, gestation, and motherhood, my rule is save at least a portion of one tube and preserve for it a patulous canal.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Extending this principle to the uterus—a uterus affected with a fibroma or a number of fibromata—the following rule holds: Remove the diseased portions—as many fibroid foci as can be discovered—but save the uterus. The field for discussion here is very broad, involving the questions as to whether fibroid disease of the uterus is purely a local disease and confined to the uterus or whether, as is maintained by some, it is a general disease and invariably attended by fibroid or cystic degeneration of the ovary and Fallopian tube; whether the symptoms ascribed to this disease are caused solely by the uterine neoplasms or whether many if not most of them are due to accompanying or complicating diseases; whether all foci of the disease can be with reasonable certainty eradicated or whether some must necessarily be overlooked and so continue the symptoms, and later necessitate a second operation.

The object of my paper, however, is not to discuss this feature of the title, but, granting that myomectomy has been determined upon in any individual case, to present for your consideration the superiority of the vaginal method of approach over the abdominal route.

Two years ago, at the Denver meeting, I presented before this Section a paper advocating the treatment of retroverted uteri—with or without adhesions, and with or without complications involving diseased appendages—by shortening the round ligaments through the anterior vaginal incision. In this paper I reported 31 cases, illustrating all forms of complications in retroversion of the uterus; and had the pleasure of demonstrating to many of you the procedure itself, on a patient at the Arapahoe county hospital. Last year at the Columbus meeting I insisted upon the wide application of the vaginal method of attack to all pathologic conditions in the female pelvis, including hysterectomy for fibroid tumors. The object of my paper now is to speak specifically of its service in the operation of myomectomy. Probably this can not be done more forcibly than by presenting to you the clinical picture of a few cases:

Case 1.—Mrs. S., aged 37, a large-framed, straight, well-built Irish woman, the wife of a policeman, presented herself with the following history: Married ten years, one miscarriage several years ago; no children; painful menstruation twice each month, lasting six or seven days; constant backache; nervous; irritable and anemic. Upon examination the uterus was found retroverted, bound down by adhesions; and in the posterior wall was a fibroid tumor the size of a hen's egg. The vaginal operation was advised, with the understanding that the full preservation of all the organs possible should be carried out, although the patient insisted that she did not care what was done, provided it secured the restoration of her health. Operation was performed at the Polyclinic, October, 1899. After curetting the uterus and packing it with iodoform gauze, the posterior incision was made, opening into Douglas' cul-de-sac. Through this opening adhesions were carefully broken up by digital manipulation, as far as could be reached; but the tumor could not be made to present through this opening with sufficient clearness and facility of approach to justify its removal. The anterior incision was therefore made, and the bladder dissected from the uterus. The anterior vaginal wall was also split throughout its entire length by a longitudinal incision and the bladder dissected from the vagina to the extent of an inch on either side. Through this opening the balance of the adhesions were broken up, and by patient manipulation, the uterus was delivered into the vagina. With the fundus at the vulva and in full view of the class of students, the tumor was shelled out in the usual way and its bed closed by tier sutures of chromicized catgut. The round ligaments were then shortened through the same incision, according to the method described in my previous paper, the uterus restored to the pelvic cavity, the bladder adjusted to its normal position, and the longitudinal incision in the vagina closed by a running catgut suture. A strip of iodoform gauze was passed into Douglas' cul-de-sac for drainage; the vagina lightly packed with the same gauze, and a self-retaining catheter inserted. The patient has since been free from all the symptoms of which she formerly complained; is experiencing normal and regular menstruation, and considers herself in perfect health.

Case 2.—Mrs. B., of Elmira, N. Y., presented herself at my office December 1, 1899, and gave the following history: Aged 43; married twenty years; the mother of four children, the youngest being 8 years of age. She complained of having endured wretched health since the birth of her last child, her condition growing steadily worse. She was anemic, thin, nervous, and complained of insomnia. Her menstrual flow was excessive, and she suffered from a constant backache and leucorrhea. Upon examination it was discovered that there was a greatly relaxed *introitus vaginae,* a bilateral laceration of the cervix, with diseased glands and hypertrophied tissue. The uterus was retroverted and immovable, being wedged in place by a number of fibroid developments on the posterior wall and at either side. Three days later, at my sanitarium, she submitted to operation. The uterus was curetted and packed with gauze, trachelorrhaphy was performed, the anterior lip being completely rimmed out. The T-shaped incision was then made in the vagina anterior to the cervix, the bladder stripped from the uterus, and by patient, careful and persistent manipulation, the uterus, with its fibroids, was delivered into the vagina. Two of the growths, each somewhat larger than a normal ovary, were found to be subperitoneal and partially pedunculated. These were readily pinched off and smaller neoplasms, to the number of five, making seven tumors in all, were dissected out of the uterine wall, the incisions being so made as to facilitate the shelling out of two tumors through the same incision in each of two instances. There were no adhesions in this case. The round ligaments were then shortened through the anterior incision and the operation completed as in the former case. The patient's temperature remained normal throughout her convalescence and on the nineteenth day after the operation she left the sanitarium for her home. She has continued to regain her strength and general health, has been relieved of all her symptoms, and has recently written me a cheerful letter of thanks for her restoration to health.

Case 3.—Miss M., of Yonkers, N. Y., was seen by me in consultation May, 1900. She gave the history of having been a sufferer all her life from dysmenorrhea, backache, and uncomfortable dragging sensations in the pelvis. Examination revealed a large retroverted, adherent uterus, with a small fibroid in the anterior wall just above the neck and between the uterus and bladder. Vaginal operation was advised, with the idea of removing the fibroid, freeing the uterus from its adhesions, and shortening the round ligaments to cure the retroversion. The attending surgeon, who is a surgeon of note, was desirous of doing the operation himself under my superversion. The operation was performed as described in the two previous cases, but the tumor was removed previous to delivering the fundus into the vagina, by lifting up the bladder on a strong retractor and dragging down the uterus with vulsellum forceps. The tumor was brought into full view and two smaller tumors were revealed, one at the side and the other a little higher on the anterior wall. The three neoplasms were removed in the usual way, the fundus was delivered into the vagina, and the round ligaments were shortened. The other steps in the completion of the operation were carried out as usual. There were no untoward symptoms in the patient's convalescence, and I am informed that she made a most satisfactory recovery.

It will be noticed that these cases followed the general rule that uteri presenting small fibroid tumors are usually found retroverted: there are exceptions, but I think the rule will hold. In this fact lies a suggestion bearing upon the origin of these neoplasms, viz., the interference of circulation and consequent nutrition subsequent to the displacement. The question at once arises: which is the cause and which the effect? Do the tumors produce the displacement or does the displacement afford occasion for the development of the tumors? I believe the latter is the case and that we must look to the interference in the circulation and the subsequent nutrition as the occasion for the development of these growths. Competent pathologists are of the opinion that these growths arise from a proliferation of the muscularis of the arterioles. This would indicate that their origin lies very close to interference with the circulation as a cause. The facility afforded by the vaginal method of approach for the cure of the retroversion is an additional factor in favor of it; for even if, as some claim, the presence of several small growths implies a multiplicity of foci, their development may be retarded by a restoration of normal circulation and metabolism by restoring the uterus to its normal position.

The superiority of the vaginal method over the abdominal in meeting this condition is the same as that which attaches to all vaginal work; the dangers are less, incomparably less; the convalescence is smoother and simpler, the patient being relieved of the annoyance of stitches, adhesive plaster, bandages and dressings; there is no visible scar to constantly remind her of her experiences, and above all there is no danger of hernia. The question arises: what shall be the upper limit to the size of fibroids that can be dealt with in this way? Experience and facility of operation on the part of the operator can alone determine this question, although the location of the tumor plays a large part in its solution. The traumatism, so far as the patient is concerned, is of so slight a character, that even if the effort in this direction must be abandoned and the abdominal incision made, very little detriment attaches to it, except the loss of time. After the incisions are made, opportunity is afforded to decide whether a myomectomy or a hysterectomy is indicated; if the latter, all the steps already taken are essential to the procedure and no time is lost.

During the past three months I have dealt with two private cases in this way, deciding upon vaginal hysterectomy after the tumors had been carefully located and the impracticability of myomectomy ascertained. In both these cases the tumors weighed something over two pounds, and occupied so much of the fundus that it seemed impossible to enucleate them or morcellate them without destroying the openings of the Fallopian tubes. The desirability of retaining a reconstructed uterus of that character was not apparent and a hysterectomy was done in each case.

MYOFIBROMA UTERI.*

HERMANN J. BOLDT, M. D.

NEW YORK CITY.

The greater number of solid neoplasms of the uterus are fibromyomata; tumors, consisting of fibrous connective tissue only—fibroids—or of muscle only—myoma—are comparatively rare. It is the preponderance of one or the other of these tissues in a tumor on which the consistency depends, and to some extent the rapidity or slowness of its growth.

The original seat of such neoplasms is, strictly speaking, interstitial; that is, the growth takes its starting-point in the parenchyma of the uterus, and subsequently grows in the direction of least resistance; thus subserous and submucous fibromyomata are formed. Real subserous tumors are freely movable, unless they become incarcerated in the true pelvis. They rarely cause symptoms, except when they attain a large size, or become incarcerated or twisted.

Interstitial tumors are of two varieties: 1, the greatest number are encapsulated and may, therefore, be readily enucleated, if the capsule be incised; 2, those which are diffuse—adenomyomata—and blended with the uterine wall. There are instances of interstitial fibromyomata situated in the corpus, which produce torsion at the junction of the uterine body with the cervix, and an instance has been reported in which complete separation from the cervix took place.

Under the term of submucous fibromyomata only those should be classed which have been born or extruded almost completely into the uterine cavity. Those still remaining mostly within the uterine wall should be classed as mixed tumors—a combination of submucous and interstitial situations.

The histogenesis of fibromyomata is still a disputed point. My own studies would lead me to believe, with Rösger, that they arise from the muscularis of the capillaries. This, too, would explain why in the earliest stages, we never find mixed tumors; from a histologic standpoint they are invariably pure myomata; fibrous connective tissue is absent until the tumors have assumed a greater size—for instance, a diameter of .25 cm. Yet the careful researches of Virchow and Cordes must be given due consideration. According to these observers, they are due to swelling and proliferation of the uterine muscularis.

A variety of desmoid tumor which has given rise to much controversy is that containing glandular elements —the adenomyomata. It was von Recklinghausen[1] who shed true light on the origin of the epithelial elements contained in these growths. He ascribes their origin to the endometrium, or the Wolffian body. When the epithelial bands are derived from the endometrium they resemble in construction those found in the uterine cavity, and the tumor is located centrally to the uterine wall. If the exit of the glandular formation toward the uterine cavity becomes obliterated, cystic dilatation of the gland cavity is apt to result. From this variety of adenomyomata we can readily conceive the coexistence of carcinoma, and hence his researches are a valuable contribution to the etiology of uterine cancer. The greater number of adenomyomata, however, have their origin in the Wolffian body. The clinical peculiarity rests on their fusion with the parenchyma of the uterine wall. T. S. Cullen[2] describes three instances of these tumors, and from his examinations corroborates the conclusion of v. Recklinghausen. Ludwig Pick,[3] in a very instructive research, shows that some of the neoplasms found and considered under the head of adenomyomata have their origin from the Müllerian ducts.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Centralblatt f. Gyn., vol. xx, p. 507.

If a fibromyomatous uterus is examined, we find that its endometrium usually is thickened, except in rare instances of large interstitial tumors, when the opposite condition may exist, as the result of tension or stretching of the tumor on the endometrium. This change, of course, does not take place in pedunculated subserous neoplasms. The muscular wall of the uterus undergoes hyperplastic changes, the connective tissue and muscular cells being increased as the result of an irritative process. We likewise find various pathologic changes in the tubes and ovaries of fibromyomatous uteri. In the tubes the most frequent change is an endosalpingitis, but we also frequently see interstitial salpingitis, hydrosalpinx and pyosalpinx. Fabricius[4] makes known the findings in two cases which are worthy of careful consideration. The ovaries have usually been found to be enlarged, due to an increase of the interstitial tissue, and in the size and number of the follicles. In a number of ovaries studied by the writer the vessels had undergone hyaline degeneration, and their lumina quite frequently were found to be constricted.

Various changes may take place in a fibromyoma. I recall two instances of large tumors which disappeared entirely without any treatment, before the menopause. Both women had complained of the weight caused by the size of the growths. When seen two or three years later respectively, no trace of the tumor was found upon examination. Another instance of a large tumor complicating pregnancy disappeared entirely within a year after parturition. A still more curious phenomenon was recently observed by the writer. A woman pregnant in the fourth month, who had a myofibroma which filled the true pelvis and which could not be dislodged at the time, was directed to go to term and then have extirpation performed. She had an uneventful delivery, with seemingly complete disappearance of the tumor previous to the termination of gestation.

Such atrophic changes are presumably due to changes in nutrition, inexplicable, however, in the last case cited. Calcareous degeneration, which may also be looked upon as a form of atrophy, is another favorable change which may occur. It is rare, but one instance of such complete transformation has been observed by the writer, accidentally discovered on autopsy.

Sarcomatous degeneration must be classed among the most serious changes which such neoplasms may undergo. The myofibromatous structure is transformed into sarcoma cells and then the growth is apt to progress quite rapidly. The sarcomatous change becomes diffuse by infecting the adjacent structure similarly. The malignant areas have this peculiarity, however: they frequently perish early by necrobiosis so that one is not apt to find a large uterine tumor degenerated into a single sarcomatous mass.

According to Menge, in a discussion before the Obstetrical Society of Leipzig, Feb. 18, 1895, there is much danger of the walls of the lymphatics, in lymphangiectatic myomata, undergoing sarcomatous changes, and such tumors readily become myosarcomata. He presented two specimens to substantiate his belief. In the continued discussion, M. Sänger expresses the belief that seeming fibromyomata which take on a rapid growth after the climacterium are probably all sarcomata. The presence in them of giant cells and myoblasts is positive proof of this. The long retention of the spindle shape of the cells in such changed tumors goes to show their origin from the former benign cell.

The change into carcinoma has been alluded to, and in some cases is based upon the proof adduced by v. Recklinghausen, which has previously been considered. In another way, carcinomatous changes in a myofibroma may take place from polypi, the mucosa of which has become carcinomatous, the malignant changes then invading the deeper structures of the myofibroma.

It would be of great value were it possible to diagnose the beginning of sarcomatous degeneration in a fibromyomatous tumor; unfortunately this can not be done; it may, however, be suspected, if a tumor which has been stationary for a long period without causing decided inconvenience to a patient suddenly begins to give rise to complex symptoms which can not be explained from the size or situation of the tumor. When such growth, therefore, begins to cause pains, a feeling of malaise, etc., associated, perhaps, with an increase in size, we should consider it a practical hint and strongly advise its removal, because of the probability that degenerative changes of a malignant character are in progress. A change in the symptomatic condition of such a patient should always be noted with suspicion, not only on account of possible degenerative changes, but also on account of other serious changes which may take place in the neoplasm, such as inflammation, gangrene and suppuration, myxomatous and cystic degeneration, in any of which conditions, delay in operation is serious. There is, however, a physiologic condition, in which the sudden appearance of such symptoms as have been alluded to are apt to take place; I refer to pregnancy. The physician must be on the alert for such complications and endeavor not to commit an error in the diagnosis.

Taking for granted that the diagnosis of a fibromyomatous tumor of the uterus has been made, the question of treatment naturally arises. One must come to the conclusion, if a close observer, that the pendulum has made a swing toward quick and radical treatment. In fact, this tendency has gone even further with many, during the past few years, than the prognosis of the condition warrants. It is true that fibromyomata are not so benign as they were once thought to be, but it is also true that they are not as dangerous as some would have us believe in their writings and discussions. Many such tumors have been observed by the writer, for a goodly number of years, without a justifiable indication for operation, having in his opinion, become manifest. Others again were observed, in which an indication was considered present—mainly severe menorrhagia and metrorrhagia, yet the patients declined operation, and they seemingly got along fairly well on palliative treatment; in fact, with but few exceptions, the symptoms decidedly improved, and in some the size of the tumors diminished.

The reason for such radical change in treatment may be found in the greatly improved prognosis which operation gives. Abdominal hysterectomy, in the hands of one who is a master of the technique, should not give a greater mortality than simple ovariotomy. At least, such has been my experience during the past few years, with by no means a moderate number, and these not all simple cases. Yet the unexpected sometimes happens, and, therefore, we should not indiscriminately advise radical operation for fibromyomata, not only for fear of the mortality—this being a minor consideration in view of the direct results obtained by an accomplished operator—but on account of the subsequent changes produced in a woman deprived of her pelvic organs during the period of active physiologic activity.

---

[2] Johns Hopkins Hospital Reports, 1896.

[3] Archiv f. Gynæk. vol. lx, p. 176, etc., ueber die epithel. Keime der Adenomyome.

[4] Ueber Cysten und der Tube, am Uterus und dessen Umgebung. Archiv f. Gyn. vol. l, p. 383-402.

If by any measure adopted, we can produce a symptomatic cure, it should be done in preference to a radical operation. It must not be forgotten, however, that there are instances, although comparatively rare, in which nothing but undelayed operation should be advised; they have been mentioned among the degenerations of serious character.

The social position which a patient occupies must be considered first and foremost. This is obvious, because a woman of the laboring class can not observe the rules which are laid down for those in better circumstances, in regard to rest, diet and hygiene. Internal medication is variable. No specific has been discovered to check the size of the growth, or diminish it; to stop profuse bleeding or the pain sometimes associated with the neoplasm.

I have watched a number of patients who were placed on thyroid extract and mammary extract, the latter so strongly recommended by Shober and Polk in this country, and by Bell in England. I have seen three instances of undoubted improvement in every respect, even a slight diminution of the tumor. All of the patients alluded to have used the remedy one year or longer, but so far as the size of the tumor is concerned, it is doubtful if any permanent diminution has taken place; we know that the tumors change in size with the menstrual period, and also that the amount of adipose tissue in the abdominal walls, during the use of these remedies, diminishes in many instances, so that the medicaments are at best rather uncertain; absolute measurements are impossible in any case.

Among remedies for local use which I consider palliative, electricity has held a prominent position. I say held, because the enthusiasm with which it was accepted has died out, and among its former strong advocates equally firm condemnation is heard. Its indiscriminate use is justly condemned. When first introduced according to the technique devised and advised by Apostoli, nearly every woman who had a fibromyoma, or was thought to have one, was subjected to a course of galvanism, and hence the remedy, which was intended to be of benefit, did more harm than good. The matter stands thus, in my opinion: There is a limited field for its use, but only for palliative treatment. Not a single instance of disappearance of the growth has been observed, but some tumors have seemingly diminished in size. This treatment is indicated only in interstitial growths of moderate size, up to or below the umbilicus, when there is no other serious lesion in the pelvis—as pyosalpinx, for instance—and when the patient can bear it without causing subsequent distress, such as increased pelvic pain or neurasthenia.

From this it is apparent how exceedingly small the field is when the use of electricity may be expected to prove beneficial to the patient. In the class of cases just mentioned as suited for electrical treatment, the bleeding, though previously profuse, becomes lessened and the pain associated therewith diminishes greatly; in some instances it entirely disappears, so that in this class, but only in such cases, symptomatic cure can frequently be established. Treatment should not be continued if evidence of pelvic inflammation follows its use, or if subsequent to or during the treatment much pain is experienced in application of a moderately strong current—50 to 100 milliamperes.

The use of the curette has been abandoned almost entirely by the writer for the purpose of stopping the bleeding due to the accompanying hyperplasia of the endometrium. Two instances of tumors causing profuse menorrhagia and metrorrhagia in women, aged 42 and 45 years respectively, who declined long treatment as well as a radical operation, were cured of their bleeding by the use of the galvanocautery. The cervix was thoroughly dilated, and the dome-shaped electrode of Byrne was rapidly carried through the canal. The interior was thoroughly charred, as in malignant disease, but the process was not carried to such depth. It is now six and eight months, respectively, since this was done, and both patients report themselves cured.

Various other forms of local treatment to stop the bleeding have been used with variable success; as local applications of ferripyrine; liq. ferri sesquichlorati; zinc chlorid and iodin.

Some years ago, I was, with others, favorably impressed with an operative palliative treatment, consisting in ligation of the uterine arteries. Unfortunately, the continued observation of the patients thus treated showed that the method did not bear the test of time; it has, therefore, been abandoned.

ARRHYTHMIA CORDIS COMPLICATING FIBROMATA UTERI.*

J. WESLEY BOVÉE, M.D.
Clinical Professor of Gynecology, Columbian University; Fellow American Gynecological Society, Etc.
WASHINGTON, D.C.

The study of the life history of uterine fibromata, with their multiplicity of combinations, has been patient, persevering and full of vexations. At first, considered perfectly benign, we have come to recognize the probability of their producing great harm and even of taking on malignant degeneration.

Their complications are becoming constantly more numerous. Sorel[1] has found they have a close relation to glycosuria. He demonstrated this relation in some marked cases of glycosuria, extending over a period of years, complicated by uterine fibroids, and in which a quick and decisive cure of the pathologic discharge of sugar followed hysterectomy.

What etiological relation, if any, exists between arteriosclerosis and uterine fibroids is still a matter of conjecture. La Force[2] considers it a potent cause of fibroids of this organ, and many believe a condition of arteriosclerosis is usually present in most cases of these growths. It would seem but rational to find such condition present, but thus far I am not aware of its positive demonstration in any instance, except in advanced life. Certain conditions of the nervous system in the formative stage of fibroids have been noticed. Insomnia, headache and hyperesthesia of the sensory organs are present in a marked degree, according to Grace P. Murray.[3] Many nervous symptoms during the presence of these fibroids have been observed. One striking case was that of loss of vision, which returned immediately after hysterectomy. As the female generative organs are very closely allied with the nervous system, troublesome and, perhaps, grave nervous symptoms may be expected in cases of uterine fibroids. Although organic cardiac disease is often associated with these tumors, cardiac symptoms in the absence of any lesion of that organ very rarely exist in such cases. In an experience with fully one thousand fibroids of the uterus I have seen but one such case. In a careful search of the literature in the library of the Surgeon-General's office, in my city, I fail to find any case reported, or any reference to the subject. It is this great rarity that has emboldened me to report my own observation of the condition, hoping to interest the profession in further study of this complication of fibroids of the uterus. The history of the case is as follows:

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Kate R., 26 years of age, colored, was admitted to Columbia Hospital for Women, Oct. 23, 1896, complaining of "a pain in the stomach" and a tumor in the abdomen, first noticed three years before. She was never married, but had had two abortions, the last of which occurred three years before as the result of a fall. Her menses began at the age of 17 years, usually lasted seven days, were regular, profuse and quite painful, and last occurred Oct. 1. Her appetite was fair and her bowels regular; she complained of unusual fatigue on ascending stairs. She was well nourished, had no glandular enlargement and no edema, but the mucous membranes had an increased brightness of color. The area of cardiac dulness was very slightly increased. No cardiac murmurs were found. There were irregular distinct pauses in the heart sounds, with corresponding radial pulse intermissions. These varied from every third to every twentieth beat, and were always synchronous. No other irregularity of the heart action was observed, and the pulse was from 62 to 74. In the abdomen and pelvis were found freely movable, multiple uterine fibroids, filling the pelvis and extending to two inches above the umbilicus. Absolutely no abnormality other than the presence of the tumors and the cardiac arrhythmia was found. She was kept in bed, fed on highly nutritious food and given strychnia in liberal doses. Frequently consultations with other members of the hospital staff were held, the verdict, always unanimous, was every time against the advisability of proceeding with the operation until her cardiac symptoms were removed. She begged to be allowed to get out of bed, but this favor was strenuously denied. December 1 she was unimproved and had no complaint but remaining in bed and waiting so long for the operation. About this time Col. W. H. Forwood, U.S.A., was visiting my wards, and I requested him to examine the patient, which he did, and expressed the opinion she would pass successfully through the operation, and further that stimulation would entirely remove the arrhythmia. Acting upon his suggestion, abdominal hysterectomy was done Dec. 17, 1896, under ether anesthesia. It was noticed her pulse immediately improved when the ether was started and improved to the third stage of anesthesia, when it was perfectly regular. During the operatin, the anesthetizer found no skipping of beats, and the pulse was 78 when she left the table. When she reached her bed he again noticed the arrhythmic action of the heart, which gradually grew more marked, and at the end of a day was practically the same as before the operation. From the time of the operation till January 27, the date of her discharge from the hospital, her pulse varied from 62 to 104, reaching the latter number but once. During this period the arrhythmia remained practically the same as it was when discovered. She had never been told she had heart trouble, nor did she suspect it. Fortunately she was not worried by the frequent examinations of heart and pulse.

Arrhythmia of the heart is defined as being a deviation of the normal rhythm of that organ; several varieties of it have been observed: 1, the true intermittent, in which the ventricular contractions are uniform in degree, but at regular or irregular intervals, a pause, covering the time of one or more contractions, occurs; 2, the false intermittent, which differs from the true variety in that the contractions at intervals are not entirely suspended, but are so feeble that no arterial pulsation is discoverable; 3, a variety, the chief symptom of which is the *pulsus bigeminus.* In this variety a full systole is followed by a short systole, then coming a short and incomplete systole, and then a long systole; 4, a variety in which a regular irregularity of the force of the systole is noted, producing an alternating weak and strong pulse, known as the *pulsus alterans;* 5, delirium cordis, in which the irregularity of systolic contraction is irregular and the pulse-rate very fast. These are the principal forms of cardiac arrhythmia, though others are observed. In some cases combinations of these varieties are noted, and at times different combinations have been noticed in the same individual. It is not necessary to mention in detail the nerve-supply of the heart, as all of you are familiar with it. Besides, after removal of the heart from the body, its rhythm has been continued for a considerable time, as noted by various observers, demonstrating its independence of the central nervous system. And yet when we study the etiology of cardiac arrhythmia, we must acknowledge the influence the central nervous system exerts over it. Wenkback, in a paper entitled "The Physiological Explanation of the Arrhythmic Action of the Heart," read before the eighteenth German Congress for Internal Medicine, says: "Modern physiology teaches the normal heart action depends on: 1, the automatic excitation of the heart-muscle; 2, the power to conduct the motor impulse from muscle-cell to muscle-cell; 3, the contractile power of the heart-muscle. An increased automatic excitation is the cause of *pulsus trigeminus intermittens* and similar pulse forms. Lessened power of transmission explains Stokes-Adams' phenomenon and some forms of bradycardia; an increased power of transmission causes delirium cordis; lessened contractile power causes *pulsus alterans.*" According to Roy and Adami[4], simple intermittency may be due to weakened auricular impulses, ventricular contraction not following regularly. Huchard[5] suggests the special susceptibility of different points in the heart-muscle, which act like the broken cell of the galvanic battery in the conduction of the impulses. B. W. Richardson[6] says, "Intermittent pulse is purely of nervous origin and is always induced—when not inherited—by shocks upon the sympathetic or vital nervous system—such as grief, fear, rage, worry, and vital exhaustion." He also says it may be coincident with heart disease. In infancy it indicates nervous derangement, while in young adults it has the same meaning and tells the story of beginning failure of power. Occurring suddenly after any great event which has told upon the mind, it may be a sign of serious import. Richardson found it the first evidence of physical derangement, in five cases of disorder of the mind in which suicide was attempted, and believes that in advanced life and premature age it heralds nervous failure. He further says, "With this condition chronic they pass through all acute diseases less favorably, and sink more readily from surgical operations. In children it may pass away with growth and increase of strength. In adults, when estabished, it never goes away entirely though it may be absent for long periods when the health is excellent." Huchard[7] says we may physiologically recognize three classes of arrhythmia: those of nervous, mechanical and myocardial origin, while, from a pathologic standpoint there are six, as follow:

1. Nervous and cerebral. Meningitis—simple and tuberculous, apoplectic stroke; hemorrhage—cerebral or meningeal; cerebral tumors; compression of the vagus by tumors.

2. Neurotic and psychic. Hysteria, neurasthenia, epilepsy, exophthalmic goiter and emotions—paroxysmal arrhythmia.

3. Reflex. Diseases of the intestine; uterus; stomach, etc.; arrhythmia from cold.

4. Toxic. Digitalis, tea, coffee, tobacco, abuse of alcohol, etc.

5. Critical arrhythmia of acute diseases. Convalescence of typhoid fever; at the moment of defervescence of pneumonia and other acute diseases.

6. Arrhythmias of cardiopathies. *a.* Valvular. Insufficiency of the mitral valve; stenosis of the mitral valve. *b.* Myocardial. 1, acute myocarditis in typhoid, grip, variola, etc.; 2, chronic myocarditis—senile arrhythmia, degeneration and overcharge of the heart; 3, arterial cardiopathies; 4, endocarditis, pericarditis, adhesions of the pericardium; 5, insufficiency and stenosis of the aortic valves, of arterial origin; 6, sometimes angina with concomitant cardiosclerosis.

Lauder Brunton, in his article on "Intermittent Pulse[8]," mentions the case of a woman dying suddenly at 84 years of age, having had arrhythmia 67 years. Richardson describes a case in which death from senile decay occurred and in which the pulse never failed to intermit less often than once in eight beats. When she was quite insensible, the pulse, with long hesitations, came up again and was beating at the end, even when respiration had ceased. Subsequent examination showed the heart to be the healthiest of all her organs, the coronary arteries normal and the muscular structures quite free from fatty and granular degeneration. Tirard[9] found in twenty applicants for life insurance, who had this symptom, ten had heart-disease, five dyspepsia—one of these had heart disease and two malaria in addition—three albuminuria—one of whom had liver disease, one lung disease—and three had used tobacco to excess.

By considering the causes of arrhythmia we may readily understand it may be an indication of a very grave malady or of little moment. It therefore becomes necessary to endeavor to ascertain its cause, which will not always be an easy task. Under any circumstance it is a symptom that commands the boldest surgeon to pause. If no serious malady be found to account for it, surgical operations may be proceeded with, though with great care, as the condition of the heart must be considered as a handicap. In my case, I was not able to trace cause and effect, and proceeded with hysterectomy only after observing the patient two months and finding no severe pathologic condition to account for the arrhythmia. That it was not reflex from the tumor, as was for some time conjectured, is clearly proved by its resumption and continuance after hysterectomy. It disappeared only during paralysis of the voluntary muscles and unconsciousness, though present during sleep. This is evidence of its nervous origin.

In conclusion I would suggest: 1, arrhythmia cordis is not yet well understood; 2, as a complication of fibromata uteri it is exceedingly rare; 3, it has a serious import, the degree of which depends upon the condition causing it; 4, its presence as a complication of conditions requiring surgical operations necessitates a careful inquiry into its cause before the operation is performed; 5, it is a contraindication of more or less influence in all cases requiring surgical operation; 6, if not due to a severe pathologic lesion other than that for which the operation is to be performed, its presence does not necessarily prohibit operation, but lends additional jeopardy to the patient's recovery.

1404 H Street.

BIBLIOGRAPHY.

1. La Normandie Médicale, Rouen, 1897, xii, 479.
2. Trans. Iowa Med. Soc., 1897, xv, 212-225.
3. Medical Record, N. Y., Dec. 2, 1899.
4. Phil. Trans., Lond., 1892 (1893), lxxxiii, 199-298.
5. Traité Clin. des Mal. du Cœur et des Vais., 1893.
6. The Asclepiad, Lond., 1884, i, 193-211.
7. Ibid., v, p. 276.
8. Hare's System of Practical Therapeutics, ii, p. 745.
9. King's College Hospital Reports, 1894-5, Lond., 1896, ii, 17-24.

DISCUSSION ON PAPERS OF DRS. GOFFE, BOLDT AND BOVÉE.

Dr. W. Evelyn Porter, New York City—The subject is one of great interest and one which I feel has not been given sufficient attention by the profession at large. The tendency in the past few years has been to do vaginal hysterectomy indiscriminately in all cases of small fibroid tumors; there have been comparatively few reports of any considerable number of cases of myomectomy. Many of the larger tumors can be easily removed by myomectomy, although the field for the operation is much more limited in this class of cases. I have personally performed the operation a number of times with extremely satisfactory results. I adhere strictly to the limit as regards the age of the patient. I believe that the operation is one which should be done with due consideration to the possibility of malignant development. In a patient beyond the age of 40, it should be limited, as there is always a possibility of the development of a malignant growth, as Dr. Boldt has told us. The technique of the operation is very simple. The location of the tumor must help to decide whether we make an anterior or posterior incision. In cases where there are adhesions in small tumors, it is very simple, but I prefer doing an Alexander's operation rather than the anterior fixation sugested by Dr. Goffe for coexisting displacement. The detail of the operation is perfectly simple, making a linear or crucial incision and enucleating the fibroid tumor. One rarely has any hemorrhage, and there are very few arguments against the operation, except the possibility of the development of a malignant growth. Where we find any difficulty in removing the growth from below, the abdominal operation is certainly advisable and to be advocated. The results have been excellent, and some of the women have been delivered of healthy children subsequent to the abdominal myomectomy for large tumors. I advocate the operation in young women.

Dr. Frederick Holme Wiggin, New York City—In support of the statement made by Dr. Goffe about making the incision along the anterior vaginal wall in many of the operations about the uterus through the vagina, I wish to say that it certainly facilitates the work in removing fibroids. There are one or two points which Dr. Goffe has not brought out. Where the tumor is larger than usual the dissection should be carried pretty far laterally, as with a small incision you have much trouble in getting down the fundus and much time is lost. I have had a number of cases of large fibroids which I have removed by myomectomy, where, if I had relied on abdominal hysterectomy, the patient would not have survived. The operation was undertaken largely because the patient was suffering so much that life was not worth living. I stated the facts of the case and the danger to the patient and her husband, and they decided to take the risks. I opened the abdomen by means of a large incision in order to get at the tumor quickly; by making an incision through the uterine tissue there was no difficulty in shelling out the tumor. The uterus contracted very rapidly and there was very little hemorrhage, the patient making a splendid recovery. I do not think that this subject has been discussed sufficiently. I have been very much surprised at the ease with which these large tumors can be removed in this way.

Dr. J. Henry Carstens, Detroit, Mich.—Myomectomy is certainly excellent, and in certain selected cases, it is admirable, but there are many cases where it can not be done. One point has not been brought out, and that is that there are fibroids that are not encapsulated. Some fibroids have no beginning nor any end. They are real adenomyomas and go all through the uterine tissue; you can not shell them out; you must take out the whole uterus, but you can not tell this beforehand. The malignant changes are of importance. I make the age a rule; the older the patient the more I am inclined to do a vaginal hysterectomy, and the younger the patient the more I am inclined to do the abdominal operation and myomectomy, that is, preserve the uterus.

Dr. Joseph Price, Philadelphia—Nothing could be of more vital importance than a uniform consensus of opinion. We are not talking to a class of specialists in this gathering, and for us to change our bonnets (methods) four times a year as the women do, without clearly stating our reasons is an error. We know very well that we have simple pedunculated forms of fibroids which are controlled easily by a small ligature or forceps; and if they occupy the pelvic basin in pregnant women the delivery is a perfectly safe procedure, but men who do hysterectomy will admit, after removing a good number of them, that it is always an imperfect and unsafe procedure. Dr. Goffe tells us he removed seven, but he does not know that more did not exist, as we all know that there may be many small myomas scattered throughout the uterus.

Regarding the nervous disturbances referred to by one of the authors, I scarcely believe that a woman carrying a fibroid is ever right mentally. I never operate on a woman for fibroid but what I make her and her husband and family admit that she was in better mental condition after the tumor was removed. I know that removing the uterus with a fibroid makes them much healthier physically and mentally than before the operation. As to procedure, but few at present prefer the lower route; if tumors are small and uncomplicated the operation is easy and the patients do very well, but it is not an operation they can use in every case, as the abdominal. The procedure is very much like some material. It is foolish to place in the hands of a man methods and material beyond his scope. It is wise to place in that man's hands that with which he can do good work, and which he understands.

The retrograde changes in fibroids are very common. Some of the gentlemen present recently saw me remove large tumors that were perfectly healthy, apparently, but after incising them there was cystic degeneration. They are quite common, in fact, there are degenerations in about all. In early life the mental disturbance is very marked, and if you will only do your myomectomies after the hysterectomy you will soon convince yourself that this operation can not be complete, as you leave a small colony of fibroids. We must be careful in choice of method. I did an operation a few days ago which would have been a bad one if I had performed it blindly, or by the lower route. Jacobs gives nine injuries to the bladder, ureters and bowel in a series of about 400 cases. I repeat that these methods and instruments in the hands of one like Dr. Goffe, who is dexterous and knows how to use the instruments, are perfectly safe, as he gives it a very careful study, and makes a selection of his cases. The beginner, however, ought not to have instruments of that character in his possession without first serving an apprenticeship, in which he has done the operations under the direction of a man like Dr. Goffe. Again, in alluding to improvement, he refers first to adhesions and enucleation of a large tumor. If there be a large tumor, there also is disease of the appendages. We know perfectly well that those patients may be relieved by treatment, but a man might just as well say that we are not on this pier as to say that these cases with fixed appendages and adhesions are cured. Sometimes these patients go home with the pelvic basin filled above the ileopectineal line with pus. They are not cured because they are relieved.

Dr. E. G. Zinke, Cincinnati, Ohio—I have been very much gratified with the papers and the remarks of my friend Dr. Price, especially his remarks that this operation may be done in the manner described by Dr. Goffe and men of his skill, dexterity and experience. But when a man of Goffe's ability can execute such maneuvers as he described, how much more easily could he perform the same operation, with even greater perfection and much less danger to his patient, through the abdominal wall? If he can do his work so admirably through the vagina, I am sure he will be able to do it better and quicker through the abdomen. He says in his abstract that myomectomy is preferable to hysterectomy. That is true, but only to a certain degree, even "in all cases in which it can be employed." That is well put; it makes his position defensible. I venture to say that the cases are few, and by no means as frequent as he would have us believe. How many men are there who can positively tell that there are no serious complications even in small uterine fibromata? Sometimes, aye many times, when we feel pretty certain that there are no complications existing we find conditions least of all expected. That the operation can be done I do not doubt. Is it proper to do it? That is the question! I believe I can do it myself, if I tried. But why experiment? Because this pier and the hall in which we are assembled stand safely over the water, is it well to say: Let all houses be built over the ocean? I do not believe that the method of Dr. Goffe will be practiced extensively either in this country or abroad.

I am very sorry to hear that Dr. Boldt still finds a place for electricity in the treatment of tumors of the uterus. When I was abroad nine years ago, I saw Dr. Apostoli at work in his clinics for four weeks. It was there that I came to the conclusion that he was deceiving himself and thus misleading others. Spending also a good deal of my time with Dr. Péan, I asked him one day what he thought of Apostoli's method of treating uterine tumors. He said: "Electricity is a nice thing if your patient has plenty of money and is willing to pay you for your time. But, after all, when Apostoli gets through with his cases, I get them and operate on them."

Dr. W. H. Wathen, Louisville, Ky.—I am sorry that I did not have the pleasure of hearing all of Dr. Goffe's paper, but from the discussion I have learned the various points at issue. In the first place, I think we ought to call all those tumors myomata or fibromyomata because they are in their histogenetic origin myomata. In deciding whether a tumor should or should not be operated on, or whether the abdominal or the vaginal route, or both, should be adopted, we must consider the condition that exists in each and every case, because no two cases are exactly alike. Furthermore, we must consider the ability and the expertness of the operator. There are many cases that have no capsule at all. I removed one within the last few weeks, per vaginam, nearly twice the size of a fetal head, that I could not by any means have removed per vaginam, had there been several encapsulated hard myomata. In this case you could not find where the uterine tissue ceased and where the myomatous tissue began. It is not wise to attempt to do myomectomy in many cases. If we dissect a myomatous uterus we have removed we shall always find one or many tumors that we could not have found by myomectomy. The method of operating depends on several things; but I believe that the safest way to do is to begin an operation by the method that your better judgment dictates, but be prepared at the same time to complete the operation by any other method, if conditions arise that justify it. I sometimes purposely begin an operation per vaginam and complete it from above. A few weeks ago I removed a retroperitoneal myoma of large size that I could not have removed within three times the time had I attempted it from above, but by the operation from below I separated the vagina and the bladder as high as I could in a few minutes, and clamped and cut loose about 1½ inches of the lower part of the uterus. In every operation I begin through the vagina, no matter for what condition. I always have my patient prepared for an abdominal section and have the instruments that may be needed in readiness. Although I am prepared, it is unusual, however, when I begin an operation from below, that I am compelled to resort to the upper operation also. Frequently I begin the operation from below purposely with the determination to complete it from above. I believe that I can in some cases perform the operation in that way in less than one-half the time that I could from above alone. I believe Dr. Price could, in similar cases, by beginning below and completing the operation from above, operate in one-half the time that he now does by the abdominal route, and his patients would do better.

Dr. **Charles P. Noble**, Philadelphia—I was very glad to have this brought before the Association. I think the argument is in favor of the selection of myomectomy as against hysterectomy in suitable cases, that is, young women. Concerning the choice of the method I am not of the opinion of Dr. Goffe. It seems to me that the method which he advocates is more risky and more difficult than the abdominal route. In my own hands the vaginal route has been restricted to small submucous fibroids and small fibroids low down which can be removed without specially invading the uterine cavity. To remove a large tumor from below involves extra risks of infection and more traumatism than when it is done from above. I prefer the abdominal route. This is especially true when the tumor is larger, for then it is difficult to determine whether a myomectomy through the vagina is feasible. This whole subject of abdominal versus vaginal route has been talked over so long that little need be said about it. The greater facility in reaching the field of operation, and the greater certainty of asepsis and control of hemorrhage, are the reasons I prefer the abdominal route. In clean cases, where the proper ligatures have been used, I have seen only two cases of hernia in years. As a matter of fact, we do not see fibroid tumors unless they are causing symptoms. Patients who feel well do not consult a physician; therefore, a tumor existing without symptoms is not brought to the attention of the physician, and intervention usually can not be instituted as early as is desired. In a definite percentage of these cases sarcomatous degeneration has taken place, or a necrosis, myxomatous degeneration or a carcinomatous degeneration, which cause more deaths, many more, than the operation of myomectomy or hysterectomy.

Dr. **G. B. Massey**, Philadelphia.—If we are prejudiced in favor of one method of treatment our patient does not get what she pays for. We should give every case our careful, unprejudiced consideration in order to determine what method is the best to use in that particular case. I notice that professionalism in surgical opinion is very marked in these discussions, and I have also noticed an absence of it on the part of the same surgeons when the question referred to members of their own families. I was glad to notice the proper mention of electrical treatment by Dr. Boldt in his paper. Not every city in this country has been as alive to the advantages of electrotherapeutics as has New York. But Dr. Boldt does not go as far as he should. If I may paraphrase a remark made by a previous speaker; as surely as I am standing on this pier, so surely do I know of cases of fibroid tumors of large size, in fact, as large as my head that have disappeared. Now as to the so-called degeneration of fibroids into malignant growths, I think, in the light of our present knowledge, we should not call these degenerations. It is practically conceded at the present time that all cancers and sarcomas are infections, and we should therefore say infections instead of degeneration. The distinction is important, for it greatly lessens the necessary relation between the benign and malignant processes.

Dr. **J. Riddle Goffe**, New York City, closing the discussion—I do not mean to imply that my method is the only method; it is one method, and I think a superior one. The gentlemen who have discussed the paper are all right. I would do a laparotomy in case of a large fibroid extending into the abdominal cavity, and a vaginal myomectomy in a small fibroid. We must select our cases. In regard to the preference of vaginal over abdominal work I must insist upon its superiority because of the frequency and danger of ventral hernia following laparotomy. Dr. Noble flatters himself that he sees every case of abdominal hernia that occurs after his operation. I do not believe any operator sees the majority of the hernias following his laparotomies; the patient afflicted with a ventral hernia as a rule does not go back to the original operator believing it to be the operator's fault; she will go elsewhere; we see some of our hernias but not all of them, by any means.

In regard to the myomas gradually fading off into the tissues, and involving the larger portion of the uterus, that occurs occasionally and they are the cases in which hysterectomy is indicated. One point I made is important. Dr. Price criticises myomectomy as not insuring the removal of all of the tumors, and I admit that, but as I said in my paper, if you remove all that are discoverable and restore the uterus to its normal position, restoring thereby its circulation, you go as far as you can to prevent development of incipient foci. Dr. Porter spoke of my doing a vaginal fixation after myomectomy. That is not the idea. I shorten the round ligament inside of the pelvis instead of by the Alexander method.

Dr. **H. J. Boldt**, New York City—In regard to the definite percentage of degenerations, I would not for a moment admit it, because it is inconsistent with facts. There are cases which degenerate, but to say that there is a definite number is wrong. The experience of Dr. Price is not unusual; in operating on a case of fibroid, and on opening the tumor he found cystic degeneration.

In regard to the value of electricity, I only gave it an exceedingly limited field as a therapeutic agent, but for any one to say that it is of no service leads me to think that the observations have not been made as carefully as they might be. A certain number of cases will be symptomatically cured by electricity. It is true we need time to do it, but some patients will certainly be benefited. Dr. Goffe will pardon me if I say a few words on his paper. His words made an impression on me. In my opinion the main trouble in the cases he cited was not so much the neoplasm as the posterior adhesions, and after breaking them up the patients get along well. The greater majority of subserous tumors rarely give rise to any symptoms. The submucous tumors cause symptoms, and they can frequently be removed from below. In the great majority of instances where we have interstitial myomata the indications for the vaginal operation do not exist.

THE VALUE OF THIS SECTION'S WORK AND HOW TO ADVANCE IT.*

EDWIN ROSENTHAL, M.D.

PHILADELPHIA.

I was so deeply grateful for the honor done me, when I was chosen your chairman, that I promised myself, whatever work I might undertake, it should not only meet your approbation, but also enlist your interest to that extent as to make the work yours.

The opening of the sessions with an address carries with it a certain reponsibility, for in a measure, I am but the spokesman, and my utterances are but yours. Therefore, in presenting the result of my labors, I shall briefly preface my remarks with my reasons for pursuing such a topic.

The By-Laws say that the Chairman of each section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may regard important, and present the same to the Section over which he presides on the first day of its annual session.

It will be my earnest endeavor to merit the confidence you have shown, and I hope the deliberations of our Section may be a credit to us all, and its results prove the title of this address. Not only can my work become yours, but the result of our labors can with equal justice be claimed as belonging to the entire medical profession.

---

*Chairman's Address to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Since pediatrics has become a recognized and distinct branch of medical science, those who have made it their life-work have left a distinct impress upon the general practice of medicine. So valuable has their work been that without these labors many modern discoveries in therapeutics would have remained unknown. And in the general advance that the year has shown the same workers have taken a most prominent part.

Of the many recent advances in medicine not one is as important to the pediatrist and the general practitioner as the clinical use of diphtheria antitoxin. It can be said that to the pediatrist belongs the honor of placing the serum where it justly belongs, and any improvement in its method of preparation, or in its use, should be investigated with more than passing interest, and the results should be known, thereby widening its field of application and increasing its life-saving power.

Diphtheria is pre-eminently a disease of childhood, the greatest frequency occurring between the ages of 2 and 10 years, and the proportionate number of cases diminishing very rapidly as the age increases. Its frequency in childhood; its constant presence in the cities of our land; the very accurate knowledge of its character in regard to its etiology, prevention and cure, which have become the common property of the layman; and above all, its being the most deadly and frequent disease that is met with by the pediatrist and the active practitioner, can be considered as prominent factors for its consideration in this address.

INVESTIGATING THE SUBJECT OF DIPHTHERIA.

Beginning my work, I found that during the year, various questions had arisen which were vital to the standing of antitoxin as a remedy in diphtheria, and to the users, if they be members of this Association or subscribers to the "Code of Ethics:" 1. The original discoverer of the antitoxin had obtained a patent for his product. 2. That at the Pharmacopeial Convention at Washington, the question of having a certain "test" embodied in the next revision of the United States Pharmacopeia had been voted down, thereby making the remedy uncertain, and instead of offering an inducement for the further improvement of its physical character, had permitted the chance of inferior products taking the same standing as the best, thereby lowering the standard of all. This question, however, is still open, hence a factor for further investigation by myself.[1]

COLLECTIVE INVESTIGATION BY OTHER SOCIETIES.

Antitoxin owes its present standing to the honest investigations of the pediatrist. Whilst many reports were received from numerous independent workers, and discussions were frequent in medical associations, no substantial results were obtained until collective investigations showed the truth or falseness of its specific value. The investigations are still too new, and their value is too well known, for me to repeat them, but they are sufficient to show me that such work was of the greatest importance, and in a measure gave me a method to further pursue my work.

OBJECT OF MY INVESTIGATION.

As there appears a certain reason that antitoxin should receive a thorough and complete investigation, and as this reason was not alone the clinical value of the remedy but also its ethical standing. I thought it proper to pursue my work in both directions, and not confine myself to the users of the serum, but to include its makers as well.

For the purpose of demonstrating the value of the remedy and to find out if it still retained the same virtues as at its beginning, early in January of this year I addressed the following communication to some 4000 teachers and leaders in medicine in this and other countries:

> *Dear Doctor:*—Will you kindly report, at the earliest possible moment, on the experience you have had in the treatment of diphtheria, with and without diphtheria antitoxin? If you can give me the number of cases of diphtheria treated by you without antitoxin, and the number of cases treated with antitoxin, with the results, it will be of especial value.
>
> Should you have no record of your cases, will you kindly advise what is your feeling toward the treatment of diphtheria with antitoxin?
>
> If you have any items of particular interest in your experience in the treatment of diphtheria (with or without antitoxin), I shall consider it a personal favor if you will report to me in full.
>
> It is my purpose to read a paper at the meeting of the American Medical Association, and I am asking the information from you since it will be of material assistance in securing data for my paper.
>
> Have you any preference as to what make of antitoxin to employ? Very truly yours.
>
> Edwin Rosenthal.

Briefly, I wished to obtain information as to the following:

1, what is the protective or immunizing value of diphtheria antitoxin; 2, what have been the results in general (private) practice with it; 3, what influence has the antitoxin exerted on the mortality records. The unanimity of evidence obtained regarding the value of antitoxin has been most remarkable. I shall not attempt to give full data from the replies, but will briefly summarize.

VALUE OF IMMUNIZATION.

I received many reprints and direct communications upon this question alone, and the consensus of opinion can be summarized thus: Antitoxin prevents diphtheria: if given early enough and in sufficient dosage, it prevents the appearance of the disease. If the serum be given as an immunizing agent, and in doses insufficient, it will modify, that is, prevent a graver manifestation of, the malady. If immunization be practiced, and the dosage be insufficient, that is, the disease manifests itself, it permits the application of a remedial dose, thereby preventing a more serous type. The statistical evidences were both pertinent and numerous; fol. 253, New York Health Department was most characteristic.

A very practical point brought out was the dosage. This was somewhat larger than we were led to believe. Five hundred units should be the dose, except in cases that have been exposed for a number of days or where the vitality or strength is seriously impaired, and natural immunity consequently nil. In such cases, irrespective of age, from 750 to 1000 units is a more certain prophylactic.

RESULTS IN GENERAL PRACTICE.

I was deeply impressed in receiving letters from physicians who have passed through serious epidemics of diphtheria, and know from practical personal experience the changes brought about since the advent of antitoxin. I may add that some of my correspondents have given information regarding other plans of treatment with results, and that if a complete compilation were made, the general result would be so conspicuously in the favor of the antitoxin, that its simple repetition would suffice. My replies were of three kinds: One set I should class as consultants, teachers or writers on this subject; the second set were from active family doctors, and the third were from those connected with hospitals or other institutions in which diphtheria was treated. As the first and last class could not in truth answer the question as above, I gleaned from the mass, only those whom I deemed answered my purpose, to wit, the active practitioners, and present the result as follows:

---

[1] See letter from Parke, Davis & Co., from whose reply I obtained the knowledge.

Total number of physicians reporting.......673
Number favorable to antitoxin.............622
Number expressing no opinion.............. 26
Number opposed to antitoxin.............. 5

ANTITOXIN CASES.

Total number of cases of diphtheria reported......12,375
Recoveries 11,727
Percentage of mortality, 5.23.
Number of cases reported without specifying serum..5191
Recoveries 4897
Percentage of mortality, 5.28.
Number of cases reported with serum prepared by Parke, Davis & Co. 753
Recoveries 699
Percentage of mortality, 7.15.
Number of cases reported with serum prepared by Mulford & Co............................. 6325
Recoveries 6065
Percentage of mortality, 4.11.
Number of cases reported with serum prepared by Behring, Aronson, Roux, and various boards of health 106
Recoveries 96
Percentage of mortality, 9.5.

These results as just given are perhaps a repetition of what is now so universally known. This, however, teaches us that the antitoxin still retains its position, and that the results now are not different from what they were at the beginning. I might add that some of my replies were simply a sentence placed at the end of my letter of inquiry, short and to the point. An example of many is as follows: "No question for further debate; its position is settled."

THE INFLUENCE ON THE MORTALITY RECORDS.

To obtain accurate information upon this point, I called to my aid every health officer in American cities having an organized bureau of health as well as hospitals for contagious diseases and pest-houses. I also wrote to foreign countries, and to such institutions or individuals as I had learned of in my readings or otherwise. The following letter was sent to each:

> *Dear Doctor:*—Will you kindly furnish me with the number of cases of diphtheria and the mortality of the disease from 1885 till 1899, inclusive? If you do not have the statistics for each year, kindly furnish the years for which statistics are available. Should you have no record of the cases, will you kindly advise, from your experience, what value you consider antitoxin possesses?
>
> If you have any items of particular interest in your experience in the treatment of diphtheria (with or without antitoxin), I shall consider it a personal favor if you will report to me in full.
>
> Have you any preference as to what form of antitoxin to employ?
>
> My object in writing you is to secure positive and accurate information upon the treatment of diphtheria, with and without antitoxin, as it is my purpose to read a paper before the coming meeting of the American Medical Association, and your data will be of great benefit to me if you will kindly furnish it.
>
> Very truly yours, Edwin Rosenthal.

One hundred and fifty-seven cities replied. A summary reveals the following figures:

Number of cases previous to the serum period. 183,256
With a mortality of 38.4 per cent.
Number of cases since the antitoxin period... 132,548
With a mortality of 14.6 per cent.

The latter were not all treated with serum; in computing those cases treated with the serum alone the mortality was 9.8 per cent. A very characteristic reply, I append. It comes from Basel, and was sent me by Prof. E. Hagenbach-Burckhardt, and was translated by himself, and is so clear and concise that it is self-explanatory:

Year.	Without serum		With serum		Total.
	Cured.	Died.	Cured.	Died.	
1888	22	9	..	..	31
1889	20	18	..	..	38
1890	14	17	..	..	31
1891	20	11	..	..	31
1892	18	14	..	..	32
1893	20	17	..	..	37
1894	20	10	3	2	35
1895	..	2	87	17	106
1896	..	..	54	15	69
1897	..	1	48	3	52
1898	1	..	52	4	57
Total	135	99	244	41	519

Others were quite as complete, and were instructive to us, as showing how quickly such statistics could be obtained, and how the foreigners assist the authorities by keeping accurate records. France, Italy, Germany and Hungary were the most accurate, and I may especially mention the work of Egidi in Rome, Trumpp in Munich, and Bokay in Budapest as among the most prominent factors in the statistical study of diphtheria abroad. Another very pertinent and withal useful fact I obtained from my foreign correspondents and that was, that the unfavorable "serum" symptoms first noted in the use of the remedy, such as joint pains or swellings and urticarial rashes were not so frequently seen, and that latterly they were disappearing, so that an utter absence of all unfavorable manifestations of the remedy was to be expected in the future.

Of the method of using the antitoxin, the summary shows the following as the latest conclusions: When called in the early stages of the disease, and the symptoms are favorable, never administer less than 1500 units. Where, however, the "laryngeal" form threatened, it is never advisable to employ less than 2000 units. Should the type of the disease be severe, 2000 units should be the minimum commencing dose, and if of the laryngeal form, 3000 units should be the commencing dose. In every instance where favorable action does not manifest itself in 6 to 10 hours, a second injection should be made of double the number of units of the primary injection.

To what quantity can the antitoxin be used? Dr. Rosa Engelmann in her reply adds: "Would say, further, that I now use much larger initial and subsequent curative doses. I recently used 20,000 units in 7 days in one case." I was pleased to learn from this that others used large doses besides myself.

THE ETHICAL STANDING OF THE ANTITOXIN.

As the question of the antitoxin being patented by one of the originators has been the subject of journalistic discussion, much to the ethical standing of the remedy, I was prompted to investigate this point by writing to the most prominent manufacturers in this country, briefly stating my desire to have the question of "Ethics" brought prominently before this Section, prefacing my letter by my reasons for writing, and adding that, we, who belong to the American Medical Association and subscribe to the "Code of Ethics," could not in honor use any drug that carried with it the taint of fraud. The following letter was sent to each:

Gentlemen:—In my address before the Section on Diseases of Children of the American Medical Association, I wish to place antitoxin upon the same footing as any other well-known remedy, and by this address I wish to have the indorsement of my Section, so that it should be placed in the United States Pharmacopeia.

For the purpose of showing its value from the standpoint of the physician, I have written, and have received replies from almost every well-known user of the remedy, in this and other countries. Through these I wish to show:

1. Its influence as a specific in diphtheria.
2. Its influence on the mortality records.
3. Its influence as an immunizing agent.

Now since a question has arisen regarding a "patent" and as it is essential for any one connected with the American Medical Association, or who subscribes to the "Code of Ethics," to reject any remedy whose name can be questioned, I wish to have the opinion of the manufacturers regarding the ethical standing of this drug. Will you, therefore, as a manufacturer, reply to the following questions, and in doing so, in such a manner that will be concise, and in such shape that I can append your reply to my thesis:

1. Have you any copyright, patent, or secret in the name "diphtheria antitoxin?"
2. Do you place any secret on the method of its preparation?
3. Commercially, you place it, as any well-known alkaloid —quinin or the like—the value of the remedy depending upon the reputation of the manufacturer, and sell it only through the ethical markets of the world.

I received a most satisfactory reply from each, and I can do no better than read here the replies. The first was from H. K. Mulford Company, and is as follows:

Dr. Edwin Rosenthal, Chairman, Etc.:

Dear Doctor:—In reply to your communication of the 22d inst. we advise that our methods for the preparation of antitoxin are, at all times, open to members of the medical profession. As a matter of fact, we cordially invite physicians and health authorities to visit our laboratories and thoroughly acquaint themselves with the methods by which diphtheria antitoxin and our various products are prepared.

We do not, nor have we ever attempted to secure a copyright, patent or trade-mark for diphtheria antitoxin; there is no secret in its method of manufacture or preparation, which is upon a higher plane even than the manufacture of chemical and pharmaceutical products, because we prove, by our standard of testing, the exact number of antitoxin units—immunizing or protective value) that each c.c. of serum contains.

Antitoxin is supplied to physicians and druggists, and we introduced the custom of protecting the product by allowing physicians and druggists to exchange for a fresh supply any lot of antitoxin not used within the time specified on each label. In addition to this we have established the system of absolute standardization of strength, giving the number of units to each c.c. of serum, as well as the aggregate number of units contained in each package.

In this connection we desire to extend to you personally, and to the members of your Section, as well as to the members of the American Medical Association, a most cordial invitation to visit our laboratories and acquaint yourselves with the methods of preparation, not only of antitoxin, but also of vaccin and our pharmaceutical products.

Your are entitled to special thanks, not only by the members of your Section and the American Medical Association, but by all physicians, for the efforts you are making to secure absolutely reliable reports concerning the value of diphtheria antitoxin and its influence upon the mortality rate.

Very truly yours, H. K. Mulford Company,
H. K. Mulford, Vice-President.

The second letter was from the firm of Parke, Davis and Company of Detroit, and is as follows:

Dr. Edwin Rosenthal, Chairman, Etc.:

Dear Sir:—We have the honor to acknowledge receipt of your favor of the 22d inst., raising certain questions with regard to the ethical character of antidiphtheritic serum, and it gives us much pleasure to return an unequivocal answer to each of your inquiries.

1. We have no copyright, patent, nor secret protection in conjunction with the name "diphtheria antitoxin." From the time when we began producing and marketing the serum our product has been entitled Anti-Diphtheritic Serum. This is a scientific and descriptive appellation, strictly in harmony with the rules of rational nomenclature, and any producer of diphtheria antitoxin is free to use it.

2. We have no secrets in our methods of producing and testing antitoxin. We have repeatedly published the details of our work, and they are, moreover, open to the personal inspection of any reputable pharmacist or physician.

3. To your third question we unhesitatingly reply in the affirmative. We market our antidiphtheritic serum precisely as we exploit quinin or any other of the well-known alkaloids.

The only protection of any kind or character which we enjoy —and even this is in no sense proprietary—accrues to us from the presence of our name on the labels of the vials which emanate from our laboratory.

We sympathize warmly with your wish to have antitoxin placed upon the same footing as any other well-known remedy, and, without caring who knows it, we affirm that in our judgment the recent Pharmacopeial Convention at Washington made a mistake when it voted down the proposition to have a test for antidiphtheritic serum embodied in the next revision of the United States Pharmacopeia. We yet hope that the license and latitude accorded the revision committee of twenty-five, who are the real authors of the pharmacopeia, will prompt them to adopt and publish an official test for diphtheria antitoxin. We need hardly explain to you that such action on the part of the revision committee is of no selfish or commercial interest whatsoever to the manufacturing houses. From the sordid and commercial view-point the manufacturer of antitoxin need not care a fig whether the serum is adopted by or excluded from the Pharmacopeia. But every honorable house which aspires to be something more than a huckster of medicinal products exhibits at least some concern for the interests of medicine, science and humanity, and it is this consideration which pleads powerfully for such a test in the Pharmacopeia as shall define with precision the meaning of the word "unit," and as shall tend to shield profession and public from the disaster of an inferior or impotent serum.

Pray command us freely if we can give you any further information, and believe us, Very sincerely yours,

Parke, Davis & Co.

From the latter letter you can well understand the value of the thorough safeguards that should be thrown around the remedy, and how necessary it is that its remedial character should be above reproach. Receiving this information you can well understand why I undertook the task just closed, the reasons and the results I wish for.

The history of antitoxin is inseparably connected with pediatrics. To the fearless and scientific labors of the pioneers were due the first tests undertaken, and through the collective investigations of the associations was the true position assured. Surely, it still belongs to the pediatrist to see that no injustice be done either to the drug, or its makers; and the question of its admission with all the tests necessary, to the pharmacopeias of the world should enlist the support of all.

REASONS OF THIS COLLECTIVE INVESTIGATION AND ITS OBJECT.

That there still exist physicians whose knowledge of the progress of medicine is in abeyance, and whose position in our midst is a factor of much harm, makes the question of placing antitoxin on our list of remedies—like quinin or the various alkaloids—a very pertinent one. It is not necessary for the progressive, honest and ever-seeking doctor to be told the virtues of any new drug; for he is always on the lookout for all that aids him. But for the slow, undecided and unbelieving one, it is a very essential thing to place good remedies within his reach. The practitioner whose only progress is the United States Pharmacopeia should be assisted in his search for knowledge; and with this in view, our help can not be otherwise than in the right.

In the preparation of the scientific program, I was very much elated at the strides that pediatrics had made in the last decade. It has grown to such dimensions that it is now capable of specialization. Having this in view it has been my pleasure, with the assistance of our good and very obliging secretary, to go over the field thoroughly, and to invite, for our benefit, such pediatrists as had made certain diseases their special study. Nor did we limit ourselves to our own knowledge, but asked the assistance of those we knew, and thus completed each group by the addition of well-known authorities residing in other countries. The result of our labors we present to you in the form of our program, which we have divided into sessions, so combining the workers as to make a happy whole. To-day we have a sesion devoted to the consideration of the feeble-minded and we have specialists to address us who have devoted their lives to this work. To-morrow morning we take up the consideration of infant-feeding; in this group we have not only included the masters in the art of artificial feeding of the infant, but we shall have with us one of the foremost chemists and bacteriologists in the land, the discoverer of the poisons in the milk. In the afternoon we shall consider contagious diseases, and following out our plan of seeking the original workers in this field, we shall have Koplik—whose work in measles is so intimately connected with his name—with an original paper on rötheln; and Schamberg, with a paper on an entirely new investigation in scarlatina; whilst we have invited well-known authors for the discussion. On Thursday morning diseases of the blood and the circulation will have our attention: while in the afternoon the session will be devoted to the consideration of school children. To this session I have invited some well-known educators, as well as physicians who have devoted their time to special studies in this direction—Lautenbach on the ear, Fenton on the eye—for the discussion; while Dr. Spiegle, as physician to the Girls' Normal School in Philadelphia, will read a paper of distinctive interest to us all. Friday we have left for surgical subjects; and following closely the same general plan, our work will close with Dr. Valentine's paper on circumcision, an operation the technique of which is his own, and which is now connected with his name. Hence we may call his an original subject. With such a program as this, surely all will be satisfied, and it may be taken as a distinctive proof of progress that in this Section there is a feeling that one of our members should be appointed to deliver the yearly oration.

There is one point that is demonstrated by this program, and that is, the amount of labor and care such work entails. Even with all this work, the desired result—the universal interest and presence of all the members—may not be obtained. If the meetings be not well attended, then must we say our result is not satisfactory. For this reason, and because I have twice had the experience in getting up a program for this Section, my thoughts were again recalled to the By-laws of the Association, and the chairman's duties.

NEXT YEAR'S PROGRAM—TYPHOID FEVER.

A duty reposed in the chairman besides this address is to advise, to suggest an improvement in our method of work. I have given this my long and earnest thought, and have concluded that to keep the interest of the Section constant is to suggest such work as would become the purpose of the members, and would result in the greatest value, not only to the Section, but to the whole profession, and require the personal interest of all. Such an object as this I must confess is not new, as witness the collective investigation of other associations, but its application to our Section has never been attempted, and its trial for the new chairman and the next meeting should greatly add to the interest of a coming meeting and invite the attention of all. I would suggest that at this meeting the Fellows should adopt the investigation of a disease or its treatment, and the chairman should appoint—or it may be the pleasure of the Section so to elect—a number who shall become the committee, and who by collective means, as well as by personal investigation, shall present at the next meeting the result of a year's work. The work with which one is most familiar is the work about which he can best speak A chairman naturally imbues such advice with a reflection of his personality. The application of remedies for an expectant or specific effect is the natural sequence of diagnostic skill. If one becomes a master in the art of diagnosis, he should equally bend his thoughts and apply his capabilities for the relief or cure of what he sees. New treatments and new remedies are always successful in the hands of one who first advised or originated. When, however, a remedy becomes universally successful its standing is assured; it ceases to be grouped amongst the expectants, and becomes a specific, and as such should receive an honorable place in our therapy. Antitoxin has passed through all the stages and now ceases to be debatable. Diphtheria has lost its terrors, and has become a preventable as well as a curable malady. As it was mainly due to the pediatrist to present such results, it is natural for the world to look upon any work thus undertaken with more than passing interest and to keep up the reputation thus gained, the work can not be otherwise than of the highest order. With the reflection of our past work let us take up our future work with the same desire, and turn our thought to another disease that, equally with diphtheria, has received the attention of the layman. I have reference to typhoid fever, a disease, the presence or absence of which from any community is a criterion of that city's culture, civilization, and I might add, its political purity. Its presence shows not only the ignorance of the powers that be, but the negligence of the responsible ones. To the sanitarian its presence causes shame, and its absence brings pride. We owe—among other blessings— to the bacteriologist the knowledge of its causative factor, and equally to him the knowledge of its prevention. As the knowledge is so universal that is is a "water-borne" disease, it should be a badge of shame for any board of health to order the rule, "Boil your drinking water." I unfortunately reside where the powers that be are callous to the cry of the people, and the slaughter of the innocents goes on. We, as a representative body, can not prevent, or even seek to do so—for, strange as it may seem, if we try to prevent or wish to alter these causal conditions, our purpose is looked upon as mercenary, and our object personal gain—we can only hope to stay its ravages when it appears. As this disease, with such constant dangers, and beset with such numerous complications, always exists in a community, our purpose to study its treatment and to present the one that will give most promise of good will of a certainty receive universal commendation.

It appears to be a mistaken belief that typhoid fever in children is of a milder type than that in the adult, and that the prognosis is invariably better. Probably for this reason so very much has been written about the treatment as to add only to the confusion and disappointment. If we, as a body, can for our task take up the treatment that can give the best promise of success, and show the truth or falsity of each, our work will be of the greatest value. It should not be forgotten that the opportunities that many of us have are greater in proportion to what fortune has given to others, and the work that the best versed in treatment presents is quickly taken up by the less fortunate of his brothers. For this reason our work will be watched for and followed, and if of value, the commendation given us will be sufficient payment.

For the purpose of merely giving an outline of how the work should be pursued, I present my methods, in preparing the earlier part of this address. In collective investigations each one takes a part. The work belongs not alone to the one that undertakes, but to the one that assists as well.

Typhoid fever has been investigated by many associations, but in their work they have taken up the disease as a whole, and have not specialized. Naturally, the subject is so large that their influence is not so far-reaching as it would be if but a certain part were considered. Note, diphtheria, for example. The collective investigation on the subject of scurvy gave extraordinarily good results as regards infant-feeding, and cleared up the probable causative origin. As examples of this mode of preparing a program, I need but point to the last meeting of the New York State Medical Association, the sixteenth annual meeting. A whole session was devoted to the consideration of typhoid fever.

The treatment of typhoid fever in children should resolve itself into two main questions: 1. Is there any specific method of treatment? 2. Should the treatment be symptomatic only? Specific treatment is the one that will naturally give the most interest, and may be divided into: 1. The so-called antiseptic treatment; 2. the so-named abortive treatment known as *a*, the Woodbridge, *b*, the Viskolein, *c*, the serum treatment, *d*. the nuclein solution and cupric arsenite. 3. The use of the so-called antipyretics of coal-tar derivation, as antipyrin and thermol.

The symptomatic treatment can be studied by the Brand method or any of its modifications, the use of drugs, or the use of water internally, as the Vichy, bitter waters, Apollinaris waters, Apenta and the like.

The outline of a task for others to follow is very simple, but may not find favor with those who wish to pursue it, so that if such a program as this be the order of the new chairman, it should be left to him to choose the method most suitable, most convenient, and, in his opinion, concise. Furthermore, no restrictions should be placed upon the means employed; the object to be attained is sufficient. Work in this direction, especially with remedies supposed to have specific value, is always of vital interest, and always receives the attention it deserves. I ask you all to kindly read the *Pennsylvania Medical Journal* for April of this year, and note the work of Dr. J. C. Wilson, on the treatment of typhoid fever, presented before the Medical Society of the State of Pennsylvania. Such honest work as this, even if the results be negative, always receives the thanks, not only of the workers in our midst, but of all, and should spur us on to greater effort.

The chairman of the Section can allot a special session, and choose from our midst those who by training and experience are the better judges. We need not go out of our Section for this. We have Morse, Griffith, Tuley, Cotton, Wilson, Graham, Northrup, Vaughan, and so many that a repetition would be telling a list of members. From these the chairman can name a committee, if you like, to whom we all can report. They should be the ones to discuss the subject at the next meeting, and their time should be unlimited, and their report should be the report of the Section.

Work like this will hold the members together. When we adjourn we do not leave with the idea that our work is finished for the time or until we are called together again. But the work goes on and the existence of the Section continues. The interest is kept going, not being confined to the officers alone, but each member knows and feels that he is taking part. A letter of inquiry can be sent to each, with the remark that the final report should be sent in time to be collated. If by such work as this we can claim the saving of one life, then we can prove to the world the necessity for our existence, and our labors will not have been in vain.

517 Pine Street.

BIBLIOGRAPHY.

1. Tuley, Henry E.: Progress in Pediatrics, Transactions of the Section on Diseases of Children for 1899.

2. Griffith, J. P. Crozer: The Rise, Progress, and Present Needs of Pediatrics. Transactions Section on Diseases of Children, 1898.

3. Jerowitz, H. D.: Observations in Diphtheria. Ibid.

4. McClanahan, H. M.: Indications for Intubation. Ibid.

5. Waxham, F. E.: Intubation for Diphtheritic Croup. Ibid., Sajous' Annual. Vol. iv.

6. McAlister, A.: Diphtheria as Viewed by the General Practitioner. The Journal.

7. Galatti, Demetrio: Ueber Narbenstricturen nach Intubation. Vienna, 1896.

8. Ibid.: Intubation chez l'enfant, April, 1900.

9. Ibid.: Contribution l'Anatomie du Larynx chez l'Enfant, La Parole. 1899.

10. Escat, M. E.: La Pratiuqe du Tubage, etc. Presse Médicale, Sept., 1899.

11. Renou, J.: La Diphtherie. Paris. 1899.

12. Caille, Augustus: The Modern Management of Diphtheria and Croup Cases. The Post-Graduate, 1897.

13. von Bokay, Johann: Gedenkrede über Dr. Joseph O'Dwyer. Jahrb. f. Kinderheilk., 1900.

14. Reports of the State Board of Health for Elgan, Boston.

15. Jacobi, A.: The Therapeutics of Diphtheria. Proceedings of the Philadelphia County Medical Society, Vol. ix, 1888.

16. Leopoldstaedter Kinderspitales Jahrbericht. 1894-5-6-7-8-9. Vienna.

17. Rauchfuss: Die Andwendung Diphtherieheilserums in Russland. Extract—The Proceedings of the 12th International Congress.

18. Poliewetow: The Report of Diphtheria Antitoxin in Russia, 1897-1898. Moscow.

19. Mayor's Message: Elgin, Ill., 1897.

20. Twenty-seventh Yearly Report of the Leopold Hospital of Children. Vienna, 1900.

21. Adams, E. P.: The Antidiphtheria Serum, as a Prophylaxis in Diphtheria, Diet, and Hygien. Gazette, Feb., 1900.

22. Caille, Augustus: The Modern Management of Diphtheria and Croup Cases. Reprinted from The Post-Graduate, October, 1897.

23. Escherich, Th.: Resultat der Heilserumtherapie auf der Diphtheriestation des Anna-Kinderspitales in Graz. Wien, 1898.

24. Egidi, E.: Le Sieroterapia nella difterite. Rome.

25. Ibid.: Stenosi Laringee, Tracheotomie, Intubazione, etc. Rome.

26. Trumpp, Jos.: Behandlung von Larynxstenosen mittelst der Intubation. 1900.

27. Engelmann, Rosa: Analysis of 100 Cases of Laryngeal Diphtheria. Chicago.

28. The Dosage of Diphtheria Antitoxin, etc., Phila. Med. Journal, April 9. 1898.

29. Johns, Jacob R.: Clinical Diphtheria, etc. Phila. Med. Journal, Monthly, 1899.

30. Program N. Y. State Medical Association, April, 1900.

31. Penn. Medical Journal, April, 1900.
32. Brochure, H. K. Mulford Company, 1900.
33. Brochure, Parke Davis & Company, 1900.
34. Authors' papers, The Medical Bulletin, September and October, 1895.
35. Journal of Scientific Medicine, January, 1900.
36. Fischer, Louis: Dry Antitoxin. Also various letters and reprints, reports of hospitals, etc., in this and foreign countries. *America.*—Drs. Jacobi, Northrup, Campbell, White, Dillon, Brown, Henry, Koplik, Evans, Francis, Huber, Melzer, McNaughton, Pusey, Waxham, Park, Biggs, Welsh, etc.
Foreign.—Bokay, Torday, Trumpp, Baginsky, Biedert, Czerny, Fischl, Franz, Fruchwald, Galati, Ganghoftner, Monti, Loos, Unterholzner, v. Widerhofer, G. Gomba, Goncetti, Egidi, Mya, Renou, G. Variot, M. E. Escat, Rauchfuss, Pollewctow, Filatow, Prof. Hagenbach-Burckhardt (his statistics fully reported), Wyss, Taub, Ranke, Heubner, Reinach, Seifert, Soltmann, Biedert, etc.

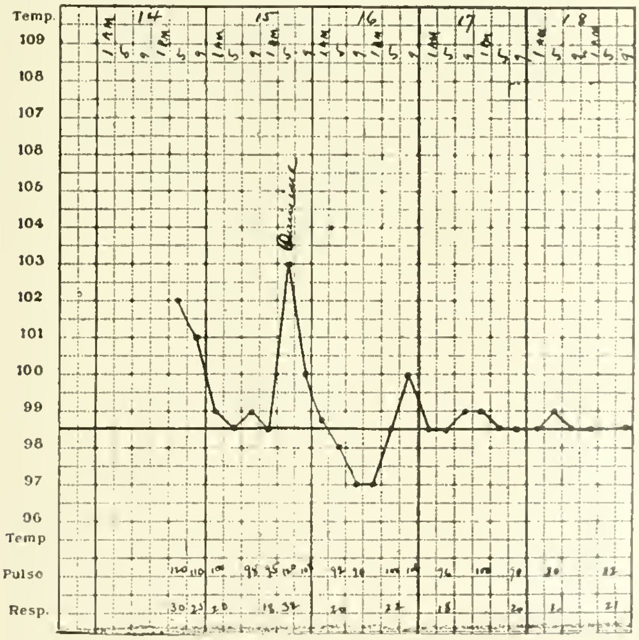
FOUR CASES OF MALARIA ASSOCIATED WITH ACUTE ABDOMINAL PAIN.*

JOSEPH A. CAPPS, M.D.
Instructor in Medicine, Rush Medical College.
CHICAGO.

For the privilege of reporting the following cases from the wards of the Massachusetts General Hospital, I am indebted to Dr. E. S. Cutler, of the visiting staff.

Case 1.—A married woman of 25 years, living in Arlington, Mass., entered the hospital July 14, 1896. Her father died of pulmonary tuberculosis. Catamenia was always normal. She has one healthy child. Until recently her health had been excellent, with no history of malarial fever nor any of pelvic disease.

For three weeks she had not felt as well as usual, and for ten days had suffered from malaise, headache, occasional vomiting, chilly feelings and backache. During the preceding five days she had been confined to bed with daily fever. Two days before admission, upon attempting to walk, she was taken with a chill and vomiting, accompanied by severe pain in the lower abdomen. Since then all food had caused a sense of fulness and soreness in the epigastrium. On the afternoon before admission she had fever, but no distinct chill. She complained also of sleeplessness, loss of appetite and chronic constipation.



Case 1.—Malaria, double tertian.

Blood: Hemoglobin, 70 per cent.; reds, 4,100,000; whites, 5800.

The patient was sent to the hospital for surgical interference with the diagnosis of acute salpingitis.

The physical examination showed a body well developed and nourished, face pale, tongue moist and clean, pulse rapid and of low tension. On the upper lip were several herpes vesicles. The lungs were normal. Over the base and apex of the heart a soft systolic murmur was heard and was not transmitted to the axilla. The spleen was palpable and its area of dulness enlarged. There was no especial tenderness of the abdomen to pressure. By vaginal examination the uterus was found retroverted and on the left side there was a slight resistance and tenderness. The urine was normal and failed to give the diazo-reaction. In the evening the temperature reached 102 F., pulse 20, respiration, 30.

No actual chill occurred on the first day, but the blood drawn at the height of the fever showed a few plasmodia malariæ. The organisms were all intracellular, and contained fine pigment granules in active motion. The hemoglobin was 70 per cent., red corpuscles 4,100,000, white corpuscles 5800.

At 3 p.m. the next day she had a chill, followed by vomiting, sweating and a temperature of 103 F. During the paroxysm and for several hours afterward there was severe abdominal pain, not sharply localized. Again the plasmodia were seen in the blood and twenty grains of quinin were given in four divided doses every half hour. The fever fell and the pain gradually died away. No recurrence of headache, chill, fever, nor abdominal pain took place, and on July 29 she was discharged well.

The daily intermittent fever and the type of organism demonstrated this to be a case of double tertian malarial infection. The pain came on with vomiting during a paroxysm and persisted for several hours afterward. As to localization, the pain was referred at first to the lower abdomen, then to the epigastrium, later to the whole abdomen.

Case 2.—A widow, 31 years of age, admitted July 16, 1896. Her father and brother died of phthisis. Seven years ago while living in Hyde Park, Mass., she had malaria. For a year she had been subject to indigestion, and eight months before vomited about a teaspoonful of bright blood.

The present illness began three weeks previously with headache and frequent vomiting, which for the last ten days had been daily symptoms. For six days she had been in bed because of weakness, frontal headache, vomiting, fever and pain in the epigastrium. Four days before entrance these symptoms became more pronounced, especially the epigastric pain, which lasted all day and required morphia. That afternoon a chill came on, followed by sweating, fever and vomiting. The following day she had no chill, but the epigastric pain and headache continued. Two days previous to admission she was taken with a chill, followed by fever, sweating and abdominal pain. The next day there was no chill and no discomfort aside from the persistent pain in the upper abdomen. On the morning of the day of entrance she was delirious, had headache, vomiting and cutting pains in the epigastrium, and at 10 a.m. a chill, succeeded by fever and sweating.

On acount of the acute abdominal symptoms she was brought to the hospital by her physician as a surgical emergency, the provisional diagnosis being either gallstone colic or gastric ulcer with perforation.

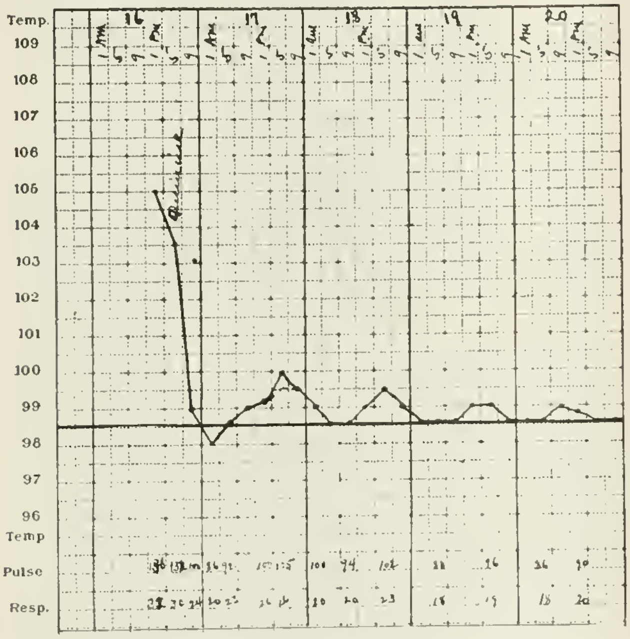
Upon examination she was found to be in good flesh, dark skinned with a yellowish tinge to the sclerotics. The knees were drawn up as if from pain. Nothing abnormal was found in the heart and lungs. The edge of the spleen was felt. Over the epigastrium there was great tenderness to pressure, which was not localized to one spot; otherwise the abdomen was negative. At 1 p.m. the temperature was 105 F., pulse 132, respiration 30.

---

*Read at the Chicago Society of Internal Medicine, May 31, 1900.

The blood analysis gave hemoglobin 64 per cent., red corpuscles 3,900,000, and leucocytes 8900 in a cubic mm. This absence of a leucocytosis was such a strong evidence against any acute inflammatory process that a specimen of fresh blood was examined for plasmodia malariæ. A few organisms were found, but only after an hour's search in three different drops. These, however, were typical tertian forms with pigment in active motion.

At once twelve grains of quinin were given in solution, and five-grain doses repeated twice at intervals of an hour. Within two hours of the first dose she became cinchonized, and in three hours was practically free from the pain. The temperature thereafter was normal, except for a rise to 100 F. on the second day. The epigastrium remained somewhat sore and tender for several days, but no real pain returned. After nine days of treatment she was discharged in good condition, although still weak and anemic.



Case 2.—Malaria, tertian.

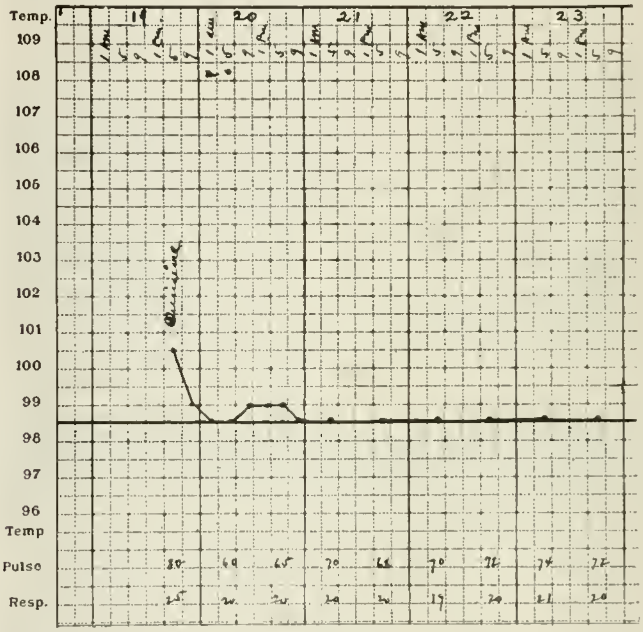
Blood: Hemoglobin, 64 per cent.; reds, 3,900,000; whites, 8900.

In this instance there is no apparent relationship between the vomiting and the pain, since the pain continued with greater severity during the intervals between vomiting attacks. It is to be noted that the seat of pain was invariably the epigastric region.

Case 3.—This was a woman from Brighton, who was admitted July 19, 1896. Two brothers died of "quick consumption." Catamenia as a rule was normal. She had one son living and one dead. When she was last with child menstruation continued the first three months of pregnancy. Her most recent period was of three days' duration, instead of six, as was usual, and at that time several blood-clots of offensive odor were noticed.

Six years ago she was run over by a carriage and her right hip stepped on by a horse. Nearly ten weeks of treatment were necessary before she could walk about again and the right side of the pelvis has always remained a "weak spot." Since an attack of sunstroke five years ago, when unconsciousness lasted seven hours, she had been subject to frontal and occipital headache. Two years ago, after her first confinement, the uterus was prolapsed but was restored to position. From the time of her last confinement, ten months ago, she has been troubled with more or less pain in the right iliac and pelvic regions.

June 17, about one month before admission she had for the first time a chill and fever. Similar attacks came on June 18 and 20, when she began to take daily small doses of quinin. On the 22d another slight chill occurred. After an interval of twelve days, in which quinin was regularly administered in small quantities, she again had a chill with fever following it. No abdominal symptoms were present in any of these attacks. Four days previous to entrance she was compelled to go to bed on acount of cramp-like pains in the lower abdomen and nausea without vomiting. There was no chill nor fever. The next day the pain was more severe, localized in the right iliac region and relieved only by morphia. Intense frontal headache was also present. Two days before entrance she was weak and exhausted from the abdominal pain and fainted away several times. In the afternoon she had a severe chill, frontal headache, vomiting and fever. The day following she was free from all symptoms, save a soreness in the right iliac region. During the day of admission she complained of frontal headache and frequent twinges of abdominal pain and toward evening became chilly and nauseated.



Case 3.—Malaria, tertian.

Blood: Hemoglobin, 62 per cent.; reds, 3,610,000; whites, 5000.

The physical examination showed a delicate, pale, thin woman with a sallow skin. Her expression was one of pain, but not pinched. The thoracic organs appeared normal. The area of splenic dulness was enlarged and the edge of the spleen was felt with some difficulty. The abdomen was tender and resistant over the right iliac region. Vaginal examination revealed a large lacerated cervix and a mass in the left ovarian region, not tender; also a distinct resistance in the right ovarian region with considerable tenderness. The temperature was 100.5 F., pulse 80, respiration 25.

The diagnosis had been made of extra-uterine pregnancy, and like the preceding case, she was brought to the hospital for immediate laparotomy.

That evening a small number of fully developed tertian malarial organisms were found in the blood in active motion. The count of white corpuscles was 5000, red 3,610,000, hemoglobin 62 per cent. Twenty grains of quinin were given in four doses at half-hour intervals.

After this no chill nor fever occurred, while the pain gradually diminished. A week later, however, another severe attack of pain in the abdomen came on, which was greatest in the splenic region and of less degree in the right iliac region. Chilliness accompanied the pain, but no true rigor nor fever. No leucocytosis was present and no parasites were discovered in the blood. A pelvic examination revealed nothing that explained her symptoms. Subsequently under daily treatment with iron and quinin her convalescence was rapid.

January 1, 1897, she wrote that the soreness remained in the right pelvis, but no further chills nor severe attacks of pain had taken place.

In this case there was a chronic underlying condition in the pelvis that probably caused much of the pain, but it was the supervening malarial infection that gave it such an alarming aspect. It would seem that the malarial poison converted a chronic pain and soreness into acute pain, a theory that is borne out by the subsidence of the pain under quinin. Here again the low leucocyte count was of much value in ruling out extra-uterine pregnancy or a fresh pelvic peritonitis. The pain was most intense in the right inguinal region and slight over the spleen. It was not influenced by vomiting.

Case 4.—A woman of 30 years, living in Somerville, entered the hospital August 6, 1896. Her family history was good. For several years she was troubled somewhat with dyspepsia; otherwise her health had been excellent.

Three weeks before admission she was suddenly taken with slight diarrhea and cramp-like pains in the lower abdomen, chiefly on the left side. Soon vomiting came on and continued at frequent intervals for twenty-four hours, when it gradually ceased. The bowels again became regular in a few days, but a dull aching pain persisted in the lower abdomen. On August 3 she had chill, associated with headache and vomiting. On August 5 the same symptoms recurred, but she suffered mostly from the severe abdominal pain, this time localized in the right iliac region. The pain slowly eased up after the paroxysm until another chill came on the following evening with the same acute pain.

This patient was admitted to the hospital as a case of appendicitis.

The physical examination at the time of entrance was negative, except for a moderate degree of tenderness in the lower abdomen, not especially marked over McBurney's point, and for an enlarged area of splenic dulness. The temperature was 103 F., pulse 100, respiration 30. Blood examination: hemoglobin 73 per cent., red corpuscles 3,820,000, white corpuscles 3600. The urine gave the diazo-reaction.

After the chill a few pigmented tertian forms of the plasmodium malariæ in active motion were found in the blood. With the falling temperature five grains of quinin were given and repeated three times at intervals of thirty minutes. Subsequently her temperature remained normal and every symptom disappeared completely. Neither the vomiting nor the diarrhea explains the pain, for it preceded the former and recurred when the bowels were acting normally. Localization was over the lower abdomen, particularly on the right side.

It is to be observed that in all these cases:

1. There were intermittent fever, nausea and vomiting and enlargement of the spleen.

2. There was acute abdominal pain of such intensity that exploratory laparotomy was considered by men of experience.

3. The acute pain subsided along with the fever and with the other symptoms after the administration of quinin.

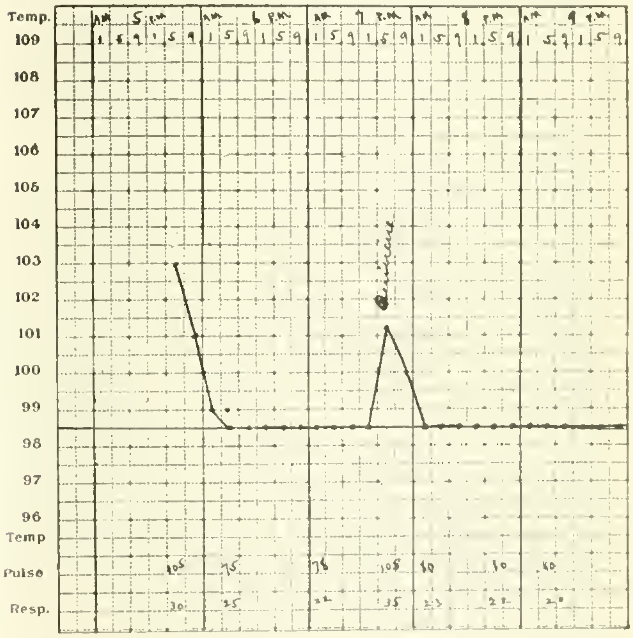
4. Typical intracellular forms of the tertian parasite of malaria with motile pigment granules were present in the peripheral blood, but were never very numerous.

5. Leucocytosis was invariably absent.

6. A considerable degree of anemia existed of the secondary type.

The cause of the abdominal pain was not at first apparent. The explanation does not lie in the vomiting and the incident straining of the abdominal muscles, for the pain often preceded and outlasted the vomiting, and was also present independently. The pain must, therefore, be attributed to: 1, some co-existing disease; 2, a neuralgia from the malarial poison, or 3, both combined.

In two cases local lesions were found that might have caused some pain, but not of such acute character. Moreover, a lighting up of an old pelvic cellulitis or salpingitis sufficient to cause an acute attack of pain, fever and gastro-intestinal disturbance would always produce a leucocytosis, while these cases had counts of 5800 and 5000, respectively, which are even lower than normally.



Case 4.—Malaria, tertian.

Blood: Hemoglobin, 73 per cent.; reds, 3,820,000; whites, 3600.

The chronic disease may be considered in the rôle of a predisposing condition, rendering the part peculiarly susceptible to the malaria poison. The most rational supposition is that the pain is a neuralgia caused by the malaria toxin in the blood.

COMPLICATIONS IN THE NERVOUS SYSTEM IN MALARIA.

Since Laveran's discovery of the specific organism, the tendency has been steadily to decrease and limit the number of complications of malaria, because many affections formerly called malarial do not afford the only final and conclusive proof of the disease, namely, the presence of the parasites in the blood. We have, however, abundant indisputable evidence that the malarial poison directly and indirectly affects the nervous system.

The brain, spinal cord, or peripheral nerves may be involved. Authentic cases of delirium, hemiparesis, monoparesis, aphasic disturbances, symptoms resembling those of multiple sclerosis and ataxia, have been reported, but our subject confines us to complications of the peripheral nerves.

Neuritis and Neuralgia.—Peripheral symptoms may be motor or sensory, the former being rare and appearing in connection with neuritis. Many cases of malarial neuritis are on record, but those in which the organism has been found in the blood are strikingly few. Among the most reliable observers is Glogner,[1] who describes six cases of multiple neuritis, four of which developed during the infection, while the parasites were present in the blood. Similar observations have been made by other authorities, notably Chiarani and Bardanelli[2] in Rome.

Gowers[3] describes multiple neuritis in malarial subjects, attacking chiefly the lower extremities, where the muscles show true degenerative paralysis.

The neuralgias are frequently met with in practice. The usual forms are supraorbital and intercostal, but they may be located in the brachial plexus, musculospiral, crural, sciatic, or sensory nerves supplying the abdominal viscera. Pain in the abdominal nerves is very unusual, but Laveran[4] first pointed out that gastralgia sometimes occurs, referable presumably to the vagus nerve.

Strümpell[5] believes that both cardialgia and enteralgia may be produced by malaria.

According to Thayer[6] very severe attacks of abdominal pain may be associated with a pernicious paroxysm. There is usually profuse vomiting, and not infrequently hematemesis; intestinal symptoms may be quite absent.

Pathology.—Most writers are agreed that neuralgia is more often a sequence of malaria than a complication of the fever. Laveran states that in his observation, the pains almost always exist previous to the chills, and that when they occur in conjunction with malaria, are a result of the associated anemia. He considers that the paralyses are carried by thromboses or emboli in the vessels, made up of plasmodia.[7] Osler finds neuralgias more often from the malarial cachexia than during the fever.[8] The neuralgia, in Gowers' opinion, is not a distinct result of the malarial poison, but due to an anemic and depressed state of the nervous system induced by malaria.

Marchiafava and Bignami question the theory that neuralgia is set up by a localization of the parasites. They assert that sufferers from malaria are apt to have in addition to the fever frequent neuralgias of the supraorbital and other branches of the trigeminal, of the sciatic, crural, intercostal and other nerves, probably as a result of intoxication.

Mannaberg[9] states that no part of the nervous system is exempt from malarial neuralgia and that the pain may be coincident with the paroxysm or follow it.

The neuralgias of malaria may be classified in two groups, the *toxic* and the *post-infective*. The toxic neuralgias come on during the febrile attack, are associated with the presence of plasmodia in the blood and are due to an intoxication with the malarial poison. The post-infective cases are not associated with fever and the presence of parasites, and are the result of anemia and cachexia.

Diagnosis.—The recognition of malarial neuralgia appearing during the febrile period, is comparatively simple. The difficulty is in identifying the post-infective cases. According to Gowers the chief feature of the malarial neuralgia is the periodicity, in intervals between attacks ranging from one to four days. Occasionally there are slight symptoms of an ague fit, a trifling hot and cold stage.[10] Leube considers the most weighty symptoms in the diagnosis are enlargement of the spleen, and chills and fever along with the neuralgia.[11] Neuralgias, whether of the head or stomach, that are quotidian or tertian and yield to quinin, Manson[12] would classify as probably malarial.

As pointed out by Marchiafava and Bignami, however, periodicity of pain and relief by quinin are not sufficient to establish the diagnosis of malaria; the organisms must be seen in the blood. Other neuralgias than malarial may be periodic and may yield to large doses of quinin.

We would lay especial stress on the importance, not only of examining a fresh drop of blood for malaria, but of counting the white corpuscles in all obscure acute abdominal diseases, for not infrequently it furnishes the clue to the diagnosis. Salpinigitis and appendicitis, when at all acute, beginning peritonitis from any cause, and rupture of an extra-uterine pregnancy are usually accompanied by a decided leucocytosis, while malaria and typhoid fever and simple neuralgic pain are characterized by a normal or subnormal number of leucocytes.

The treatment of malarial neuralgia is first the destruction of any parasites in the system by large doses of quinin. When associated with febrile paroxysms the pain usually disappears in a short time unless the fever is of the estivo-autumnal type. The post-infective neuralgias are best combated by giving in addition to quinin some preparation of arsenic or iron to correct the anemia that is nearly always present.

BIBLIOGRAPHY.

1. Virchow's Archiv, cxl, 81.
2. Quoted from Marchiafava and Bignami: Twentieth Century Practice of Medicine. xix, 37.
3. Gowers: Diseases of thè Nervous System.
4. Laveran: Traité des fièvres palustres. Paris, 1891.
5. Strümpell: Text-Book of Medicine.
6. Thayer: Lectures on Malarial Fevers, 1897, p. 154.
7. Loc. cit.
8. Loc. cit.
9. Nothnagel: Specielle Pathologie ind Therapie, 1899, Bd. xi, 303.
10. Loc. cit., p. 368.
11. Leube: Diagnosis der Innere Krankheiten, 1898, ii, 526.
12. Manson: Tropical Diseases, 1898, p. 89.

SOME INCIDENTS IN THE EVOLUTION OF THE MODERN PHYSICIAN.*

WILLIAM ALFRED ELLISTON, M. D.

IPSWICH, ENGLAND.

The president commenced his address with notice of the associations of Ipswich and the deaths of Drs. Stewart and Paget, then passed to the subject of development of British medicine, which was the theme of his address. The early history of medicine in England is that of the Dark Ages; and down to the commencement of the sixteenth century, England had taken no part in the scientific advance of the century, and for almost one hundred years later no discovery of any importance was due to English research. The commencement of British medicine he dates from the return of Thomas Linacre to Oxford from the Italian universities, whence he came imbued with what was termed "new learning."

The great event in the sixteenth century, so far as medicine was concerned. was the success of Linacre in persuading the king to grant a charter to a small body of medical graduates, who were thenceforth called the Royal College of Physicians. He succeeded, it is said, principally through the great and powerful help of Cardinal Wolsey. The charter of the Royal College of Physicians was granted Sept. 23, 1518. It gave them the sole power to license to practice physic in London, or within seven miles radius, with other privileges, which were confirmed by a statute of Henry VIII, and extended to the whole of England. Linacre was the first president, and he held office to the end of his life.

---

* Abstract of Presidential Address, delivered at the Sixty-eighth Annual Meeting of the British Medical Association, held at Ipswich, August, 1900. [From advance galley-proofs kindly furnished by the Editor of the British Medical Journal.]

In 1540 the barbers and surgeons were united by act of parliament. They were incorporated as the "Maisters or Governors of the Mysterie and Commonalitie of Barbers and Surgeons of London." Thomas Vicary, sergeant surgeon to Henry VIII, who had been previously master of the Barbers' Company, was the first master of the combined companies. In 1543 the irregular practitioners of London were protected by act, and became one of the incorporations of that city, and both by royal charters and by acts of parliament exercised the power of granting license to practice medicine. In 1505 the Royal College of Surgeons of Edinburgh was founded, and in 1599 the Faculty of Physicians and Surgeons of Glasgow.

In the sixteenth century there were already established physicians, surgeons and apothecaries. The surgeons were associated in their Guild with the barbers, and the apothecaries with the grocers. While the physicians were men of education, cultured according to the education of the time, the surgeons and apothecaries were not a very highly-educated class.

GILBERT AND HARVEY.

It was at the commencement of the seventeenth century that the original research of two great English physicians, Gilbert and Harvey, completely altered the position of the country in scientific advance. Hitherto there had been no contribution of importance; from this time, however, a complete change came over the scene. William Gilbert—or Gilberd, as it is spelled upon his mural tablet—was born at Colchester in the same year that Vesalius was appointed professor of anatomy at Padua, in 1546. He was educated at Cambridge, and became a Fellow of St. John's in 1561. In 1573 he settled in London, and was subsequently appointed physician to Queen Elizabeth and president of the Royal College of Physicians. His leisure hours were given to chemistry and magnetism. In 1600 he published his *De Magnete.* He established the magnetic nature of the earth, conjectured that terrestial magnetism and electricity were two allied emanations of a single force. He was the first to use the terms "electric force" and "electric attraction," and to point out that amber is not the only substance which when rubbed attracts light objects, and he described how to measure the excited electricity by means of an iron needle moving freely on a point. He described the properties of the magnet, and its attraction, and its direction in the relation of the poles of the earth. The work of William Harvey is well known. There are many evidences that his efforts were appreciated by his contemporaries, though the work which he published, and which has immortalized him, first saw light in Frankfort, Germany, chiefly because of the annual book-fair in that town.

It was about this time that a small body of students assembled at Oxford, in 1645, who was later, in 1662, to be known as the Royal Society. It was established as an association of men interested in the development of mathematical and physical science. It is the oldest scientific body in Great Britain, and one of the oldest in Europe. At one of the early meetings, fifty-two was fixed as the number of the society, persons of the rank of Baron, Fellows of the Royal College of Physicians, public professors of mathematics, physics, and natural philosophy of both universities being supernumeraries. In October, 1660, the king offered to be entered one of the society, and the next year the society was incorporated under the name of Royal Society, the charter of incorporation passing the Great Seal July 15, 1662. Soon after incorporation, the Royal Society published the papers by Malpighi, who by the microscope revealed the minute infinite particles of living bodies.

Somewhat earlier than this Boyle proved that a candle could not burn nor an animal breathe without what was afterward proved to be oxygen gas. These observations were said to have been attentively listened to at the early Oxford meetings of Wilkins and his friends by a young physician, John Mayow, who died at the early age of 34, but not before he had proved that air was made up of two portions—the one heavy, which supports flame and light, which he called fire air, and which was subsequently discovered to be oxygen; the other light, useless for living and breathing, that was the larger portion, which we now call nitrogen.

PRACTICAL MEDICINE.

Practical medicine in Great Britain was developing in this century; a pharmocopeia had been issued; cinchona bark was introduced; botanical gardens were established. The teachings of Lord Bacon, and subsequently John Locke, influenced the direction of thought, while the great learning and superb common sense of that great physician, Sydenham, gave effect to the general advance of this period.

In surgery, the growth was slow, principally through the general want of knowledge of anatomy acquired by dissection; but two Englishmen had distinguished themselves in this branch—Nathaniel Highmore and Thomas Wharton, the former discovering the cavity in the superior maxillary bone, still known by his name; and Thomas Wharton, who discovered the duct of the maxillary gland, which is still recognized as Wharton's duct. In medical politics, a warm contest arose between the physicians and apothecaries, the former accusing the apothecaries of usurping their province, the latter continuing and justifying the usurpation, until the matter was formally settled by the House of Lords in 1703, when it was decided that the duty of the apothecary not only consisted in compounding and dispensing, but also in directing and ordering the remedies employed in the treatment of disease.

The man who of all others at the early part of the eighteenth century gave an impetus to medical education was Boerhaave, who, at the University of Leyden attracted students from all parts. At this time there was practically no systematic medical training in the British Isles, but there were isolated attempts at special instruction. A refugee surgeon, Brussiere, setled in England in the time of Queen Anne, and for the first time gave lectures in anatomy in England. In 1711 Dr. Richard Mead lectured and continued his lectures for four years to the Barber Surgeons. In the same year Cheselden commenced a series of lectures which continued for twenty years. The first Munro opened a similar course at Edinburgh. John Rutherford settled in the same city in 1721. Speaking of him, his grandson, Sir Walter Scott, says, "he was one of those pupils of Boerhaave to whom the school of medicine in our northern metropolis owes its rise." Together with Sinclair, Purvis and Innes, he established a laboratory and taught the rudiments of chemistry and other branches of physics. In 1766 Rutherford was appointed lecturer in medicine, and until 1785 he delivered them in Latin. He founded clinical teaching in Edinburgh. The success was so great that the manager of the Royal Infirmary appointed a special ward to the exclusive use of Rutherford. This laid the foundation of that form of teaching, in which Edinburgh has held proud preeminence.

INCREASED STUDY OF ANATOMY.

Speaking of the history of medicine at this period, Lecky says, "a still more important fact in the history of medicine was the increased study of anatomy. The popular prejudice against dissection which had for centuries paralyzed and almost prevented this study, still ran so high in England that in spite of the number of capital punishments, it was only with great difficulty the civil power could accommodate surgeons with proper subjects, and all publicity was studiously avoided. With such a state of feeling, it is not surprising that the English Medical School in the beginning of the eighteenth century should have been far inferior to that which gathered round the chair of Boerhaave at Leyden."

The birth of chemistry, which may be dated from about the latter half of the eighteenth century, is the greatest scientific advance of the century, but practical medicine also was greatly advanced at this time. As early as 1703, Dr. Richard Mead communicated to the Royal Society an acount of Borrows' discovery of the acarus scabei, up to that time considered to be a constitutional disorder. It was then disbelieved in England, though recognized in Italy as early as 1787. This distinguished physician, of whom Dr. Johnson said, "Mead lived more in the broad sunshine of life than almost any man," was accustomed to drive six horses to Windsor, and he held consultations at coffee houses. Other physicians of whom Dr. Johnson spoke in terms of warm approbation were the elder Heberden, and of his great friend, Dr. Robert James, who did not think it beneath his dignity to take out letters patent for his famous powder in 1746. Dr. Lettsom, one of the most successful of the long roll of Quaker physicians, lived well into the nineteenth century.

Dr. James Lind was one of the thinkers of the century, and deserves to be remembered. He was a surgeon in the navy in 1739, and took his M. D. in Edinburgh in 1742. He published a treatise on scurvy in 1754. More men died of scurvy in the naval wars preceding its publication than were killed in all the engagements of the French and Spanish fleets. The book attracted great attention at home and abroad. He suggested the use of fruit and vegetables and lemon juice. It was not, however, until some forty years later that an order was issued by the admiralty for its use. In 1761 he discovered that the steam of salt water was fresh, and gave a demonstration of the fact before the Royal Society.

The discovery of vaccination is perhaps the most striking landmark of this time. It was quite at the end of the century that Dr. Matthew Baillie, whose labors extended through the first quarter of this century, published his "Morbid Anatomy" of some of the most important parts of the human body. It was the first book on the subject in English, and excelled any of the previous Latin treatises in lucidity. It was the first book in which morbid anatomy was treated by itself. In this work he described ulcers of the stomach and of typhoid. He defined the change of the liver in cirrhosis. He described and differentiated various abdominal cysts and other important pathologic observations. He was a distinguished member of a distinguished family, his mother being a sister of William and John Hunter. He was appointed physician to St. George's Hospital in 1787.

Of the development of practical surgery, it was carried on on less distinct lines in Great Britain than elsewhere, and particularly in Paris, where the Academy of Surgery in 1731 set up a very high standary from the first. We note the brilliant ability of many individual surgeons—such as Cheselden; John Freke, of Bartholomew's, first to treat empyema by incision; Dale Ingram, the first surgeon to treat abdominal wounds on modern lines; the eminence and ability of Percival Pott, who published his works after a severe accident when 43 years of age, and the transcendent genius of his pupil, John Hunter, who was almost the same age before he published his first book; and the sound and scientific work of Cline. All these, as well as many provisional surgeons—such as White, of Manchester; Goch, of Norwich; Hey, of Leeds, and Parks, of Liverpool—helped to establish surgery as a scientific branch of medicine.

In 1745 the Barber Surgeons were dissolved and were corporated as distinct societies. It seems impossible at the present time that they should have lasted so long. Nothing definite occurred to the Apothecaries after the great decision in their favor by the House of Lords, and but little has been written of them in the eighteenth century, save the allusion to Robert Levett in Boswell's "Life of Johnson." The scanty means of education in London, and the absence of medical societies there during this period are also noted. Until the last quarter of a century, there was no means of obtaining a medical education in London. Surgeons and apothecaries were supposed to be able to pick up a sufficient smattering of their work by attending a hospital for a few months, and physicians were educated elsewhere. Some half a dozen took a degree at Oxford or Cambridge, and these alone could become Fellows of the Royal College of Physicians; others, a much larger number, went to Edinburgh and the Scotch universities, Dublin or abroad.

MEDICAL SOCIETIES.

The education of Edinburgh was far ahead of London; medical societies and periodicals flourished there before in the south. There were medical societies in Edinburgh as far back as 1720. In London, there were societies of 1753 and 1764; they were both small societies and disappeared after Hunter's death. The only medical society in England, outside London, was the Medical Society of Colchester, founded in 1774. The absence of societies was much felt by earnest practitioners desirous of progress. Dr. Edward Jenner belonged to a medical society which met at the Fleece Inn, Rodburgh. Papers were read on medical subjects, and the members afterward dined together. At these meetings Jenner read papers on various subjects. He also belonged to another society, which met at the Ship Inn, Alveston.

In London, in 1783, there were five lecturers in anatomy, three lecturers on surgery, and three lecturers on the practice of medicine.

The great medical schools of London and of the provinces have almost all been established since this period, and, indeed, most of them in the present century. Learned societies in medicine from this time became established, and now they exist in all parts of the kingdom.

The eighteenth century closed with a great advance in general science, especially in chemistry and electricity, and some of the leading discoveries of this time are briefly mentioned.

MEDICAL LEGISLATION.

The important legislation of the nineteenth century was the Apothecaries Act of 1815. Previous to this act the education of the medical practitioners of England and Wales was entirely optional on their part, and although many of them possessed degrees or licenses of the universities or colleges, the greater number possessed no such qualification, and many of them were wholly illiterate or uneducated. About the year 1850 a preliminary examination in arts was instituted as a necessary and independent requirement before proceeding to the medical curriculum. In 1858 the Medical Act became law, and by this act the L. S. A. of London was permitted to practice through Scotland or Ireland. The Apothecaries Amended Act passed into law in 1872. Women were admitted to practice in 1876. In 1878 the pharmaceutical chemists were licensed by act.

It is worthy of observation that the state had hitherto not interfered to prescribe the subject-matter, or the minimum standard of medical examination, although there has been at least one attempt of the government of the day to establish a uniform minimum. Under the beneficent legislation of the century, and particularly by the establishment of the General Medical Council, jealousies between the different branches of the profession have mainly disappeared, it is difficult now to realize that at the commencement of the present century it was far otherwise.

The use of wise legislative enactments in the social influence and status of the profession soon became apparent, but its full effects were not evident until many years had elapsed. It is quite within memory that the only qualification recorded in many instances in the annual "Medical Directory" was "in practice prior to 1815." It is not a little singular that the Apothecaries Act has gradually extinguished the apothecary, as then understood. With the better education required, and the institution of examinations, a different class of students were attracted to medicine, and they were rarely satisfied with the apothecary's license, but sought further a surgeon's diploma.

The Anatomy Act of 1842, by growing facilities in the practical studies of anatomy, was one of the most important dates in the medical education instruction of the time. The growth of the medical press commenced with the efforts of W. Sharman in 1767, who in 1810 commenced to edit a periodical which was still in existence in 1815. The foundation of the *Lancet* in 1823 by Thomas Wakley is a landmark in British medicine. Its early struggles have been fully given in its pages of late years, and need not be related here. Among the physicians and surgeons of the present are many that come down almost to our own day, and therefore are more or less familiar.

The address collects some interesting facts, among which are the following:

In 1837 Gerhard, a young American physician, clearly laid down the difference of the two diseases of typhus and typhoid fever. After much doubt and discussion, the question was finally settled in England by Sir W. Jenner in 1849-50.

The credit of recognizing the connection between the acceleration and violent actions of the heart and the enlargement of the thyroid gland, two of the great cardinal symptoms of exophthalmic goiter, undoubtedly belongs to the great Dublin physician, Graves, who, in 1835, pointed out, in a published lecture, that the disturbance of the heart's action is not necessarily associated with organic disease of the heart. Five years later, a German physician, Basedow, published a more complete and elaborate account of the clinical features.

Hughes Bennett first described leucocythemia in 1845. A few weeks afterward Virchow published a case which had been independently observed by him previous to the publication of Bennett's first communication on the subject, and pointed out that the white corpuscles found in the blood were not pure cells, and termed the disease leukemia. A violent controversy sprang up between these two celebrated men and other supporters. Of this Byrom Bramwell says "that while Bennett was the first to observe and publish a detailed case of the pathologic appearances and blood changes, Virchow was the first to give an intelligent explanation of the peculiar alteration of the blood, which is the essential characteristic of the disease."

It is not, perhaps, so generally known as it deserves to be, that William Jeaffreson, of Framlingham, in the county of Suffolk, an East Anglian surgeon, was the first surgeon in England to perform the modern operation of ovariotomy by a small central incision. The circumstances, as recorded in the Transactions of the Provincial Medical Association of 1837, are as follows: "Mr. Jeaffreson in 1833 lost a patient suffering from an abdominal tumor. She died from tuberculous disease of the lungs, and, obtaining the consent of her friends, he made a post-mortem examination, which satisfied him that the tumor could have been removed, and but for the disease of her lungs, her life might have been spared."

In November of the same year, Jeaffreson and his friend, King, attended together a lady in her confinement who had a small tumor. They subsequently advised an operation, and in May, 1836, a central incision was made, about 1½ inch, the cyst tapped, withdrawn, the pedicle secured by ligature, and the ends cut off short. The wound was adjusted by two sutures, and napkins wrung out in the coldest water were constantly applied to the wound. Sulphate of magnesia was administered every four hours, and all went well until the tenth day, when he was called to his patient at 3 a. m., to find her pulseless with incessant vomiting and hiccough, with griping pains in her body. A stimulating enema, with gr. 2 of opium, gave her speedy relief, and she recovered.

His friend and neighbor, King, at Saxmundham, Suffolk, about ten miles away, operated a few weeks later, with complete success, his incision being somewhat longer—about 3 inches. Two years subsequently a third East Anglian surgeon, Crisp, of Harleston, who lived about twenty miles from Jeaffreson, was also successful, with an incision of 2 inches. These three cases, which were performed by three surgeons in general practice in England, are the more remarkable when we consider that no operation of the kind was attempted in London until four years later, and no ovariotomy was performed in a London hospital until ten years after Jeaffreson's case.

The two great discoveries of the nineteenth century, antiseptics and anesthetics, are briefly alluded to, but no mention is made of the American part taken in the latter discovery. Public health and state medicine is entirely modern. The science of modern military hygiene is credited to Parkes, who was also a great factor in, if not the founder of, the science of modern hygiene. Two centuries ago the mortality of London is said to have been 80 per 1000. At the present time it is only 20. All the special departments which concern the surroundings of man, personal health, food, drink, clothing, hours of labor, management of infancy, prevention of disease, hygiene of the sick chamber, and disposition of the dead, have been the subject of legislation during the present century.

THE SURGEON OF THE NINETEENTH CENTURY.*

FREDERICK TREVES, F. R. C. S.
LONDON, ENGLAND.

The surgeon of one hundred years ago was but a sorry element in social life. In the great towns and cities there were a few practitioners of surgery who were eminent by reason of their scientific work and successful practice. London was then the center of surgical activity, and the prominent exponents of the art were John Abernethy, Henry Cline, Sir William Blizard, Sir Everard Home, Sir Astley Cooper, William Lawrence and Charles Aston Key. The great John Hunter had died in 1793, having accomplished a work which marks an epoch in British surgery. In the provinces the most conspicuous surgeons were Edward Alanson, of Liverpool, and William Hey, of Leeds, while in Edinburgh the position of the leading operator was held for many years by John Bell. A little later in the century we find among the names of prominent men in England those of Sir Charles Bell, Sir Benjamin Brodie, and the ingenious and learned Benjamin Travers.

At the beginning of the century surgery on the Continent was represented by such men as Sabatier, Deschamps, Boyer, and Larrey in France, Scarpa in Italy, Langenbeck, Chelius, and Diffenbach in Germany, and Warren and Physick in America.

Smollett, who was himself in turn an apprentice, an assistant, a surgeon's mate, a practitioner and a graduate in medicine, has furnished a discouraging account of the surgeon, practitioner or leech of his time. He was ignorant, illiterate, sordid, a mere retailer of physic, not above the allurements of money-grabbing, and not without suspicion of dishonest practices, and of a leaning toward the bottle. Smollett's description could not have been true of all his brethren, and there is no doubt he wrote with the bitterness of an unfortunate experience. Launcelot Crab undoubtedly represented a type not yet extinct when the century began, and he must be taken as a forerunner of the cultured and esteemed general practitioner of the present day.

The Surgeon as an Adviser.—One cannot fail to be impressed by the paramount influence which exact knowledge—or the want of exact knowledge—has had upon the attitude of the medical profession. There is no science outside of our own in which there has been, during the stages of development, such an extreme disproportion between the amount of knowledge professed and the amount proved ultimately to be exact and sound. The reason for all this lies more with the sick man than with the man of medicine. The sick man requires absolute and exact knowledge from his doctor. He will accept neither possibilities, doubts nor confessions of ignorance. It is no wonder that in the past the physician made good by fiction what he lacked in fact. The demands of the patient have been hopelessly beyond any power of supply, and the deficiency has been furnished by the products of invention. A good deal of the pretense and humbug with which medical practice has been associated in the past has been forced upon the practitioner by the demands of unreasoning people. With such people the surgeon, in the early part of the century, had more largely to deal than he has to do at the present day, and yet his stock of knowledge could seldom meet the demands even of the reasonable. A false attitude toward his patient was unconsciously forced upon him, and the folly of his pretense to an unattainable learning was apparent to all but the simplest. As an adviser, therefore, he spoke not as one having authority. The surgeon of the present day, as an adviser, is in a position which could hardly have been imagined by his forbears of one hundred years ago. He has to deal with a more enlightened public, with patients whose education enables them to appreciate the nature of scientific problems, and with whom it is possible to discuss difficulties, and to own to lapses of information. The additions made to surgical lore have been so substantial that in many departments surgery is an exact science. There is indeed no longer need to call upon invention to supply such gaps as still indicate the unknown. An intelligent patient is satisfied with the assurance that practically nothing at present is known of the nature and causes of cancer. We have perhaps not quite shaken off the poor vestments of mummery with which ignorance was clad, nor rid ourselves of forms of speech which still pass current for sense. We speak assuredly of the "constitution" and of "states of the system" and of the "supporting of the system." We sanction such terms as "poverty of blood," "diminished vitality" and "sympathetic inflammation." We profess to believe in "tonics," in medicines the swallowing of which will give strength, in "galactagogues," in "alteratives," in "astringents," and in "cooling physic." We profess moreover to "strengthen the lungs" and give "tone to the stomach." The modern surgeon can well afford to dispense with all this empty verbiage, since he can base his opinion upon facts, and can express it in plain words, free from embellishments.

The Surgeon as a Man of Learning.—We can only view with amazement the scantiness of learning and the poverty of equipment of the surgeon at the commencement of the century. He knew little more of inflammation than that it was represented by swelling, heat, redness and pain. He had no glimmer of the possibilities of asepsis. He had no anesthetic, no hypodermic syringe, no clinical thermometer, and no practical means of investigation in clinical chemistry. Bacteriology did not exist, and the treatment of disease by prepared serums would have appeared to him as a wild therapeutic dream. Although vaccination had been introduced in the last year of the eighteenth century, the magnitude and nature of the principle it involved had not been appreciated.

The microscope as an aid to diagnosis played no part in the equipment of the surgeon. He had neither laryngoscope nor ophthalmoscope, and his acquaintance with otology, skin affections and the diseases of women was at the best rudimentary and indistinct. He had only rude medieval orthopedic appliances, and knew nothing of the lithotrite nor of the array of instruments which are now in daily use in connection with surgery. It would seem indeed that there was little for him to do but to open abscesses and sow the seeds of chronic septicemia, to excise tumors, of the structure of which he talked much and knew little, to amputate limbs for diseases he could not mend, and to draw blood whenever doubt existed as to what was best to be done. In 1800 a man could practice as a doctor without passing an examination of any kind. Indeed, one itinerant practitioner is reported to have assumed the title of assistant surgeon on the ground that he had served an apprenticeship to the crutch-maker of a hospital. The examination for the diploma of the Royal College of Surgeons was oral only. There was no examination of patients, and no dissection of the subject. Candidates were required to produce evidences of apprenticeship, of attendance upon anatomical and chirurgical lectures, of having performed dissections, and of having attended the practice of a recognized hospital for a period of six months. In 1813 the period of compulsory attendance at a hospital was raised to one year. The standard of knowledge, however, does not appear to have risen in corresponding proportion, for in 1822 the then president, Sir William Blizard, felt called upon to address the Court of Examiners on certain "tokens of remissness in teachers, and of inattention in students," which had been forced upon his notice. He regrets the remarkable deficiency of candidates in anatomical and physiological information, and concludes by deploring that there is a "corresponding darkness of mind relating to the symptoms, seat, causes, and rational treatment of diseases and injuries." At the commencement of the century there was, indeed, no systematized medical education. The training of the surgeon was paltry, casual and inefficient. His preliminary education was meager. It was necessary that he should be able to read and write and pretend to some smattering of Latin. So far as hospital practice was concerned, his attitude as a learner was well expressed by the phrase, "He walked the hospital." The institutions which he thus attended for a period of six months were in a state of squalor as regards administration, sanitary arrangements and nursing, and well deserved the abuse which was lavished upon them.

---

* Abstract of the Address in Surgery, delivered at the Sixty-eighth Annual Meeting of the British Medical Association, held at Ipswich, August, 1900. [From advance galley-proofs kindly furnished by the Editor of the British Medical Journal.]

The Surgeon as an Operator.—During the nineteenth century the surgeon, as an operator, passed through a rapid metamorphosis, and has now reached at least the level of the unexpected. Time has shown that even in 1800 there was a technic in operating which was as little like the technic of to-day as are the slashes of a cutlass when compared with the studied movements of a foil. It may have been surmised that twenty centuries would have exhausted the methods by which a limb could be cut off. Yet in 1800 modes of amputation were in vogue which are now regarded as uncouth, and there was not in use a ready and efficient means of checking bleeding.

The operator of olden times certainly possessed many qualities which are now falling into abeyance, his success depending largely on his daring, on the alertness of his eye, the steadiness of his nerve and the rapidity of his movements. He stepped into the arena of the operating theater as a matador strides into the ring. Around him was a gaping audience, and before him a conscious victim, quivering, terror-stricken and palsied with expectation. His knife was thrust through living flesh and acutely-feeling tissues, and the sole kindness of his mission was to be quick. There is less need for such qualities now. The dramatic element in surgery has gone with the men who unconsciously fostered it. The operating theater has changed from a shambles to a chamber of sleep. The surgeon's hand can move with leisurely precision, and theatrical passes of the knife are favored only by those who have not yet learned that mere brilliancy is no measure of success. It is little wonder if the older surgeon became rough and stern, if his sense of feeling became dulled, and if the sympathetic side of his nature suffered some suppression. Indeed, contemporary accounts are apt to represent the operator of preanesthetic times as rough almost to brutality, and as coarse both in his conduct and in his utterances. His language, it would appear, savored of the cockpit, and the hasty flourishing of his knife led occasionally to unintended mutilations.

An Improved Knowledge of Anatomy.—Among the surgeons of the early part of the century there were many competent anatomists, and not a few who could lay claim to be deeply versed in that science. Among the latter were such men as Astley Cooper and William Lawrence. Still, in the education of the average surgeon the study of anatomy did not play a prominent part. Anatomy was largely taught by means of public demonstrations, the teacher dissecting while the student looked on. The knowledge acquired was scant and superficial, and had little practical basis. The science of anatomy was well advanced at the commencement of the century, but it was not taught to the common student. "Quain's Anatomy," first published in 1828, was a single small volume of 700 pages, without illustrations. The facilities for acquiring a practical knowledge of anatomy were not only few, but were hampered by many sordid difficulties. Anatomical schools were regarded with disfavor and unconcealed suspicion by the public, and were surrounded by a ghoulish romance in which rifled graves and unseemly dealings with the hangman played a pungent part. Indeed, the teacher in an anatomical school found himself involved in a squalid and disreputable traffic. Among the many qualifications needed for success in operating, a practical knowledge of anatomy, as acquired by repeated dissection, is conspicuous. Such knowledge as the surgeon needs must be learned from the patient use of the scalpel and forceps. The dissecting room is the surgeon's nursery. The older surgeon often lacked confidence in operating, failed in initiative, clung only to formulated methods, and a departure from accepted lines was attended with fear and hesitancy. Ignorance encouraged in the rash heroic passages of the knife, and in the timid an over-cautious and dangerous fumbling. In preantiseptic days much ill attended the nervous fingers creeping clumsily into the unknown.

A Readier Method of Arresting Hemorrhage.—At the commencement of the century the means employed for the control of bleeding were numerous, and included the ligature, the suture, styptics of many kinds, and actual cautery. In applying the ligature the vessel was picked up by forceps and tied as at the present day. The instruments used were those of Diffenbach, Assilini and Liston. The bleeding from the vessel was not necessarily controlled by the forceps when in position. The general rule in amputation was to apply a tourniquet and to ligature the individual arteries after the limb had been removed. In the excision of tumors each vessel was secured as it was divided. When it is remembered that operations were carried out without anesthetics, it will be understood that the older surgeon had an absolute terror of bleeding, and was driven to undesirable shifts to avoid the need of facing it. Hemorrhage was expected, and a liberal loss of blood was considered a necessary adjunct to every major operation. Tourniquets were employed freely and with considerable harshness. Raw surfaces were bathed with styptic solutions which were often destructive in their action, or at least opposed to primary healing. The actual cautery to sear the bleeding area was in some request, and every well-equipped operating-theater kept its stove and cautery irons in constant readiness. The écraseur was of later date. Its invention was due to Chassaignac, and it was freely used in England until quite recent times. It was employed for the removal of growths of different kinds, but its most baneful employment was as a means for excising the tongue. It is scarcely to be believed that within the period of the introduction of anesthetics the tongue has been torn out of the mouth by means of a loop of hemp or wire which strangled it at its root. The *écraseur* will remain in the archives of surgery as the insignium of the incompetent and the timorous, and will stand out as a blot in an otherwise bright period of progress and enlightment. The shadow of this medieval instrument has been slow to fade, and like the ovarian clamp and the *serre nœud*, it clung about the confines of reasonable surgery, and hindered the development of the operations of ovariotomy and excision of the uterus.

At the present day the surgeon has little dread of hemorrhage. He makes larger use of the precautionary ligature of vessels; he is operating on an anesthetized patient, and can proceed with slowness and deliberation, and the treatment of hemorrhage has been simplified, if not indeed rendered complete, by the introduction of the pressure-forceps, the most valuable addition which has ever been made to the surgeon's appliances.

The Employment of Anesthetics.—The changes that the discovery of anesthetics has wrought in the personality of the surgeon, his bearing, methods, and capabilities are as wondrous as the discovery itself. He is undisturbed by the harass of alarms, and the misery of giving pain. Time now counts for little, and success is no longer to be measured by the beatings of a watch. The mask of the anesthetist has blotted out the anguished face of the patient, and the horror of a vivisection on a fellow man has passed away. Thus the surgeon has gained dignity, calmness, confidence, and, not least of all, the gentle hand. Anesthetics have, moreover, greatly extended the domain of surgery, by rendering possible operations which before could have been only dreamed about. The introduction of anesthetics has not only developed surgery, but it has engendered surgeons. It has opened up the craft to the many, for in the preanesthetic days the qualities required for success in operating were to be expected only in the few.

The Introduction of Antiseptic Measures.—When the century was young the touch of the operator was the touch of a tainted hand; the balm he poured into the wound was poisoned, and he himself undid the good his science strained to effect. It is sad to think that behind the earnest man with the ready knife there stood a shadow which rendered hopeless his kindliest effort, and which only too often proved to be the veritable shadow of death. The change has been great, and its greatness lies in its littleness, for it is bound up with no more than this: that the surgeon has learned to be clean, and has become aware of the potency of little things. The demands of the antiseptic treatment have made him minutely careful, distrustful of any aid that he cannot control, and suspicious of any semblance of error.

The Surgeon in the Future.—The changes which have swept over the world of surgery have extended the possibilities of the art, and have, at the same time, added a host to the ranks of those who practice it. Thirty years ago the roll of such as could claim to be accomplished operators was very small. The greater deeds of surgery were limited to cities and the larger towns. The general practitioner seldom took up the scalpel except in minor necessities. Even in London the list of consulting surgeons was meager. In the hospitals of the metropolis the number of operations performed in the year would be less than is now the quotum for a month. At the close of the century, however, the disposition of affairs is wholly altered. Where there was one surgeon there are now ten, and the work of the operator has extended. The more ambitious performances of surgery are no longer restricted to great centers, but are carried out in the little town, in the cottage hospital, and even in the cottage itself. The general practitioner is laying claim to operate upon his own patients, and is carrying out his intention in no hesitating manner. The days of the great operator are rapidly passing away. Indeed, the practice of pure surgery is now becoming common to the many. The man who excels conspicuously as an operator will always attain such eminence as his ability deserves, but the exclusiveness of the practice of operative surgery is quietly vanishing. In every great change there must—at first, at least—be some undesirable developments, and the wider distribution of the practice of operative surgery may lead to the occasional performance of major operations by men who are not justified in undertaking them. There is also some evidence that the reaction in the matter of operative surgery is to some degree extreme, and that we are in danger of passing from the policy of doing too little to the policy of doing too much. Operations were too few in the past, but they may be too frequent in the present.

So many have been the artificial aids to clinical investigation which recent science has introduced that it comes to be a question whether the natural acumen of the surgeon will not deteriorate in proportion as he fails to encourage that particular learning which clings to the finger tips of all great diagnosticians. The loss is to be deplored, for if there be one point of excellence which stands before all in the qualifications of the perfect surgeon, it is bound up in that refined sensibility, that critical perception, that inestimable cunning which lies in the surgeon's touch. A considerable amount of skill is demanded in the examination of complex fractures, of lesions of deep-seated bones, and of injuries about joints. What was to be learned of these troubles had to be acquired by a tedious manipulation demanding considerable refinement. The surgeon now submits the inquiry to a demonstrator of the Roentgen rays. The skiagraph, although its value is much exaggerated, embodies a substantial gain, but it is to be discounted by the loss of the great element in education which it is slowly replacing.

An obscure tumor presents itself; no longer is the surgeon compelled to trust to the acuteness of his inquiry, and his patient review of all the physical details of the mass. For what his ready fingers may have learned can be substituted the findings of the exploratory incision, the trochar and the aspirator. Here once more an advantage is minimized by a loss.

An abdominal swelling is brought under notice. Its features are obscure, but much of the uncertainty of outline can be dissipated by a cultured hand, which, with infinite patience and repetition, has learned to construct a reality out of a shadow. The problem can now be solved at once by an exploratory laparotomy. By this operation a great advantage is gained, but an opportunity to add to one of the most refined forms of learning is lost. The value of the exploratory incision is beyond question, but among the signs of the times it is impossible not to notice a tendency to resort too readily to this means of solution. A suspicious ulcer presents itself for diagnosis. In such case is it well to devote time to a precise and tedious inspection of its edges, and to a careful tactile examination of its base, and to check what is discovered by results laboriously gained from like inquiries? Is it not simpler to take a scraping of the affected surface and to submit it to a microscopist?

Finally, there are cases which present symptoms hard to interpret at any superficial inquiry. Is it worth while in such to undertake an exhaustive critical research, and to submit the whole to a trained judgment? The quest would no doubt develop habits of observation and powers of weighing evidence; but the process is slow, and an inquiry carried out in a bacterial laboratory will clear up all doubts.

Those, therefore, who are concerned with the education of the surgeon of the future would do well to still cherish this ancient power, and to foster a memory of the fact that surgery is, in its very essence, a handicraft, and that in all that he does the surgeon's great endeavor should be to make his own hands self-sufficing.

It is sad to think that this hardly acquired faculty dies with the possessor of it, and never was this more vividly presented than it has been by the loss which surgery has sustained in the death of Sir James Paget. One can picture the great surgeon composed in his last sleep, and can see the once busy fingers lying lifeless on the white sheet, and then comes the wonder at the wealth of learning, at the exquisite cunning, at the refined sense which lay dead in the hand.

An individual loss does not however, hinder the general tide of progress. Advance in such a work as ours depends upon the uneventful work of the whole body, and is only accentuated by the achievements of the prominent few. The movement is the movement of a multitude in which individuality is, at a distance of time, little to be distinguished, and in which personal eminence contributes a smaller factor than the present is ready to acknowledge. Those who stand forth as the leaders of the advance are merely the elect of the common body, and the representatives of a wide intellectual franchise. Even he who startles the world as a discoverer has often done little more than give expression to what was already nascent in the multitude. So as one great surgeon after another drops out of the ranks, his place is rapidly and imperceptibly filled, and the advancing line moves on with still the same solid and unbroken front.

The continuity of progress is undisturbed by the uncertainties of human life, and, as one writer has well expressed it—

"No work begun shall ever pause for death."

Therapeutics.

Cholera Infantum.

Lesarge (*Montpellier Méd.*) advises:

1. Strict diet, not more than 200 grains of milk, or even nothing but cracked ice to allay thirst. Ingestion of milk aggravates the digestive troubles. When gastrointestinal symptoms have almost disappeared, feeding is to be begun gradually, the milk at first being iced.

2. Give 20 to 30 grams of cognac or rum per day, in four to eight doses, either pure with ice, or in black coffee, one teaspoonful of the alcoholic liquor to a tablespoonful of coffee.

3. Hot baths (98 to 100 F.) lasting ten minutes, morning and evening. Add a little mustard during the last four minutes. Gentle friction with warm cloths or cotton wool. Hot-water bottle.

4. At first, while there is fever and no sign of collapse, give .01 gm. calomel in a teaspoonful of water every two hours for twelve hours; or the following:

R. Tinct. op. camphor. (paregoric) .... gtt. x
Acidi lact. .... ʒss
Syr. simpl. .... ʒiv
Aquæ .... ℥iii
Ess. menth. pip. .... gtt. ii
M. Sig. One teaspoonful with ice every half hour.

Or the following mixture of HCl and lactic acid:

℞. HCl. or acidi lact .... ʒss
Aquæ .... ℥iiss
Syrupi .... ℥iii

During the period of algidity, .2 to .25 gm. caffein in water, given in two or four doses, has a marked diuretic effect and heightens the arterial pressure.—*Pediatrics.*

Vesicular Eczema of Scrotum.

According to Wittzack, it is not advisable to use a powder, since, when mixed with the secretion from the affected surface, it cakes and falls off. The application of compresses wet with an astringent solution is recommended, as for instance:

℞. Aluminii acetat .... ʒv
Liq. plumbi subacetat .... ℥ss-℥iiss
Aquæ .... ℥iii
M. External use.

If the epithelium is gone it is best to employ a mixture of one or two parts of white precipitate ointment with Lassar paste. It will often be found helpful to cauterize by means of a solution—10 to 50 per cent.—of caustic potash applied on a cotton tampon: the caustic is then washed off and the part covered by Lassar paste. Or nitrate of silver—10 to 20 per cent. solution—may be chosen.—*Med. News.*

Boric Acid Intoxication.

R. B. Wild, after citing a number of cases, including some of his own, distinguishes two forms of intoxication from boric acid—one in which a large quantity of the drug is rapidly absorbed from the alimentary canal, from a serous or other cavity, or from an extensive raw surface; in these cases vomiting and diarrhea, general depression, and partial paralysis of the nervous and muscular systems occur, and may cause death. A rash is noted in many instances, especially when the patient recovered or lived some days after the absorption of the drug. The other class of cases results from the administration of boric acid or borax in comparatively small doses for long periods, and the symptoms appear at a variable time after the commencement of the drug. In some of these cases it is mentioned that the kidneys were diseased, and the author gives as a possible reason for the immunity to the injurious effects of boric acid its very rapid elimination by healthy kidneys.

Furthermore, it is possible that cases of intoxication occur more frequently than is at present recognized. Boric acid may unwittingly be taken in food and cause a toxic eruption which may be mistaken for eczema, psoriasis, or exfoliative dermatitis.

It may be noted that a 1/500 solution corresponds to 175 gr. per pint of the acid, a very large dose for an infant on milk diet and one likely in some cases to produce disturbance of the alimentary canal. It should also be ascertained that the milk ordered in cases of kidney disease is free from excess of boric acid or borax. The use of boric acid or the borates in surgery and their internal administration ought to be carefully guarded in patients with diseased kidneys, and immediately discontinued on the appearance of dermatitis or other toxic symptoms. In suspected cases examination of the urine may afford valuable evidence of the presence of the drug.—*The Lancet.*

Compound Tincture of Benzoin in Enteric Fever.

Dr. James C. Potter, of Spennymoor, Durham, writes the *British Medical* as follows:

Lately I have had under my care several cases of enteric fever with excessive diarrhea. I have in these cases tried a mixture of compound tincture of benzoin and water, with marked success. I start by giving a dose of 5 minims of the tincture every two hours, and if the diarrhea does not decrease in twelve hours I then double the dose. In all the cases, after twenty-four hours' administration, I have found marked benefit; the diarrhea decreases, the stools are not so offensive, the temperature is decidedly lowered, and the patient feels very much more comfortable. I attribute the success in these cases to:

1. The internal antiseptic property of the drug.
2. The mixture forming a protecting coat to the inflamed bowel.
3. The antipyretic action of the drug.

Malnutrition in Infants.

The combination of a yolk of egg and olive or cottonseed oil made into an emulsion is found very useful in cases of rickets or chronic malnutrition in infants. The emulsion may be made as follows:

℞.	Ol. olivæ	ʒiii
	Glycerini	ʒss
	Yolk of two eggs	

M.

Make an emulsion and add one-half minim of creosote to each dram. Occasionally it is better to use a smaller amount of creosote when the agent is not well borne by the stomach. A full teaspoonful of the emulsion is given three times a day after feeding. The preparation seems to be readily tolerated, even when the stomach is irritable.—*The Practitioner.*

Dyspepsia Accompanied by Acne.

Dr. Mitour (*Révue de Thérap.*) recommends for dyspepsia accompanied by acne, light meals frequently repeated. The food should be well masticated and of a kind easily digested. Bread, spiced meats, preserved fish, pastry, butter, and fatty foods should be avoided. Alcohol and milk are also injurious. Water is the best drink and should be taken sparingly with meals. Medical treatment has three objects:

1. To stimulate the secretion of hydrochloric acid, there should be given before meals sodium bicarbonate, with sodium and potassium sulphate in small doses, or ipecac, or condurango.
2. To stimulate muscular action of the stomach the tincture of nux vomica may be given after meals.
3. To prevent fermentation, naphthol, benzol, betanaphthol, or bismuth salicylate is indicated. Sodium sulphate and calomel are recommended for constipation with intestinal inflammation. Hydropathy with abdominal massage, gastric lavage and electricity have given excellent results in certain cases.—*Med. Record.*

Arsenic and Belladonna in Chorea.

In a recent issue of the London *Lancet*, Overend concludes an article on this topic in the following summary:

1. Belladonna appears to be most beneficent in recent cases, but its influence is sometimes very marked in severe forms.
2. In obviously rheumatic cases arsenic in large doses may be given a trial or may be combined with belladonna from the first. Belladonna may act by diminishing the excitability of the nerve-centers or by imparting an improved tone to their vascular supply.
3. In the wards of a hospital it is perfectly justifiable to give to a child as much as 30 minims or more of the tincture of belladonna every four hours for ten days or even longer. Certain precautions are necessary. The patient should be kept in bed and the urine should be daily measured. Small doses of potassium acetate may be added if it becomes much diminished or if the eyelids show any puffiness. In one child nocturnal incontinence occurred, and the dose was lessened. The occurrence of the popular erythema, which leaves raised circular lumps for a time, does not necessitate any diminution of the dose. Dryness of the throat and swelling of the parotid, should they occur, are only temporary. The influence of the belladonna makes itself felt after about four days. Should no visible improvement occur before the tenth day it would be useless to continue with it. But in eighty-seven cases treated, belladonna was of benefit, and is certainly worthy of further trial. As soon as the movement becomes trivial or occurs only during exertion, it is better to omit the belladonna, to commence massage of the affected muscles, and administering cod-liver oil and syrup of phosphate of iron or other tonics. The arsenic may be continued for a week or longer.

Bad Breath.

℞.	Acidi salicylici	
	Sacchari	
	Sodii bicarb., āā	gr. xv
	Alcoholi	℥i
	Ess. pip. menth.	gtt. x

M. Sig. ʒi in wineglassful hot water and gargle once or twice daily.

℞.	Potassii permang.	gr. vi
	Aquæ	ʒvi

M. Sig. Gargle frequently. (Also good for swelling of axillæ, fetor of the sweat of the feet, etc.) —*Palmer.*

Sedative Enemata in Painful Affections of Posterior Urethra.

In cases of very painful urethro-cystitis with tenesmus and spasm of the internal sphincter, as well as in cases of acute prostatitis and epididymitis. Dr. P. Scharff, of Stettin *(Med. Week.)*, has found that small morphin or belladonna enemata exert a more rapid and more powerful action than the ordinary sedative suppositories in common use.

For this purpose he prescribes one of the following mixtures:

℞.	Morphinæ hydrochloratis		3
	Atropinæ sulphatis		01
	Aquæ dest.	100	

M. For external use.

Five grams (one teaspoonful) is injected into the rectum and the analgesic action of the enema begins to manifest itself within from two to fifteen minutes. In cases in which the pain is associated with fever, Dr. Scharff injects into the rectum as often as three times a day, if necessary, 5 grams of the following solution:

℞.	Cocainæ hydrochloratis	1
	Antipyrini	
	Sodii salicylatis, āā	10
	Aquæ dest.	200

M. For external use.—*Am. Medico-Surgical Bulletin.*

Syphilis and Paresis.

An abstract in the *Quarterly Journal of Inebriety* gives the following significant passage from a paper by Dr. Williams:

Practically 75 per cent. of all cases of general paralysis exhibit proof of primarily syphilitic infection. The history of all cases is the "typical man of the world"—ambitious, fond of society and high living, a light sleeper and a heavy drinker; then come delusions and well-marked paresis. Four cases were noted where syphilitic teeth were prominent, although no history of syphilis could be obtained. Each one had used spirits freely. The pathologic conditions in chronic inebriety, syphilis and paresis are alike. The thickened membrane and meningeal changes are the same. The neurosis which predisposes to insanity, paresis or inebriety may be of syphilitic origin. A history of using alcohol exists in all cases of paresis, and it is significant of contributing causes not yet studied.—*American Medico-Surgical Bulletin.*

Hot Air as a Hemostatic.

The jet of hot air from a Holländer apparatus directed upon the bleeding surface of a kidney, liver, or severed blood-vessel, will arrest the hemorrhage by the formation of an eschar commencing around the edges and gradually spreading over the entire surface, mechanically checking the flow, in experiments upon animals, and Schneider concludes that it would be equally effective on man. The heat is only 30 degrees at 5 mm. from the apparatus, and hence is not sufficient to injure the organ. He found steam less effective and less convenient, for several reasons, masking the field of operation, etc.—*La Semaine Méd.*

Summer Diarrhea of Children.

The important dangers to be emphasized are too frequent feeding, overfeeding and the use of improper foods.

Holt states that during the hot weather it is an excellent rule to diminish each meal by at least one-third and make up the deficiency with water that has been boiled; to give water freely between—and to observe regularity in—feeding.

R. Hydrargyri chloridi mitis.... ....gr. i 06
Sacchari lactis....................gr. xii 72
M. et ft. chart. No. vi. Sig. One powder every half hour.

Indication.—Initial treatment to cleanse the intestinal tract.

R. Ol. ricini..............................ʒi 4
Tinct. cinnamomi....................gtt. i 06
M. Sig. To be given at one dose.

The cinnamon in the above prescription serves to detract from the disagreeable taste of the oil. It is also rendered more palatable by administering it to children in a little milk.

In these cases irrigation of the colon may be practiced with a solution of boric acid—3 per cent.—or with a saline solution—ʒii to the quart—a temperature of 80 F. When the stools contain mucus or blood, tannic acid—1 per cent. solution—can be substituted. Two or three irrigations can be made during the first twenty-four hours, then once a day thereafter.

R. Eudoxin ....gr. xv 1
Ft. chart. No. xv. Sig. One powder three times a day before each meal—for a child of 1 year or older.

Eudoxin contains 52.9 per cent. of iodin and 14.5 per cent. of bismuth. It is odorless and tasteless, and can be given in a little boiled water.

R. Tannopin ....ʒi 4
Ft. chart. No. xv. Sig. One powder three times a day one-half hour before nursing.

Tannopin is composed of tannin, 87 per cent., and urotropin, 13 per cent. It is a light-brown powder almost insoluble in water, and practically tasteless.

Dr. G. Joachim's experience with it is that it is innocuous and can be given without risk to the smallest infant in doses of 4 to 7 grains, three or four times a day.

R. Bismuthi subnitratis
Pulv. acaciæ, āā......................ʒii 8
Aquæ destil., q. s. ad..................℥ii 64
M. Sig. Shake well. Teaspoonful every two hours.

Indication—After alimentary tract is free from all irritants.

R. Saloli
Cretæ preparatæ, āā................gr. xv 1
M. Ft. chart. No. xv. Sig. One powder every two hours for a child 2 years of age or older.

R. Naphtholini ....gr. xxiv 1 5
Pulv. acaciæ...............................ʒi 4
Aquæ destil., q. s. ad...................℥ii 64
M. Sig. Shake well. One teaspoonful every three hours for a child 1 year of age.

In the opinion of Hayward and Butler the antiseptic drugs give better results in the subacute and chronic diarrheas which subsequently follow summer diarrhea. They maintain that salol should be given when the symptoms point to affection of the upper bowel and naphtholin when the colon is chiefly involved.

R. Bismuthi subnitratis.....................ʒiss 6
Bismuthi salicylatis.................gr. xv 1
Tinct. rhei aromatici.....................ʒss 2
Aquæ destil., q. s. ad..................℥ii 64
M. Sig. Shake well. One teaspoonful every three hours.

A combination of some of the bismuth preparations is recommended, as in the above, but none of them is superior to the subnitrate.

R. Bismuthi salicylatis
Tinct. opii deodorati, āā............gtt. xv 1
Syrupi simplicis ....℥ss 16
Aquæ cinnamomi, q. s. ad..............℥ii 64
M. Sig. Shake. One teaspoonful every three hours for a child of 1 or 2 years.

Opium preparations should be avoided as much as possible. They are not indicated except when pain accompanies the diarrhea.

R. Tannigeni
Saloli, āā..........................gr. xv 1
M. Sig. One powder every four hours.

Tannigen is a compound of tannin and diacetyl, which is broken up only in an alkaline solution. It exerts its astringent action upon the duodenum and is strongly recommended by Bachus in cases in which an astringent is indicated. Moncorvo advises its combination with salol, bismuth salicylate or other antiseptics.

R. Tinct. opii camphoratæ
Syrupi rhei aromatici, āā...............℥ss 16
Aquæ calcis, q. s. ad. ....℥ii 64
M. Sig. One teaspoonful every three hours for children over 3 years of age.

This is indicated when there are frequent bowel movements accompanied by pain.

R. Papain (carica papaya)..............gr. xv 1
Ft. pulv. No. xv. Sig. One powder fifteen minutes before nursing, three times a day—to aid digestion of food.

R. Betanaphthol bismuthi..................ʒi 4
Ft. chart. No. xv. Sig. One powder every four hours to a child 3 years of age.

This is best given in a little boiled water when the stomach is free from food.

R. Antipyrini ....gr. viiss 5
Syrupi aurantii corticis
Aquæ destil., āā.....................℥iss 48
M. Sig. One teaspoonful every two hours for a child 1 year of age or older.

The above may be given when there is gastric or intestinal disturbances accompanied by slight fever and in diarrheas of nursing children during dentition.

R. Tinct. krameriæ
Tinct. opii camphoratæ, āā.. ... ...ʒii 8
Misturæ cretæ, q. s. ad.......... . ....℥ii 64
M. Sig. Teaspoonful every three hours for a child of 2 years.

Krameria possesses the same astringent properties as tannin and may be employed for the same purposes.

R. Bismuthi subnitratis.................ʒi 4
Pepsini saccharati ....ʒss 2
Zinci oxidi..........................gr. iv 25
Trit. et div. in chart. No. xii. Sig. One powder every four hours.

Tompkins (*Medical Record*) speaks favorably of the following as an intestinal antiseptic in these cases:

R. Hydrargyri chloridi mitis...... ...gr. ii 12
Zinci sulphocarbolatis.......... ..gr. iii 18
Bismuthi subnitratis .... ʒii 8
Pepsini saccharati.. ....ʒss 2
M. et. ft. chart. No. xii. Sig. One powder three times a day for a child 1 year of age.

Crandall states (*Archives of Ped.*) that opium in the diarrhea of children is contraindicated:

1. In the first stage of acute diarrhea, before the intestinal tract has been freed from decomposing matter.
2. When the passages are infrequent and of bad odor.
3. When there is high temperature or cerebral symptoms present.

4. When its use is followed by elevation of temperature or the stools become more offensive.

It is indicated:

1. When the stools are frequent, with pain.
2. When the passages are large and watery.
3. In dysenteric diarrhea together with castor-oil or a saline.
4. When there is undigested food in the stools and the bowels act as soon as food is taken into the stomach.

Medicolegal.

Seventy-Five Hundred Dollars for a Leg.—The Supreme Court of Minnesota holds, in the case of Thompson vs. Great Northern Railway Company, that, while certainly liberal, an award of $7500 damages to a conductor of about 40 years of age for the loss of his right leg, which had to be amputated below the knee is not so excessive as to justify any interference with a verdict therefor.

Gonorrhea Evidence of Illicit Intercourse.—The Supreme Court of Pennsylvania holds, in the case of Baker vs. Baker, where a wife sued for divorce, that if the husband had such a venereal disease as gonorrhea during the continuance of the marital relation, it must be regarded, in the absence of explanatory proof, as evidence of the fact of illicit connection with other women than his wife, there being no proof in the case that she was afflicted with that disease.

To What Dying Declarations Must Relate.—Dying declarations, being a substitute for sworn testimony, the Supreme Court of Appeals of West Virginia holds, in the case of State vs. Burnett, must be such narrative statements as would be admissible in evidence had the dying person been sworn as a witness. If they relate to facts to which the declarant could have testified, they are admissible in evidence. But mere dying declarations of opinion, which would not be received if the declarant were a witness, the court says, are inadmissible.

Abortion Compared with Second-Degree Murder.—The Supreme Court of Appeals of West Virginia declares, in the case of State vs. Lilly, that there is no crime more heinous against humanity or the Creator, than that of abortion. As compared with it, second-degree murder, it says, is commendable; for while the one has but one victim, and destroys only the body, the other has two victims, and destroys both soul and body. The proof of abortion, it also explains, rests usually on circumstantial evidence. And where an instrument is used to commit it, the court states that it is not necessary to a conviction to show the character of the instrument. More particularly, it holds, in this case, that, where the crime of abortion is fully established, and the circumstantial evidence establishes beyond a reasonable doubt the guilt of the accused to the satisfaction of the jury, the verdict will not be set aside because the evidence fails to show the character of the instrument, or the time when used to produce the abortion.

Appliances for Hospitals No Longer Duty Free.—The Massachusetts General Hospital has but just recently succeeded in obtaining from the United States Circuit Court of Appeals an affirmance of the decision which it secured in the circuit court, holding that surgical instruments designed and adapted for use in practical surgery are scientific instruments within the meaning of paragraph 585 of the tariff act of 1894, and that thereunder they were exempt from duty, when specially imported in good faith by the hospital, for use in its clinics and its training school for nurses. Yet this is to be of little or no value to such institutions in making importations under the tariff act of July 24, 1897, if the Board of United States General Appraisers at New York is correct in its construction of paragraph 638 of the latter act. It points out that this is materially different from said paragraph 385, in its designation of the character of the society or institution permitted to import such instruments free of duty. A hospital, even with incidental educational features, such as the training of nurses and the giving of medical instruction to students, it holds, is not, within the meaning of said paragraph 638, an "institution incorporated or established solely for . . . educational . . . purposes;" nor is it a "college, academy, school, or seminary of learning;" and hence, it holds, surgical appliances imported for the use of such an institution are not entitled to admission free of duty under said paragraph.

Within Province of Medical Expert.—The United States Circuit Court of Appeals says, in Denver & Rio Grande Railroad Company vs. Roller, that the rule is well settled that a medical expert may form and express an opinion of the nature and cause of the bodily or mental condition of his patient—her ills, symptoms, pains and suffering—derived from his own knowledge, from his treatment and examinations, although based in part upon her statements and complaints made at different times as to her pains and suffering, and, in this connection, to give his opinion whether her injuries are liable to be permanent, and whether her present condition is due to or caused by sickness, injury, accident, or violence. Again, it says that when a hypothetical question assumes the existence of any state of facts which the evidence directly, fairly and reasonably tends to establish or justify, and does not transcend the range of evidence, it is proper to permit such questions to be answered, and it is not necessary that the questions shall embrace or cover all the facts in the case. But, it agrees, it would be reversible error to admit the answer of expert witnesses to hypothetical questions which assume the existence of facts upon which no evidence is offered.

Support of Insane Husband.—It is recognized by the Supreme Court of Iowa that it is the purpose and intent, under section 2297 of the code of that state, to make the property of those liable for the support of a public insane patient responsible over to the county for hospital expenses. The provision of this section relating to the liability of relatives imposes it upon a class, "those legally bound for the support" of the patient. Consequently, it has to be determined in each instance whether the individual sought to be charged is a member of such class. Now, is the wife obligated by law for the support of her husband? If not, she is not within the class made liable. Certainly no such obligation the court says, rested upon her at common law. Nor does it consider that she is made liable for the support of her husband by section 3165 of the Iowa Code, which imposes a liability upon her for family expenses. In other words, it holds that her liability for the support of her husband is not general, but is limited entirely to such matters as are of purely family benefit. Wherefore, it holds that maintaining the husband in an insane hospital is a kind of support for which the wife is not responsible, under the only section which imposes upon her any liability for the husband's expenses. The policy of legislation which requires one who has contributed in taxes for the support of the hospitals for the insane, to make full remuneration for care and treatment when calamity compels their use, is so doubtful in character, the court adds, that it does not care to aid it by construction, unless required by the manifest purpose and intent of the lawmakers. If it is the intent to subject the property of the wife to the payment of a claim of this kind, it should be clearly stated.

Judge of Necessary Frequency of Visits.—The Appellate Court of Illinois, second district, holds proper, in Ebner vs. Mackey, the following instructions: "The jury are instructed as a matter of law that the physician attending a patient is the proper and sole judge of the necessary frequency of the visits to his patient, so long as the patient is in his charge. And in an action for his services the physician is not required under the law to prove the necessity of his making the number of the visits that he makes and for which he is seeking compensation." In justification of this, the court mentions that there was no proof in this case that the physician came when he was forbidden to come, or that he was discharged and continued to attend thereafter, but that, instead, it was shown that the decedent, against whose estate a claim for medical services had been filed, and his wife had called him and accepted his services without question. In other words, the court holds that where a physician is called by a party to treat him or his wife, and he takes charge of the case and attends from day to day, evidently, in view of his responsibility for skilful and proper treatment, he must in the first instance determine how often he ought to visit the patient, and so long as the party employing him accepts his service and does not discharge him or require him to come less frequently, or fix the times when he wishes him to attend, he can not afterward be heard to say that the physician came oftener than was necessary. But were a person injured in a railway collision brought suit for damages, and sought to recover among other things his expenses for medical attendance, of course, the court says, he could not recover against the railroad company for all medical attendance he had chosen to have, but for such only as was necessary in curing his injuries.

Sufficiently Continuously Confined to House.—The strict letter of the contract of insurance against loss of time by sickness under consideration in the case of the Columbian Relief Fund Association vs. Gross, the Appellate Court of Indiana admits, should probably be taken as providing that benefits were to be paid only for the time the beneficiary was totally disabled from sickness, continuously confined to his house and under a physician's care. But it says that it can not agree with counsel for the insurer that the acts of the insured in going out of the house, under the directions and advice of a skilful and competent physician, to go to the latter's office for medical treatment, or even to get from twenty minutes to half an hour's exercise in the open air in his yard or on the pavement about and near his residence, was a violation of the conditions upon which he was to receive indemnity. Conceding such acts to be a violation of the strict letter of the contract, the court holds that they were not a violation of the spirit and true intent and purpose of the contract. It points out that the very acts complained of were done for the purpose of restoring the health of the insured, and thus ending his right to sick benefits. And it would be unreasonable, the court maintains, to compel a person so insured to place himself under a physician's care, and then deny him benefits for submitting himself to that physician's treatment. Furthermore, an agent of the insurer having requested that a particular physician be employed, and such physician having been employed, the court holds that on that account, especially, the insurer could not be heard to complain, though it says that it could not have been heard to complain had the insured followed the advice of a skilful and competent physician selected by himself.

Power to Regulate Sale of Cigarettes.—Whether dealing in and selling cigarettes is that kind of a business which ought to be licensed is, considering the character of the article sold, the Supreme Court of the United States holds, in the case of Gunderling vs. the City of Chicago, a question for the state, and through it, for the city, to determine for itself. An ordinance providing reasonable conditions upon the performance of which a license may be granted to sell such article, it declared, does not violate any provision of the federal constitution. Nor does it consider it a valid objection to an ordinance that it partakes of both the character of a regulation and also that of an exercise or privilege tax. So long as the state law authorizes both regulation and taxation, it says it is enough. The ordinance in question, which has obtained the sanction of this court, as well as previously of the Supreme Court of Illinois, in this same case, provides for the issuance of licenses by the mayor, upon application first made to the commissioner of health, and submitted to the latter, with his opinion as to the propriety of granting such license, accompanied by the evidence furnished by the applicant of good character and reputation, and upon the mayor himself being satisfied that the applicant is of good character and reputation and a suitable person to be intrusted with the sale of cigarettes, or that this is true of the person or persons in charge of its business, if the applicant be a corporation. It also requires a bond for $500 to be given, conditioned upon the observance of all state laws and city ordinances in force or that may be passed with reference to the sale of cigarettes, and imposes a license fee of $100 a year. But nothing contained in the ordinance, it expressly provides, shall be held to authorize the sale of cigarettes containing opium, morphin, jimson weed, belladonna, glycerin, or sugar. And having or exposing for sale, or offering to sell any cigarettes at any place within the city, without having first procured the license provided is made punishable by fine.

The Right of Property in Medical Records.—At a recent meeting of the Society of Legal Medicine, according to the Paris correspondent of *The Lancet*, M. Brouardel brought forward a most interesting point in reference to a matter upon which he had been consulted. A medical man died and his only son, also a medical man, entered into possession of his father's house and carried on the practice. He was anxious to consult certain notes and observations accumulated by his father which were stored away in the consulting room. But his step-mother (*belle-mère*) as co-heiress refused to let the son make use of the notes, ostensibly on the plea that she was anxious to avoid any violation of professional secrecy. M. Brouardel was of opinion that there would be no violation of secrecy, but simply a continuation of the trust from the first medical man to the second, who succeeded and who would take over the medical observations collected by his predecessor. A legal expert, however—namely, M. Danet—held a different opinion, and thought that all the notes and case-books should be burned. In face of this difference of opinion the question should be left to the courts to decide. In the course of the discussion at the Society of Legal Medicine M. Ladreit de la Charrière gave it as his opinion that a man who sells his practice has no right to communicate details as to the past medical history of his clients, because they may choose to go to some other medical man than the purchaser of the practice. M. Rocher said that French law did not recognize the sale of practices. *A fortiori* then, a medical man had no right to hand over to his successor details of patients without their consent. He agreed with M. Danet that the documents should be burned. M. Brouardel protested against his view, for if whenever a practitioner died all his notes were to be destroyed great injury would be done to the patients themselves and science would be deprived of a very valuable mine of collected knowledge. The matter was in the end remitted to a special committee, on the motion of M. Brouardel.

How Seriousness of Injuries Is to be Settled.—The appellate division, second department, of the Supreme Court of New York, holds that it was reversible error to permit physicians, who were examined as medical experts, to testify, in the case of Stoothoff vs. Brooklyn Heights Railroad Company, as to whether the plaintiff's injuries were serious. The only open question in the case was as to the amount of damages which he was entitled to recover from the defendant for those injuries. The physicians referred to, two in number, had apparently examined him for the sole purpose of testifying, and had given evidence, based necessarily, to some extent, upon subjective symptoms, to the effect that he was suffering from a severe sprain of the muscles or ligaments of the lumbar region; that the muscles on the left side of the spinal column were in a condition of spasm, which the slightest touch would exaggerate; and that there was a sprain or wrenching of the spine. Now, the court says it was entirely competent for the physicians, in addition to stating what they found on the physical examination of the plaintiff, to state fully and in detail the nature and extent of his injuries, their effect upon his person and his system, the pain and other suffering or inconvenience to which they would subject him, the nature of the treatment required, and its probable results, and their opinion of the permanency of the injuries and their effects, so far as they were able to give it with reasonable certainty. With this information it thinks that it would be as possible for the jury as the physicians to determine whether the injuries were serious, and to fix the precise degree of seriousness of the injuries in the plaintiff's case, and with special reference to his life and occupation, as they were required to do by law in order to assess the damages. On the other hand, it says that the jury would be aided little if the plaintiff could rest upon the general characterization of his injuries by his physicians as "serious" and the defendant in turn depend upon an equal or greater number of physicians who would characterize them as "trivial," while all effective review of the propriety of the result would be precluded. The nature of the case it holds, required no such result.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, AUG. 4, 1900.

THE ETIOLOGY AND SYMPTOMATOLOGY OF RUBEOLA.

While rubeola bears some resemblance to both measles and scarlet fever, and has been considered as a mild variety of one or the other of these diseases, it is now pretty generally agreed that it is an independent affection, one attack of which usually confers protection from a subsequent attack of the same disease, but not from a subsequent attack of measles or scarlet fever. while the latter, in turn, confers no protection from rubeola. The disease pursues a mild and short course. generally without serious complication or sequel, and its greatest importance resides, perhaps, in the danger of confusion between it, on the one hand, and scarlet fever and measles on the other. Some interesting facts of an etiologic and symptomatologic character noted in the course of contemporaneous epidemics of rubeola and measles, are recorded by Tobeitz[1].

The epidemic of rubeola began in December, 1898, and terminated early in July, 1899, 719 cases in all being observed, and reaching its height in February. when 275 cases occurred. The epidemic of measles began in June, 1898, and continued until May, 1899, 3273 cases coming under observation, the largest number, 614, in January, 1899. It was seen that the predisposition to measles was in general much greater than that to rubeola. The cases of the latter were pretty evenly distributed between the two sexes, although after the period of puberty the disease appeared to be a little more common in females. Measles was the more common disease until the age of 6, and rubeola the more common after that period of life. This distribution is partly due to the fact that measles having occurred in a large number of cases in early life, the patients were protected from subsequent attacks later in life. The school was clearly shown to be an especially frequent medium for the conveyance of the infection, the number of cases coming under observation declining with the advent of the summer vacation and again increasing with the resumption of school sessions. Second attacks of rubeola occurred in eighteen cases—2.5 per cent.—while second attacks of measles occurred in but fifteen cases—0.46 per cent.

It was not found that the predisposition to infectious diseases in general, or recovery from such diseases, increased the predisposition to rubeola. Among 719 cases of rubeola there were only 146, 20.6 per cent., in which there had been previous infectious disease within two years. Such information as could be gathered with regard to the period of incubation of rubeola indicated that this is extremely variable, and apparently not fixed, but dependent upon individual and extrinsic influences.

A study of the symptomatology in 80 cases disclosed the presence, almost unexpectedly, of no other manifestations than the exanthem and the enlarged glands. Although it is possible in almost all cases of measles to determine where and when infection took place, it was rarely possible to do so in cases of rubeola. No symptoms were observed during the period of incubation. The enanthematic stage was in but few cases attended with catarrhal symptoms referable to the upper air-passages and the conjunctiva, while in some there was also slight diffuse redness of the pharyngeal structures. The irregular rose-red enanthem, as large as the head of a pin, that has been described as of significance in the differentiation from measles, was not observed. Almost unexceptionally the cervical and post-cervical glands were found enlarged, and with especial frequency and characteristically those over the mastoid process, during the course of the disease also in children that had previously exhibited glandular enlargement. Not rarely some of the enlarged glands were slightly painful. Fever and catarrhal symptoms were generally absent during the stage of exanthem, or scarcely worthy of mention. No case was attended with complications.

The exanthem generally appeared in the form of small spots, with large efflorescences, beginning in the face, and extending in a few hours to the remainder of the body. The distribution and the density of the eruption exhibited marked individual variations. In two cases the eruption was so dense and so fine as to resemble wholly that of scarlet fever, but apart from slight fever at the beginning, and enlargement of the glands, no other symptom of scarlet fever was present, and the eruption disappeared as quickly as the usual form of exanthem. Slight pigmentation of the affected skin was observed in numerous cases, but never desquamation. Four cases presented large spots, principally confined to the face and the extremities, and of long duration. These slight variations are, however, to be explained by temporal, local, or even individual conditions acting upon the biology of the hypothetic. pathogenic micro-organism.

STATISTICAL STUDY OF CARCINOMA OF THE LIP.

Loos[1] presents statistics of 565 cases of carcinoma of the lip treated in v. Brun's clinic. The figures cover fifty-five years, and the present study is a continuation of Wörner's work, which dealt with 305 cases in the period between 1843-84. Loos now adds 260 cases and brings us down to 1898. Some of the principal facts are recapitulated here in order to show the undoubted value of careful overhauling of material of this kind as well as the eminent desirability of better systems for recording the work of our large surgical clinics—a matter that we believe is now greatly neglected in not a few centers of surgical activity in this country. There is undoubtedly a singular dearth in our periodical literature of careful studies of common surgical affections covering long periods and dealing with the accumulated observations of large clinics. Such reviews throw much light upon the course of disease and upon the value of operative and other forms of treatment.

---

[1] Archiv f. Kinderheilk., Bd. xxxviii, H. 5 u. 6, p. 386.

[1] Beitr. zur Klin. Chir., 1900. B. cxxvii, p. 57.

The figures of Loos show that carcinoma of the lip is more frequent in men than in women—85.5 per cent. of his cases were men, 14.5 per cent. women. The lower lip was involved in 534 cases, the upper only in 31. The average age is 60 years; cancer of the lip may occur at any time between the ages of 22 and 80, but the maximum of frequency lies between the sixty-sixth and seventieth years of life. There is no essential difference in the rate of growth in the different periods of life. Sixty-three per cent. occurred in agricultural people. It may be comforting to smokers to learn that this mode of using tobacco does not bear any evident relation to labial carcinoma. Heredity seems to be of little import also. A history of an insignificant trauma is common. The usual starting-point is on the red aspect of the lip, but without reference to any particular part of this surface. The time between the beginning of the growth and operation averages eighteen months in the case of the lower lip and three years in the upper. Submaxillary and submental glandular metastasis occurred in three-fourths of the cases, and metastasis usually took place from three to six months after the appearance of the tumor. Distant metastases were rare.

Of the 534 carcinomas of the lower lip, 484 were operated upon and 50 were not. The unoperated cases were most of them unoperable when they came under observation. Healing and cosmetic and functional results of the operations are said to have been satisfactory. Relapse occurred in 33 per cent. of the cases involving the lower lip, the average length of time after operation at which relapse took place being six months. Only one-tenth of the relapses occurred after three years, and in these instances the carcinoma may have been of new growth. Operation on relapses gave favorable results in 11.7 per cent., on second relapses in but 1.1 per cent.; showing that even here life is undoubtedly prolonged by operation. The mortality from operations was 6.2 per cent. from 1843-1885, from 1885-1898 0.4 per cent. General results are well shown in this tabular statement:

	1843 till 1885		1885 till 1896.	
	No.	per cent.	No.	per cent.
Living	25	10.2	65	46.1
Dead without return	102	41.4	28	19.9
Living with return	0	0	6	4.3
Dead with return	103	41.9	41	29.1
Dead from operation	16	6.5	1	.6

In other words, from 1843 till 1885 the result was favorable in 51.6 per cent., unfavorable in 48.4 per cent; from 1885 till 1898 favorable in 66 per cent., unfavorable in 34 per cent.—a gain for the latter period of 14.4 per cent. In the carcinomas of the upper lip the result was favorable in 72.2 per cent., unfavorable in 20.8 per cent.

The reliability of these statistics must be regarded as almost beyond question, because accurate information in regard to subsequent events in the cases operated on was secured in all but ten instances—a remarkable success.

VENOUS THROMBOSIS AS A COMPLICATION OF CARDIAC DISEASE.

In the "Festschrift" in honor of Jacobi is an important article on this subject by William H. Welch. He first describes an instance in a girl of 17 years, with chronic mitral and aortic endocarditis following acute articular rheumatism, and giving rise to regurgitation and eventually to cardiac insufficiency. During the last days of life a painful edema of the left arm made its appearance. Post-mortem, in addition to the cardiac lesions and their usual secondary effects, an infectious —streptococcus—thrombus was found filling the innominate, subclavian, axillary, and lower parts of the jugular vein. He then gives the clinical history of three other, more or similar cases from Dr. Osler's wards, but without post-mortem examination. In one case, a case of mitral stenosis, thrombus of the left jugular, axillary, subclavian, and innominate veins gave rise to a hard, painful edema, lasting for nearly three months before gradually disappearance set in.

From the literature Welch collected reports of twenty-three cases of peripheral venous thrombosis in cardiac disease. From a study of the twenty-seven cases thus grouped together he finds that in twenty-three the thrombosis involved the large veins of the upper extremities or the neck, or both, mostly of the left side; only four were thrombosis of the veins of the lower extremities. He suggests that probably many thromboses of the veins of the lower extremities are overlooked because of the greater edema of these parts in uncompensated heart disease. Of the twenty-three cases of thrombosis of the veins of the arms, neck and chest, the large majority—17—occurred in the female sex; nearly one-half of those whose ages were stated were between 15 and 30 years of age; in twenty the valvular lesion was mitral, of a chronic character, the cases of mitral stenosis, with or without insufficiency, taking the lead. "The preponderance of females and of patients under middle age is thus, at least in great part, explained." In most of the cases the thrombosis appeared during failure of compensation. The veins of the right side alone were affected in but two cases; of the remaining twenty-one cases fourteen were unilateral, seven bilateral. The superior vena cava was thrombosed in six cases. The commonest point of origin of the thrombus was the bulb of the left internal jugular vein. Chronic disease of the veins evidently is of little import in the causation of this form of thrombosis. The prominent local symptoms were pain, tenderness, edema and distended veins; the extent and distribution of the edema varied considerably in the different cases, and the swelling was often hard. Nineteen of the twenty-three cases ended in death, the grave prognosis being mainly the natural result of the extreme failure of compensation of the valvular lesion during which the thrombosis develops. It will be seen that venous thrombosis of the arms and neck, especially of the left side, in cardiac disease forms a fairly distinct group with features of special interest, and this is the main reason for calling attention to Welch's interesting article.

As regards the causation and special localization of venous thrombosis complicating cardiac disease, Welch lays stress on the one hand upon disturbances of the circulation especially liable to affect the veins of the left side of the neck, the greater length and obliquity of the left innominate vein hindering the return flow in this vein (Hanot and Parmentier), the difficulty being further increased by pressure on the left subclavian vein from the dilated left auricle and dilated pulmonary vessels in mitral disease: and on the other hand, he emphasizes the eddying motion of the blood set up in heart disease in the bulbous enlargement of the lower end of the internal jugular and in the adjacent veins by the coming together of blood-currents from different directions and with different velocities and pressures. These conditions explain why certain veins are the seat of election for thrombi. Based upon the presence of streptococci in the first case studied, Welch suggests that bacteria probably constitute the exciting cause of this form of thrombosis.

THE ASSASSINATION OF KING HUMBERT.

Regicide has been shown to have been committed, in a large proportion of cases at least, by persons of weak or unbalanced minds. This was notoriously the case with the assassins Guiteau and Prendergast in this country, who worked without accomplices, following out the dictates of their own insane delusions. In times of great excitement it is very natural to suppose that some ill-balanced individual without being actually insane might commit a crime and the responsibility be somewhat questionable under the circumstances. When, however, such a crime is the result of a conspiracy of a number of individuals, as in the case of the assassination of President Lincoln and of the Emperor Alexander, it is somewhat different. The assassination of King Humbert, which has just occurred, appears to belong more to this class than to that of the irresponsible lunatic homicides. The assassin in this instance seems to have been an adherent of a body that is at present endorsing his action, and the suspicion of a widespread conspiracy is certainly justified in such a case.

The question arises: How far are we to consider the possible lack of balance of the individual as mitigating his responsibility? We may say that "the anarchistic virus entered his ill-balanced brain," but if we are to excuse him what are we to say of the sources of this virus? It is a psychologic fact that in combination men will commit crimes that individually they would abhor, and in time of popular furor or hysteria we may look for just such acts. There are some signs that at this end of the nineteenth century we are passing through a sad period of popular hysteria, of which this event may be one of the evidences. It is not so wide a step between the socialism that leads a prominent professor of economics to justify the violence of strikes and the anarchism that advocates the murder of kings simply because they are kings. The trouble is that such crimes, in such conditions, become contagious; a suicide club or a band of anarchistic assassins may only start the ball, but they will find many really irresponsible imitators who will keep it rolling. This is one important aspect of the case from the medico-psychologic point of view, but it shows a danger that statesmen and every good citizen should guard against. The death of King Humbert is to some extent a danger sign to every one in a prominent position, we trust not a serious one, but one that nevertheless should not be ignored.

Another question arises in connection with this subject, and that is: Are not some of us going a little too far in seeing a pathologic side to all criminality? It is very easy to say that criminals, as a class, are degenerates, as compared with non-criminals. We can also say that every one that does not follow a rational utilitarian moral standard is defective in his mental balance or self-control. We are not arguing here for the condign punishment of lunatics, but simply for a reasonable estimation of responsibility which is not always lost because the individual possesses certain mental and physical defects. There is sometimes a sentimentalism even in medicine that has very little practical use in such cases as these.

EIGHTEENTH CENTURY MEDICAL EDUCATION IN ENGLAND.

The presidential address of Dr. Elliston before the British Medical Association, which we give in abstract in this issue, contains a very interesting history of the leading facts of British medicine from the earliest times down to the present. Some of these are medical curiosities and all will be of interest to our readers. It seems a little strange to learn that medical education was so backward in England up to so recent a period and that the regular medical college hardly existed before the middle of the eighteenth century, if indeed it did then. From the history of American medicine, comparing it with this, we can see that the early medical pioneers of this country were fairly representative of their confrères in Great Britain. Dr. Osler's prophecy, noticed in one of the recent issues, that the time will come when transatlantic students will look to this country for their inspiration, is, we hope, in the near future.

LODGE PRACTICE.

Lodge practice seems likely to become a factor in politics in British Columbia. The local medical society of Victoria passed a resolution agreeing not to consult with lodge doctors, which was agreed to by all the local profession. Then the lodges proposed to import physicians, but were saved this trouble by the defection of two members of the association. This, of course, is only a partial relief and now they are proposing to make a political issue, the repeal of the provincial medical-practice act, which they claim puts it in the power of the local profession to debar from practice whomsoever they may choose. This insinuation of unfairness by the medical examining board is resented of course, but it will be used probably for all it is worth as a political pretext. One feature of the trouble is the acrimonious correspondence in the newspapers by one of the two seceding physicians, Dr. Ernest Hall, who has some reputation for his claims of curing insanity by gynecologic operations. So far as we can judge from the reports, the members of the local profession are acting in a perfectly legitimate and commendable manner and the outcome will not be to their disadvantage if they work harmoniously and stay together.

THE CALL TO TEACH.

The *Post-Graduate,* in its July issue, remarks that it has no sympathy with the "mute inglorious Miltons" of the medical profession who want to be professors and can't. Every man, it says, "has his chance here." We should think he had. THE JOURNAL once made an estimate of the proportion of medical professors to the general profession in one of our great medical centers, and found that about one physician in every five and a half held some position on one or more medical faculties, and some had three or four. This, too, without counting the extreme irregulars outside of the three recognized schools of medicine, and the carpenters, waiters, *et id omne genus* who are on the faculty rosters of the diploma mills. The remark of Dr. Austin Flint, quoted by the *Post-Graduate,* that there is always "a place in some medical college for every man who could really teach," is the very mildest kind of truth; it does not cover half the facts. The question as to the effect of this facility on the welfare of the medical profession generally is hardly ever raised, certainly not by the multitudinous professors. A call to teach, like a call to preach, can not be disregarded; there are comparatively few that have it on their conscience that they have ever refused one, and the medical propaganda goes merrily on.

THE PROGNOSIS OF TUBERCULOUS MENINGITIS.

Recovery from tuberculous meningitis has been recorded quite a number of times. In the older cases of this kind bacteriologic confirmation of the diagnosis is lacking, but in many the clinical course of the disease and the name of reporter offer a certain guarantee of its correctness. In some cases subsequent autopsy disclosing calcified tubercles in the spinal and cerebral leptomeninx has placed the diagnosis beyond doubt. Freyhan, and recently, Henkel[1] have recorded cases of recovery from clinically typical tuberculous cerebrospinal meningitis in which the diagnosis was clinched by the demonstration of tubercle bacilli in the cerebrospinal fluid obtained through lumbar puncture. In Henkel's case, a 10-year-old boy, there was optic neuritis and paresis of the ocular muscles. The disease presented more or less typical and active symptoms for about two weeks, when a gradual improvement began, some fever persisting for several weeks. The first attempts to walk showed a tendency to tumble to the right, but this also passed away. In the fourth week the hair began to fall out. The treatment consisted of a few small doses of calomel and daily baths. The prognosis of even tuberculous meningitis consequently admits of a ray of hope.

TRADES UNIONISM AND PHYSICIANS.

As a natural suggestion from recent events that have largely occupied the attention of the public, it may not be out of place to casually notice the charge frequently made, and recently elaborated by a labor periodical, that the medical profession is organized and acts on trades-union principles. The chief basis for this is the desire and effort of the profession for laws regulating medical practice, which, the trades unionist assumes, correspond to his own methods. If trades unions required nothing more than that a man should know his business, and did everything in their power to multiply their competitors; if they set up free dispensaries for giving out their services gratis; if they never struck, and, least of all, when their services were most demanded, and did a large part of their work gratuitously for the deserving and the undeserving, made no limits as to hours, but served willingly at all times, pay or no pay, then there might be some comparison between them and the medical profession. As the case stands, it is the grossest misrepresentation to say that there is any resemblance between them whatever. A strike of doctors in time of an epidemic or emergency would be a sight for gods and men, an interesting object-lesson of the beauties of the procedure, and would call into action the vicarious virtue of the social reformers as nothing else could. Even an attempted organization against the dead-beats to refuse them credit, works up the lay press into virtuous indignation against the inhumanity of the mercenary doctors. No one would wish the medical profession to repudiate any of its honorable traditions or become less altruistic in its motives and methods. It would be directly in the right line, however, if a very large proportion of its members could adopt a self-denying ordinance against taking professorships and multiplying medical colleges.

THE PERCEPTION OF THE BLIND.

In the *Doctors' Magazine* for July is an article by Frederick Boyd Stevenson giving an account of certain inmates of the Illinois Industrial Home for the Blind, who, though totally blind, possessed the faculty of recognizing objects, to a certain extent, without the apparent aid of the other senses. Thus, one could tell when he was approaching a tree or a curbstone and could even recognize the different individuals in the room. But if he was expecting to meet persons he could not tell whether any one was in the room or not. Similarly, if the electric light was turned on unexpectedly he was aware of it, but if it was announced beforehand he could not recognize the difference. Attention or expectation seemed to destroy the peculiar perceptive faculty possessed by the individual, which seems, therefore, to depend somewhat on the untrammeled exercise of all the powers of unconscious sentience or of some special as yet unrecognized faculty called into action by the deprivation of sight. This last is what is most readily assumed, but whether correctly is a question. Stevenson adopts this view and quotes some reported facts of somnambulism as being at least suggestively explanatory. Just how perceptions reach the conscious centers is not always clear and there may be possibilities as yet unthought of. The case of the perception of light through the nose reported a year or two ago is in point. It hardly seems necessary, however, to admit more perhaps than a sharpening of the unconscious sensory cerebration which we utilize in every movement and function, but which in the full use of our senses may not be called into action. This may not be an adequate explanation, but it suggests itself as being as reasonable as any. The perceptions of the blind are a subject not yet fully exhausted by the psychologists.

---

[1] Münch. Med. Woch., 1900, No. 23.

FAITH CURE, CHRISTIAN SCIENCE, ETC.

Every generation, perhaps every decade, seems to have its fad or fads, and the recent past has not differed from remote antiquity in this respect. A certain period evidently is required for the public to realize its mistakes, but such a fondness does it have for the mysterious and the unreal, so anxious is it to be deceived, that it no sooner drops one delusion than it takes up another. We have thus had within the present century Perkinism, Mesmerism, Keelyism, Eddyism, faith-cure, osteopathy, etc. We have, perhaps, entered on an era of "suggestive therapeutics." Most of those mentioned are dead or already dying, and we must await with patience the advent of the next. Sometimes the public awakes, thinks, lets its passion run unbridled and overcome good judgment and then something happens. In an Ohio town a self-styled divine healer of the Dowie stripe, under whose ministrations several infants had died and other disastrous consequences had resulted, was taken from his hotel, stripped naked, and was about to be tarred and feathered, when the police interfered, although the man was almost killed in the conflict. An illustration of the extremes to which the faith-cure delusion may be carried was brought to light recently in Philadelphia in consequence of the death of a child 7 months old from convulsions during dentition, for which no medical attention was provided, because, in the language of the man to whom its care was entrusted, "it is against our religious principles. We are children of God, and believe in the cure of disease by prayer." In reply to an inquiry by the coroner, who was called upon to investigate the cause of death, as to who had suggested the establishment of the "Orphanage" in question, the answer came: "The Lord by His spirit." The jury to whom the case was submitted took a less spiritual view of the matter and rendered a verdict of death due to criminal neglect, and the principals were committed to prison to await trial on this charge. Even this, however, failed to cause dismay, as "deliverance through faith" from such a little annoyance was confidently hoped for. Instances of the sort related have become far too common, but similar summary treatment would go a great way to diminish their frequency.

Medical News.

A Bureau of American trained nurses has been established at 102 rue Vaugirard, Paris, under the direction of Mrs. W. H. Booth.

The druggists and physicians of Hamburg, Germany, have appointed a committee of six members to devise measures to check the spread of quackery.

At the Centenary of the Royal College of Surgeons July 26, diplomas of honorary fellowship were presented to Drs. W. S. Halsted, Baltimore; W. W. Keen, Philadelphia; R. F. Weir, New York; J. Collins Warren, Boston; I. H. Cameron, Toronto; and Sir W. H. Hingston and T. G. Roddick, Montreal.

An order drafted by the marine-hospital service was promulgated by the President July 28, establishing a national quarantine against Cape Nome and Dutch Harbor, Alaska, on account of epidemic smallpox at these points. Supervising Surgeon-General Wyman has notified the surgeons at these places of this order and has directed its strict enforcement.

Dr. S. A. Knopf, of New York, has been awarded the prize of 4000 marks offered by the International Congress on Tuberculosis, of Berlin, for the best essay on "How to Fight Tuberculosis As a Disease Among the Masses." Eighty-one essays were offered in competition. We believe this is the second international prize on tuberculosis that has been won by Dr. Knopf.

Red Cross Nurses.—Dr. Anita Newcomb Magee, lieutenant in charge of the corps of female army nurses, says that there are now 145 army nurses, practically all of whom are on duty in the Philippines, or on their way there. A bar to the sending of army nurses to China has been suggested, namely, that as China is not a party to the Geneva convention, she might not treat nurses as non-combatants.

The British Medical Association.—From the various reports submitted to the council of the British Medical Association and which were presented at the annual meeting this week, we abstract the following: The number of members of the British Medical Association last year was 18,185; during the year 957 new members were elected, 231 died, and 529 resigned or were taken off the list for arrears, leaving on the books

18,382, a net increase for the year of 197. The total revenue for the year ending Dec. 31, 1899, was £43,263, about $216,000. The expenditure was £36,981, leaving a surplus of £6272, a little over $31,000. The excess of assets over liabilities at the end of 1899 was £75,991, about $374,000. There are thirty-eight home Branches, which are reported in a healthy condition with membership increasing. The Colonial Branches, however, are causing the council anxiety, as these are not thriving, not a few being dormant. The Western Australian Branch is flourishing, and has successfully influenced medical legislation.

ILLINOIS.

Dr. Gurdon A. Potter, Belvidere, has been appointed a surgeon by the Navy Department.

Cases of ivy poisoning have been so numerous recently in Evanston that the inhabitants have begun a war of extermination on the dangerous plant.

Chicago.

Dr. L. Harrison Mettler is on a trip through the Northwest with his bride.

St. Luke's Hospital has received a bequest of $5000 from the late Mrs. Ellie McKindley.

Merck & Co. announce that they have opened a branch house at 227 Randolph street, under the charge of Mr. J. W. Parry.

Dr. E. R. Moras, who was married July 20 to Miss Anna Stamm, is in Europe on his wedding journey. They will remain until the first of December.

The Diet Kitchen, which was opened in June for the purpose of supplying pure food and milk for infants, has thus far fed 414, and the number applying for medical aid and food is rapidly increasing.

The report of an epidemic of smallpox at Chicago Heights has been investigated by Dr. Meyerovitz, of the State Board of Health, who finds one case of smallpox and sixteen cases of scarlatina. On the principle of locking the stable door after the horse is stolen, the citizens have held a mass meeting to consider the improvement of the present primitive sewer-system.

ALEXIAN BROTHERS' HOSPITAL.

The annual report of this hospital for the year 1899, has just been issued. It shows that the patients in the hospital on Dec. 21, 1899, numbered 174, and the number received during the past year was 2406, making a total of 2580 patients treated at the hospital during 1899. This shows an increase in the number of patients at the hospital during 1898 of 15 per cent. The report also shows that during 1899 1714 patients were cured, 354 improved, 86 not benefited, and 184 died. Those received at the hospital during the year in a dying condition numbered eighty-two. Of the total number of patients, 1549 were single, 745 were married, 286 were widowers. Among them were 1486 Catholics, 948 Protestants, 39 Hebrews and 107 who professed no religion at all. The average age of the patients was 47½ years.

ILLINOIS RIVER WATER.

Peoria, and not Chicago, is said to pollute the water of the Illinois river. The State Board of Health has made sanitary investigations of the Illinois river and its tributaries both before and after the opening of the drainage canal. The preliminary report, based on analyses made by Professor Long, of the Northwestern University Medical School, shows that the waters of the lower Illinois river, at least, are not polluted by the flow from the drainage canal. He considers the cattle-shed filth of Peoria and not the Chicago sewage as the main factor in the pollution of the lower river. This is a confirmation of the results obtained after analyses of water from the Chicago River and Illinois and Michigan Canal, made in 1879, by Dr. S. C. Stanton, who found marked increase in organic impurity below towns and cities, which extended, however, for only a short distance. At Summit, for instance, only eight miles from Bridgeport, there was less organic impurity than was found the same distance below Joliet.

HEALTH DEPARTMENT.

Chief Sanitary Inspector Young has started a vigorous crusade against unsanitary rag and junk shops. Warning notices have been sent to all dealers, and should they not comply with the regulations of the Department, arrests will speedily follow.

No case of smallpox has been reported during the past week and the Isolation Hospital contains only one patient, who will probably be discharged in a few days.

The weekly bulletin for the week ended July 26 still shows an exceptionally low mortality. The total deaths from all causes were 438, a reduction of 16 from the previous week's record, and of 108 from the corresponding week of 1899. The comparative death-rate per thousand for the same periods is, 12.33, 12.78 and 16.24. The deaths of males were 247, of females 191. Under one year of age 153 died; between 1 and 5 years, 43; and over 60 years, 56. The principal causes of death were: Acute intestinal diseases, 121; consumption, 61; heart diseases, 26; Bright's disease, 20; pneumonia, 18; nervous diseases, 15; cancer, 10. No deaths from sun-stroke were reported: 4 committed suicide and 19 deaths were due to violence. Births reported during the week were 565; 288 males and 277 females.

The contagious cases reported were 47, of which 22 were scarlatina, 23 diphtheria and 2 measles. The Department laboratory analyzed 557 samples of milk, 5.20 per cent. of which were found below grade.

The report of mortality for the month of July shows a very marked improvement over the corresponding month of last year. The total deaths were 2069 or a mortality of 13.91 per thousand, as compared with 2360, or 17.39 per thousand mortality in 1899. These figures are based upon a population of 1,750,000, and the death-rate per 1000 would be correspondingly lower if the figures of the census of 1900 had been used. The deaths by sexes were: July, 1900, males, 1149; females, 920; July, 1899, males, 1332, females, 1028. Under 1 year, 616 died; between 1 and 5 years 224; and over 60 years 300 in July 1900; the figures for July, 1899, were respectively 795, 328 and 295. The principal causes of deaths for the month in 1900 and 1899 were as follows: Acute intestinal diseases, 447-702; apoplexy, 27-24; Bright's disease, 96-91; bronchitis, 42-45; consumption, 237-198; cancer, 69-80; convulsions, 53-57; diphtheria, 41-47; heart diseases, 133-125; nervous diseases, 149-124; pneumonia, 92-116; typhoid fever, 26-41; scarlet fever, 10-20; suicide, 25-37; violence, 110-135.

In commenting on these figures, Dr. F. W. Reilly, assistant commissioner of health, remarks:

"As compared with July, 1899, there is a decrease of 30 per cent. in the deaths of infants and children under 5 years of age, and of 41 per cent. in the deaths from the impure-water diseases. It is yet too early to demonstrate by the disease and death-rates the effect of the heavy rainfall of last week, when nearly an inch and a half fell in eleven hours. The records and charts of the Department for years show that such a rain, without exception, polluted the water-supply and caused a marked increase of acute intestinal deaths during the following seven or eight days and of the typhoid-fever deaths within the following four or five weeks. According to the chemical examinations the water-supply has not been polluted by last week's rain, nor has there yet been noted any increase of the impure-water diseases. There is no obvious cause for this gratifying departure from the usual results of a sewer-flushing rain other than the action of the drainage channel. From the standpoint of the public health and the saving of human life the cost of the channel is the best investment Chicago ever made."

PENNSYLVANIA.

Philadelphia.

Dr. Henry D. Beyea has sailed for Paris.

Dr. Albert E. Roussel will spend the summer at Cape May.

During the summer Dr. Henry Beates and Dr. H. A. Hare will cruise along the Atlantic coast.

At the last meeting of the Royal College of Surgeons of England, held July 27, Dr. W. W. Keen, of this city, was elected to honorary fellowship.

THE CORNER-STONE of the new annex of St. Mary's Hospital was laid July 25. The new addition will cost about $100,000.

ON JULY 30 an entertainment was given at Swarthmore for the benefit of the Rush Hospital for Consumptives and the Pay Hospital for Contagious Diseases.

DR. JOHN H. GARVIN and DR. GEORGE ERETY SHOEMAKER have been appointed gynecologists to the Presbyterian Hospital to serve six months each. A vacancy was caused by the death of Dr. R. M. Girvin.

DR. H. W. STELWAGON, clinical professor of dermatology in Jefferson Medical College, has gone to Europe. After attending the International Medical Congress in Paris he goes to Copenhagen to study the treatment of cutaneous diseases by concentrated light rays, at the Finsen Institute.

MORTALITY STATISTICS.

The number of deaths reported for the week just closed was 514, a decrease of 50 over the previous week, and an increase of 33 over the corresponding period of last year. The principal causes of death were: apoplexy, 13; cancer, 13; cholera infantum, 75; consumption, 75; pneumonia, 24; sunstroke, 26; marasmus, 31; diphtheria, 8; scarlet fever, 1; typhoid fever, 12.

ADULTERATED FOODS.

Two wholesale dealers were, during the past week, held in $400 bail, both being charged with selling adulterated spices, and one with selling "renovated" butter. In this connection it is said that the Bureau of Health of this city has received instructions from Harrisburg to act with the state authorities in suppressing the practice of adulterating foods.

FREE FROM SMALLPOX.

Colonel J. Lewis Good, chief of the Board of Health, announces that the last case of smallpox confined in the municipal hospital has convalesced and that the city is now entirely free from the disease. The quarantine in the negro settlement, where there was a recent outbreak of the disease, has been raised. None of the affected have died, showing its mild type.

ST. TIMOTHY HOSPITAL.

The managers have acknowledged the receipt of $10,000 from J. Vaughan Merrick for the purpose of extinguishing the ground rent of the hospital, which amounts to about $8000; $2000 will go toward the endowment fund. The hospital has also received the sum of $5000 from John H. Dearnley for the purpose of endowing a free bed in memory of his daughter, Martha A. Dearnley. A gift of $50,000 has also been received from the estate of Percival Roberts, which will go toward defraying the cost of the addition to the hospital, now in the course of erection.

WILL OF DR. JOHN ASHHURST, JR.

The will was admitted to probate on July 24. To his widow, Sarah Wayne Ashhurst, is devised as many books from his library as she may wish. A codicil provides that the College of Physicians shall have the right to select 1500 volumes from his medical library. Future editions of his "Principles and Practice ot Surgery" have been entrusted for editing, revision, etc., to the care of Dr. Richard H. Harte, assisted by Dr. William W. Ashhurst and Dr. Astley P. C. Ashhurst. A conservative estimate of the value of the estate has been placed at $190,000.

NEW YORK.

DR. C. C. HARVEY, Dundee, sailed for Europe, July 21.

DR. MARCEL HARTWIG has been elected president of the Buffalo Academy of Medicine.

DR. CLARKSON SCUYLER, of Plattsburg, has offered a yearly prize of $100, to be awarded for the best essay written by a graduate of the Albany Medical College. The subject for next year is "The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery." Essays should be sent to Dr. S. B. Ward, Albany, before March 1, 1901.

FAYERWEATHER BEQUESTS.

The decision of the Fayerweather will case was rendered on July 12, and the will declared valid. By its terms $210,000 is bequeathed to the Woman's Hospital; $50,000 each to St. Luke's and the Presbyterian hospitals, and $25,000 each to Mount Sinai and the New York Cancer hospitals, the Methodist Hospital, Brooklyn; the Manhattan Eye and Ear Hospital, the New York Eye and Ear Infirmary and the Montefiore Home for Chronic Invalids.

ALBANY MEDICAL COLLEGE.

The faculty of the college has announced these appointments: Arthur G. Root, professor of diseases of the nose and throat; George Blumer, adjunct professor in histology, pathology and bacteriology; Arthur Wells Elting, instructor of surgery and master of surgical clinics at the Albany hospital; Harry Judson Pines, lecturer in obstetrics; Edgar Roscoe Stillman, of Troy, instructor of physiology; Edgar Albert Vander Veer, instructor in surgery; James Wesley Wilsie, instructor in materia medica; Lansing Betts Winne, instructor in clinical medicine; Warren Harkness Everett, instructor in embryology. The clinical assistants this year will be: Harry Seymour Pearse, William Henry George, Michael Daniel Stevenson, Washington Irving Goeway, Robert Hill Tedford, Jr., Fred Newman Guyer.

New York City.

THE ANNOUNCEMENT two weeks ago that the New York School of Clinical Medicine was permanently closed, was evidently founded on a false report. The school is still open.

CORNELL MEDICAL COLLEGE.

The new building of this college is nearly complete. It has cost, including the site, more than $600,000, all of which has been furnished by Col. Oliver H. Payne, who has also created a large endowment fund.

INFANT MORTALITY.

More bodies of children were received at the Bellevue morgue on July 17 than on any day since its institution. At midnight on that date the bodies of 33 children of 5 years old and under had been received, 11 of which were sent from private houses and 22 from hospitals.

MARYLAND.

DR. ABRAHAM CLAUDE, Annapolis, recently celebrated his golden wedding anniversary.

DR. GUY STEELE has been appointed health officer for the city of Cambridge and Dorchester County.

THE LOCAL registrars of vital statistics in the counties, of whom there are several in each county, under the act of 1900, receive a fee of 20 cents for each full record and return. Payment is made only on certification by the state registrar that the certificates are in fact duly executed and returned.

Baltimore.

DR. T. C. GILCHRIST sailed for Paris, July 21.

DR. JOHN J. CALDWELL has been appointed editor of *The Medicus*.

DR. WILLIAM LEE HOWARD is cruising along the Atlantic Coast in his sloop yacht *Kelpie*. He will go as far east as Halifax.

PROF. R. DORSEY COALE has been elected dean of the University of Maryland School of Medicine, vice Dr. Charles W. Mitchell, resigned.

DR. WILLIAM HALSTED.

Dr. William S. Halsted, who has been elected to honorary fellowship in the Royal College of Surgeons of England, is a native of New York City, and is 48 years old. He took his A.B. at Yale in 1874, and M.D. at Columbia College, N. Y., in 1877. He served as demonstrator of anatomy in his alma mater, and assisted in Bellevue, Roosevelt, Presbyterian and other hospitals in New York. On the opening of the Johns Hopkins Hospital he began work in Professor Welch's laboratory, and in 1893 he was made chief surgeon of the hospital and professor of surgery in the University.

CALIFORNIA.

LANE MEDICAL LECTURES.

The fifth course of the Lane Medical Lectures, inaugurated in Cooper Medical College in 1896, will be given in 1900 by Sir Michael Foster, K.C.B., M.P., Professor of Physiology, University of Cambridge, England. These lectures will be given on the days and hours, as follows: August 20, 11 a.m., Vesalius, his forerunners and followers; the beginning of modern physiology. August 20, 8 p.m., Harvey, and the circulation of the blood; the lacteals and lymphatics. August 21, 11 a.m., Borelli and the influence of the new physics. August 21, 8 p.m., Malpighi and the physiology of glands and tissues. August 22, 11 a.m., van Helmont and the rise of chemical physiology. August 22, 8 p.m., the physiology of Sylvius and his pupils; digestion in the Seventeenth Century. August 23, 11 a.m., the English School; the physiology of respiration in the Seventeenth Century. August 23, 8 p.m., Priestly and Lavoisier; the modern doctrines of respiration. August 24, 11 a.m., Réaumur and Spallanzani; the physiology of digestion in the Eighteenth Century. August 24, 8 p.m., Haller and the physiology of the nervous system.

MISSOURI.

DR. EDWIN E. HUNTER, St. Joseph, has been appointed assistant city physician.

THE *Medical Review* begins the new volume with a slight change in its title. Hereafter it is to be known as the *St. Louis Medical Review*.

SEVERAL ADDITIONS have been made to the faculty of the College of Physicians and Surgeons in Kansas City. Herman E. Pease will have the chair of gynecology; Howard Hill, surgical anatomy; A. M. Wilson, physiology; Joseph B. Connell, dermatology; George Boyd, bacteriology and pathology.

MICHIGAN.

DR. H. M. GALE, Bay City, has returned from Europe.

THE MICHIGAN State Medical Society, at its last meeting, appointed Dr. E. Amberg, Detroit, to represent it on the Committee on National Legislation of THE AMERICAN MEDICAL ASSOCIATION.

THE BOARDS of the four state insane asylums met in Traverse City, July 19. A committee was appointed to revise the asylum laws; and if deemed advisable, the revision will be introduced as a bill in the next legislature.

VERMONT.

THE MEDICAL board of St. Albans met July 18 for the election of officers. The result was as follows: president, J. N. Jeune; vice-president, Allan Davidson; secretary, C. P. Lunderville; executive committee, J. N. Jeune, C. C. Berkley, A. A. Skeels.

DR. GEORGE ANDERSON has resigned his position as house surgeon at the Mary Fletcher Hospital in Burlington, and has gone to Pittsford, where he will practice. Dr. C. A. Pease has been appointed to succeed him, and Dr. F. T. Jackson will succeed Dr. Pease.

OHIO.

THE WILL of Dr. Chas. Judkins, who died in Cincinnati, July 1, has been filed for probate. The estate is valued at $100,000, the use of which is left his wife her lifetime. At her death $40,00 will be used to establish an academy of medicine in Cincinnati, and the rest will be divided among the heirs.

IOWA.

DR. DAVID McDILL, Burlington, has been appointed physician for the federal penitentiary of Kansas.

THE KEOKUK Medical College has added a department of pharmacy, that will be opened this fall.

CANADA.

MOSQUITO SPECIMENS.

A number of Canadian entomologists are busily engaged collecting mosquitoes, with a view to submitting reports to the Naturalists' Club. They are at present prosecuting their researches in Antigonish County, N. S., and one has already upward of eighty specimens captured in various parts of that district within the last two months. He states that there are already known to be fifty varieties, differing in appearances, habits and seasons for work. There the mosquito apparently thrives but malaria is unknown.

MARITIME MEDICAL ASSOCIATION.

(Concluding Report.)

The question of Dominion Registration was debated at the second day's proceedings of the Association. Dr. McNeil, of Prince Edward Island, a past-president of the Association, wrote asking that the meeting indorse the proposition unanimously. Speaking on the matter, Dr. Farrell, of Halifax, said that they had to look at the matter of inter-provincial registration as it stood. Dr. Roddick's bill in parliament had never yet seen the light in that assembly. Whether it would become law he could not say. The medical councils of the different provinces had never yet met in council on the matter. It would be easy for these councils to take up the matter, as it came legitimately under their control and they had funds for such purposes. Dr. Armstrong, Montreal, who was present at the meeting, said he understood from Dr. Roddick that he had thought it wiser to wait another year before pushing his bill. Dr. Farrell, seconded by Dr. S. Jenkins, of Charlottetown, then presented this resolution: "That this meeting desires to express its sense of obligation to Dr. Roddick for his unceasing efforts to obtain Dominion registration and to assure him of the continued support of The Maritime Medical Association." The following officers were elected: president, Dr. W. S. Muir, Truro, N. S.; vice-president for Nova Scotia, Dr. Thomas Trenaman, Halifax; vice-president for Prince Edward Island, Dr. Ross; vice-president for New Brunswick, Dr. Inches; Dr. G. M. Campbell, secretary; Dr. T. D. Walker, St. John, N. B., treasurer; local committee, Drs. Farrell, Wickwire, Curry, Kirkpatrick, Tobin and C. D. Murray, Halifax. Next place of meeting, Halifax.

Toronto.

A TORONTO physician has designed the latest development of the electromobile. It is a self-propelled invalid's chair, and has a capacity for a fifteen-mile run at the rate of four and one-half miles per hour.

CHANGES IN MEDICAL FACULTY, TORONTO UNIVERSITY.

The Senate of Toronto University has ruled that there shall be an examination at the end of the third year hereafter, in the medical course, and has also recommended the following changes, promotions and appointments on the staff: Dr. J. A. Amyot, to be associate professor in pathology and bacteriology, or professor of clinical pathology at his option; Dr. F. N. G. Starr, associate professor of clinical surgery and also demonstrator of anatomy; Dr. Walter McKeown, B.A., demonstrator of clinical surgery; Dr. Clarence L. Starr, demonstrator of clinical surgery instead of assistant demonstrator of anatomy. A. R. Gordon, M.B., demonstrator in clinical medicine instead of assistant demonstrator of anatomy; Dr. R. D. Rudolf, lecturer in medicine and clinical medicine, instead of assistant demonstrator of anatomy; Dr. K. C. McIlwraith, demonstrator of obstetrics, instead of assistant demonstrator of anatomy; Dr. W. P. Caven, associate demonstrator of clinical medicine; Dr. Alexander McPherson to be professor of medicine and of clinical medicine, in the place of the late James E. Graham; Dr. H. T. Machell, associate professor of obstetrics and pediatrics, his work to be confined to pediatrics; Dr. Graham Chambers, M.A., demonstrator of clinical medicine; Dr. G. R. McDonagh, professor of laryngology and rhinology; W. H. Ellis, M.A., M.B., professor of toxicology; Bertram Spencer, M.B. professor of medical jurisprudence; and Dr. W. H. Beemer, superintendent of the Mimico Asylum for the Insane, to be extra-mural professor of mental diseases.

JUDGMENT RE CONSUMPTION SANITARIUM SUIT.

This morning the magistrate rendered judgment in the case of Dr. Edward Playter, who is the proprietor of the consumption sanitarium at "Highfields," Moore Park, North Toronto. The charge against Dr. Playter, entered by the health officer of the township in which his institution was situated, was that of conducting "a noxious and offensive business." The magistrate has decided that the defendant is the sole and only person responsible for the establishing of the institution, without having obtained the consent of the municipality. He further decided under Section 72 of the public health act that the doctor was carrying on an offensive and noxious business, his establishment in no way being a sanitarium or a hospital. What few patients had availed themselves of the advantages of this so-called sanitarium were in the habit of lying along the streets, expectorating on the footpaths and sidewalks, and also into a large excavation on the back of the premises, without in the latter case, any effort being put forth to disinfect the contents. To this sort of thing the neighbors righteously objected; and on June 15 the Doctor was formally notified by the township health officer to remove his establishment to other quarters. Failing this, suit was brought to compel him to desist in his attempt to carry on a consumption sanitarium. The magistrate imposed the following fines: "I find the accused guilty of the offence charged and fine him $200 and costs, $21.50. He was notified to desist June 15, but, according to his own evidence, he had a patient there on July 25. For this he is fined $5.00 per day for each day, 40 days, or $200 additional." When distress is levied, if there be not sufficient to satisfy it, the Doctor, unless appeal be taken, must spend fourteen days in jail at hard labor. At the conclusion of his judgment, the magistrate remarked, that, "because of the strenuous opposition of the public, it would be useless to impose a nominal fine." The effect of the judgment in this case, which has been watched by the medical men of the city with no little interest, will no doubt have the effect of deterring others who may be similarly disposed from establishing such institutions without due and proper authority.

Montreal.

THE EXHIBIT sent to the Paris Exhibition by McGill University, for which a gold medal has been awarded, was composed of a magnificent series of mounted photographs, showing the exteriors of the university buildings, as well as the interiors of the most important lecture-rooms, laboratories, etc.

ACCORDING to the mortality statistics, there was another very large death-rate in Montreal last week. The total deaths recorded reached 183. Infantile debility claimed 107; consumption and other chest diseases, 17; diphtheria, 3; scarlet-fever, 1; typhoid-fever, 3; measles, 1; whooping cough 3, and smallpox, 1.

WORK is progressing on the additions to the medical faculty buildings for McGill, and a few of the new class-rooms will be ready for use in October. The old lecture amphitheater and the department devoted to pathology have been demolished entirely, and upon the sites they once occupied the new buildings are being erected. These improvements will cost $60,000.

INFANT MORTALITY.

The causes of the extraordinarily high death-rate at present prevailing among Montreal's children is causing the members of the Hygiene Committee keen concern and it is felt that something must be done to prevent this heavy death-rate among the innocents during the summer months. Out of a population of barely 300,000 it is truly appalling that in one week 116 deaths should be reported among infants, to be supplemented the next week by 107. The city health officer, Dr. Laberge, considers that the main causes for the death of these infants are the ignorance of mothers as to how properly to feed and take care of them; also overcrowding, want of fresh air, and, finally noxious privy pits in the city. A recently compiled mortality table shows that in the poorer wards of the city the death-rate is much heavier than in the western wards. A determined onslaught is to be made upon the privy pits, a source of great danger to infant life. Of these, in 1891 the city possessed 8528, whereas now they are 5201 in number. Alderman Ames, the chairman of the Hygiene Committee, has made a special study of sanitary matters of the city, and writing about these pits says that not 5 per cent. of them conform to the provisions of the by-law, which requires that they be water-tight. In the study which he made of this particular question three years ago, he was able to show that the death-rate and the prevalence of contagious diseases followed proportionately the number of privies in various localities. He is now fathering a measure before the city council which shall permit no privy pit to exist after May 1, 1900, without special permission granted by the Medical Health Officer. In this way will Montreal endeavor to get to the bottom of this harassing question.

Correspondence.

True Origin of the Epidemic of Yellow Fever.

NEW ORLEANS, La., July 21, 1900.

To the Editor:—"True Origin of the Epidemic of 1897 (Yellow Fever)", is the title of a well-written and very interesting article, in which Dr. J. H. White, of the United States Marine-Hospital Service, shows to his thorough satisfaction that yellow fever was introduced into Ocean Springs, Miss., in 1897, by a man named Thomas Shannahan.

Dr. White says (report of U. S. M.-H. Service for 1898, page 536):

> Thomas Shannahan came from Guatemala, where he spent a short time prior to sailing, at a hotel in Port Barrios, at which hotel yellow fever is said to have existed. He sailed from Port Barrios, on April 8, on the steamship *Breakwater* and arrived at quarantine at Port Eads on April 12, and the quarantine season not being at hand, he suffered neither detention nor disinfection of his effects. He arrived at Ocean Springs, Miss., on April 13, and was sick on arrival with chill and subsequent fever and great weakness. He went to his home, which is a hotel or boarding-house. In this house resided several small children who went to school in the village with the children of other families.

Dr. Walter Wyman, Surgeon-General U. S. Marine-Hospital Service, partly corrects this report in a subsequent statement, which reads as follows:

> In April, 1897, an American citizen, temporarily sojourning in Central America, determined to return to the United States.
>
> He was in San José, a small city on the Pacific Coast of Guatemala, one of those unsewered, insanitary Central American coast cities which are the breeding spots of yellow fever, where the disease prevails annually and is limited only by the amount of new material to feed on. He left in apparent good health, on or about April 6, and, partly on mule back and partly by rail, ascended the mountains and crossed over to the Atlantic Coast to Port Barrios, where he arrived April 7, and at once took a steamer for New Orleans.
>
> From the latter port he immediately proceeded to his home in Ocean Springs, Mississippi, where, on April 13, he was seized with an attack of yellow fever so mild as to escape observation. In due course of time, by the latter part of August, there was a well-defined epidemic of yellow fever in Ocean Springs, and it had spread to other states, with results which must still be fresh in the minds of all here present, of shotgun quarantines, disturbance of business, interruption of passenger traffic, hardships imposed on travelers, and all the other unhappy concomitants of a yellow-fever epidemic.
>
> The foregoing mortality, therefore, the interruption to traffic and travel, and the injury to the business of great commercial cities, almost incalculable in amount, during the last three years, can be traced to the conditions prevailing in the little town of San José ,on the Pacific Coast of Guatemala.—"Our Sanitary Obligations," *Morning News*, of Savannah, Ga., March 22, 1900.

It is truly remarkable, and almost incredible, that men of such standing and of such undoubted ability, should utter so lightly these terrible statements.

Quite recently—July 5, 1900—Dr. Wyman has made a still further correction, as follows:

> . . . It should be noted, however, that one statement of this report (i. e., of Dr. White) is erroneous and was intended to be corrected before publication, viz., the statement that yellow fever existed at Port Barrios.
>
> It was intended to state that yellow fever existed at San José, whence this party crossed the isthmus and took ship at Port Barrios.

Dr. C. P. Wilkinson, resident physician of the Mississippi River Quarantine Station refutes these charges in the report of the Louisiana State Board of Health for 1898-1899. After quoting the paragraph from Dr. White's report relative to Shannahan's return from Gautemala, as above set forth, Dr. Wilkinson says:

> From the Shannahan hotel Surgeon White traces a case of what was diagnosed spinal meningitis by the attending physicians, April 22. From these two cases, Surgeon White attempts to trace connection with every other case of sickness in Ocean Springs. It is well to bear in mind that not one fact of these cases was in possession of Surgeon White, until some time in September of that year.

His house of cards will collapse if he can not trace any connection of Shannahan with yellow fever in Gautemala. A whole theory, a solution of a scientific problem, a guide to the conduct of a large commerce, and the protection of life and property is based on—"*said to have existed.*" Authority for the statement is not quoted.

. . . .

It is not possible that infection, existing at Port Barrios, could be carried away to Ocean Springs, and at the latter place spread, and at the former instantly die out. Nor is it possible that Shannahan only would carry away infection, for there were others departed from the same hotel at Port Barrios, who went to other places, and who did not convey infection. Further than this, reliable testimony of the conditions prevailing at Port Barrios, in April, 1897, could have been obtained by Surgeon White in any investigation having the whole truth as its object, and this testimony would have absolutely convinced any intelligent person that Shannahan's connection with yellow fever in Guatemala was disproved. The following specific letter furnishes valuable testimony to contradict Surgeon White's assertion:

"January 1, 1900.

"Dr. C. P. Wilkinson, Resident Physician, Mississippi River Quarantine Station: *Dear Sir:*—On April 20, 1897, I visited Port Barrios, Guatemala, visiting the hotel at that small place. While I was not on any official mission, I did not neglect to avail myself of the opportunity of inquiring into the health status of the various ports in British and Spanish Honduras and Guatemala, which I visited at that time. The statement that yellow fever existed at the hotel in Port Barrios, about April 8, 1897, is untrue. To my knowledge there was none at the time of my visit, April 20, 1897; nor was there any rumor or report or suspicion of such disease at any time previously. At the time of my visit, I personally met Dr. Kilgore, the surgeon in charge of the railroad hospital at Port Barrios, who was in a position to know, and did know exactly the health condition of Port Barrios, who stated to me that the port and the vicinity were absolutely free from any infecious disease whatever. This statetment was corroborated by Dr. Odeneal, chief surgeon of the Guatemala Northern Railroad; by Dr. French, surgeon on the line, and other reputable persons in Port Barrios and Livingston. It is claimed by the residents of Port Barrios that there never has been any yellow fever at that place, which claim, after having given the subject some attention, I am convinced can be substantiated.

"John N. Thomas, M.D., Quarantine Inspector."

I have also a certificate from Dr. Kilgore that Thomas Shannahan was just prior to his departure from Port Barrios a section foreman of the railroad running into that place, and that Shannahan was a victim of paroxysms of malarial fever.

The report of Dr. Mark Finney, the resident medical inspector at Port Barrios and Livingston, for the Louisiana State Board of Health, beginning his duties on April 15, 1897, certify that no contagious diseases, or rumors, or suspicions of such existed in Port Barrios, or anywhere in that vicinity. The Marine Hospital records show, by reports from United States consuls in Guatemala, that the government of that country, in the early summer of 1897, forbade the entry into its ports of vessels from the yellow-fever-infected port of Panama, and used every endeavor successfully to prevent introduction of that disease into any of its ports. In the face of all this evidence it is past the bounds of credence to ask any one to believe that there was any yellow-fever infection in Guatemala for Shannahan to take away with him.

Further on in Surgeon White's report he says:

"Mrs. Gonzales, I understand, was frequently at the Shannahan house to see Cuban sympathizers stopping there."

This statement opens up a very interesting line of investigation. Was the Shannahan house infected by persons from Cuba? Who were these Cuban sympathizers ? Whence did they come, and when, and how?

Early in 1897 it was difficult for persons to leave Cuba if there was any good reason for the Spanish authorities to believe they were sympathizers with the Cuban cause. It was possible for some to slip away clandestinely from the island and get on board vessels bound for the United States. This procedure involved a certain irregularity on the part of the master of that vessel, which irregularity it was hard for him to explain when coming before the authorities of the United States quarantine and custom-house. Evasion of this necessary explanation could be secured, however, if his living freight, their goods and chattels, could be as clandestinely debarked as they were embarked, and this evasion was easy of accomplishment along the Mississippi Sound coast, coming in under cover of darkness, to the east or the west of Ship Island. That this clandestine practice has been resortetd to at times, I learned in three instances: once the debarkation of passengers at the Rigolets, bound for New Orleans, once the debarkation of passengers near Pass Christian, and once on the Florida coast. My informants were masters of schooners trading between Havana and the Mississippi Sound, who stated they had done these things, and also informed me it was not so very unusual for others to do them.

I do not think it at all improbable that clandestine communication between Havana and Shannahan's house was established early in 1897, and this communication without any of the formalities of quarantine. The motives for this communication existed; it was easy of accomplishment; it had been done before; was it done in this instance, and did some other person than Shannahan bring infection to the Shannahan house?

Bearing on this subject, I present the following letter from Mr. J. M. Leveque, of New Orleans:

"New Orleans, La., January 1. 1900.

"Dr. C. P. Wilkinson: *Dear Sir:*—Early in 1897, as reporter for the New Orleans *Picayune*, I was detailed to gather such items as I could regarding the movements of Cuban sympathizers here and along the Mississippi Sound coast. It is within my knowledge that Ocean Springs, Miss., was their headquarters; and their usual meeting point a house, owned by Mrs. Gonzales, at that place. I also know that expeditions of a secret character came to and went from Ocean Springs, and I have it on the authority of parties in the heart of the movements that these expeditions communicated directly with Havana and other ports on the Island of Cuba. These expeditions, I know, were composed of quite a number of persons, who carried out and brought back many articles of contraband and personal effects, and, of course, with careful avoidance of either quarantine or custom-house. About the middle of March, 1897, certainly not later than near the close of that month, Mrs. Gonzales told me there was a person ill at her house in Ocean Springs with what she was positive was yellow fever. I asked her if she was not mistaken, that thus early in the season yellow fever was unheard of in this country? She said that she had become so familiar with the disease during her long residence in Cuba she could not possibly be mistaken. I gave tho matter little thought at the time; the appearance of the disease so early in the season being so improbable; and long absence of the disease from our country to me entirely precluded any apprehensions of evil. Of course, Mrs. Gonzales remained silent for other reasons. Long afterward, when the disease spread and became publicly known, Mrs. Gonzales recalled to me that her diagnosis had been correct, and I am now positive that yellow fever was brought to Ocean Springs, Miss., by the Cuban with their effects, operating from that point. "J. M. Leveque."

It was not denied that the point for greatest distribution of yellow fever in Ocean Springs, in 1897, was the Shannahan hotel. I have been at some pains to gather specific information regarding the probable infection of that place. I present the testimony given to me by persons of the highest character, and I name them. I do not think it can be denied that the infection of Ocean Springs did not come from Guatemala through New Orleans, or that it did come from Cuba through evasions of the quarantine station at Ship Island.

C. P. Wilkinson, M.D., Resident Physician.

But the most remarkable part of the whole affair is that no one seems to have sought for the truth at the fountain-head, that is, from the man Shannahan himself.

I was struck with this serious and very remarkable omission and instructed Dr. Horton, medical inspector of the Louisiana State Board of Health, to find Shannahan and get his statement of the facts. This statement, in the form of an affidavit, is here appended. It speaks for itself.

New Orleans, July 7, 1900.

Parish of Orleans, State of Louisiana, *ss.*

Before me, Felix J. Dreyfous, a Notary Public, in and for the Parish and State aforesaid, personally appeared Thomas B. Shannahan, who, upon being duly sworn, deposed and said: That he was born at Ocean Springs, Miss., in 1874; that he went to Guatemala late in the summer of 1895 and remained there continuously until April 1897, with the exception of one trip which he made to Belize, British Honduras, in 1895.

That during the time of his residence in Guatemala he was employed as a mechanic in the service of the Ferrocarril del Norte. (Railroad projected from Puerto Barrios to Guatemala City.)

That he was never at any time in San José or any other seaport on the Pacific Coast, having gone no further from the east coast than the town of Zacapa, about 135 miles from Puerto Barrios, between which point and Gualan, a station on the railroad some fifty miles east of Zacapa, affiant worked.

That during his entire residence in Guatemala he suffered more or less with malarial fever, for which he was treated at different times by Dr. Kilgore, at Puerto Barrios, and Dr. Odeneal, the railroad surgeon, at Zacapa.

That he never heard of any yellow fever at Zacapa, Gualan or Puerto Barrios or at any other point on the railroad.

That on the occasion of his return to the United States he left Zacapa in the morning and arrived at Puerto Barrios the same evening; that he did not stop at any hotel in Puerto Barrios, but slept at a house occupied by his brother.

That his brother was not then ill, and to the best of affiant's knowledge had not been ill at any previous time. That there were no other occupants in that house besides affiant's brother.

That affiant and his brother sailed the next morning for New Orleans; that on the voyage affiant was sea-sick, but not otherwise ill.

That the steamship arrived at the wharf in New Orleans after night; that affiant and his brother slept on board, and the next day took an evening train to Ocean Springs, arriving there the same night; that he had a chill the next day. Dr. Robinson, a physician from Edwardsville, Ill., temporarily sojourning at Ocean Springs, first, prescribed for affiant; later Dr. Bragg, a local physician, attended him.

Affiant further deposes that he was not continuously ill, but would have a chill and fever lasting a few hours, after which he would get up and go about until the next chill, usually on the third or fourth day.

Further that he continued to have these intermittent attacks from time to time during the entire summer of 1897.

[Signed.] T. B. Shannahan.

Sworn to and subscribed before me this 7th of July, 1900.

Felix J. Dreyfous, Notary Public.

It thus appears that this man had never been in San José nor at any place where there was yellow fever, prior to arriving at Ocean Springs, and the whole structure falls to the ground like the "House of Cards" that it is.

Edmond Souchon, M.D.,
President Louisiana State Board of Health.

Death During Use of Schleich Solution.

Omaha, Neb., July 22, 1900.

To the Editor:—Since Dr. Willy Meyer called the attention of the American profession to the Schleich solution in 1897, I have been a careful student of its use and have had opportunity for my studies in my work as anesthetist of the Presbyterian Hospital and while giving it, upon invitation, in the Presbyterian Hospital in Chicago for Dr. Etheridge, Dr. Stehman and Dr. Hamilton, in Mercy Hospital for Dr. Murphy, in the Dental College for Dr. Brophy, and in Cook County Hospital for Dr. Burton, and in my own city for many of our surgeons.

I have been deeply impressed with its qualities, its superiority and its comparative safety. I have never felt that it was a safe anesthetic, for we have none, nor can we ever have one. It becomes my duty to report a death from its use, and it is the first one of which I have known in America.

The patient was Miss H., a young woman of 23; fairly robust, well nourished, heart-sounds fairly clear and distinct, no valvular lesion; she was to be operated upon for recurrent appendicitis, having recently recovered from her second attack; upon beginning the anesthesia, I held the Stone mask —a metal mask, rubber tired, an opening on top of seven-eighths of an inch in diameter—two inches from her face, and was three minutes in getting the mask down upon her face; she took the solution kindly and in six minutes had corneal anesthesia, and, in two more, surgical anesthesia. She was then carried into the operating-room and made ready. After about three minutes of preparation, she was relaxed; the pupils were very small; the lower jaw was dropped. I announced to the surgeon that she was ready. She barely flinched when he made the incision, but more when he separated the muscles. I saw this and endeavored to make the anesthesia more profound by dropping the solution on more rapidly. The reflex due to the incision and separation of the muscles had not caused the pupils to widen *at all*, for I was watching them most carefully. It merely caused her to move a little. Her face was of good color; her pulse was good; the surgeon had removed the appendix, when the following sequence of events took place:

The pulse became weak; then irregular; then intermittent; then it ceased; the respiration, which had been regular and normal, became very rapid: this for six or eight respirations only; while the pulse was failing, before it had ceased, the pupils were still very small: instantly they dilated widely and death took place. With the first sign of trouble, I had removed the mask; the face was then pallid.

The usual measures for restoration: strychnia, rhythmic traction of the tongue, artificial respiration, etc., were carried out for sixty minutes, without eliciting a sign of life.

Death was due to paralysis of the heart center, followed by paralysis of the respiratory center.

I have now given the Schleich solution 441 times and this experience covers most of the major operations. The usual experience is that the patient goes quietly to sleep with no excitement whatever; nausea was present in the last fifty cases, during anesthesia, eight times; three of these had fairly severe nausea; five had nausea but once.

Only six vomited after recovery from the anesthetic. Serious conditions developed in thirteen cases of the 441. Two had great dread of the anesthesia from prior experience with chloroform; one had a mitral lesion; three had a markedly feeble heart; two were chronic alcholics; but three of the thirteen were those in whom one had not a right to expect trouble.

With this unfavorable experience, I still feel that the Schleich solution as an anesthetic is of greater value and of less danger than is either one of the others.

R. M. Stone, M.D.

Book Notices.

Cancer of the Uterus, Its Pathology, Symptomatology, and Treatment; also the Pathology of Diseases of the Endometrium. By Thomas Stephen Cullen, M. B. (Toronto), Associate Professor of Gynecology in the Johns Hopkins University. With eleven Lithographic Plates and over three hundred colored and black illustrations in the text, by Max Brödel and Hermann Becker. New York: D. Appleton & Co. 1900.

This is a superb volume from the view-point of the maker of medical books, excellently, profusely, and always instructively illustrated. The artistic drawings of Brödel and Becker have been reproduced with uniform success. The illustrations of gross anatomy are from Kelly's "Operative Gynecology"; a small number of figures are taken from other publications from the gynecological clinic of the Johns Hopkins Hospital, the large majority being original. The figures showing the development and the structure of the various forms of carcinoma of the uterus are especially instructive and faithful reproductions. No less so are the illustrations of the numerous conditions and processes—including practically the whole range of uterine pathologic histology that may be confounded with carcinoma. The large fields, the insertion of drawings of many of the gross specimens from which the sections were made, and the clear and full explanations are of great help in getting a clear idea of the subjects presented. The volume contains 693 pages. There are 27 chapters and a short appendix.

It is largely an original work and represents a critical and telling study of the clinical and anatomical material from Dr. Kelly's service. The text is never overburdened with citations from the literature, which is utilized only to fill up gaps not clearly illustrated by original cases. It is not often that the author is forced to rely wholly on the work of others. At the same time he has carefully covered the literature in his reading so that he is always in direct touch with current fact and opinion. Cancerous growths of the uterus are divided into four groups: 1, squamous-celled carcinoma of the cervix; 2, adenocarcinoma of the cervix; 3, adenocarcinoma of the body; 4, squamous-celled carcinoma of the body (rare). This is a simple, yet sufficiently comprehensive classification; and the reader is not confused at the very outset by a parade of the many varieties described by different authors.

The gross anatomy of the uterus and the histology of the uterine mucosa are carefully described. A clear knowledge of fundamental facts of this character is essential in order to understand the origin, the structure, and the extension of uterine carcinoma. The operation of scraping the uterus and the methods of examination of tissues for diagnostic purposes are detailed. This chapter contains many points of great value to the practical pathologist. The author's technique of making frozen sections makes it possible to reach a diagnosis in fifteen minutes or even less, so that in certain cases the radical operation may be made forthwith. One may well understand the author's thankfulness to his associates for their consideration in refraining from mutilating the specimen obtained by operation—a harmful custom in vogue at many clinics, often preventing the preservation of finer structures. The technique of examination of the uterus after removal is outlined fully.

During a period of less than six years 182 cases of carcinoma of the uterus came under observation; of these 128 were squamous-celled carcinoma of the cervix; 19 were adenocarcinomas of the cervix, and 35 adenocarcinomas of the body. Squamous carcinoma of the cervix is numerically the most important form, and 239 pages (Chapters iv-viii) are given to its consideration. From the study of the early stages of this form it is shown that it is due to an ingrowth and branching of the squamous epithelium of the part coincident with a branching outgrowth of stroma and epithelium in the form of finger-like processes. This stage is followed by more or less disintegration of the cervix. The extension to neighboring structures, the formation of lymphatic and other metastases, and the development of complicating lesions of inflammatory and obstructive nature are described. The many points of major as well as minor importance are made interestingly clear by the thorough study of individual cases accompanied with numerous figures.

The clinical aspects are then considered. It is shown that here, as well as in the other forms of uterine carcinoma, "the diagnostic symptoms at best are meager, and in the early stages give little or no clue to the real nature of the disease. Hence the value of curettage when there is the slightest uterine hemorrhage that can not be satisfactorily explained." The clinical and histological, differential diagnosis of squamous carcinoma of the cervix is fully considered. All the various conditions that may be mistaken for carcinoma are considered seriatim.

In the chapters on treatment all the measures that have been suggested and employed are not given, but only those that have been found most satisfactory at the Johns Hopkins Hospital. The development of the various steps in the operative technique—ureteral catheterization, removal of iliac glands, etc. —are sketched. To Ries is given the credit for recommending the systematic removal of the lymphatic glands, and Pawlik is given the credit of introducing ureteral catheterization in hysterectomy. Werder's operation "appears to be the most promising one, allowing as it does, such a wide removal of the vaginal mucosa with its underlying connective tissue." A wide field is predicted for this operation. The various steps in the operative procedures are clearly and fully illustrated. Not the least interesting part in the chapters on treatment is the open and unreserved statement of all the accidents and mistakes happening to the operators at the Johns Hopkins Hospital.

Chapters ix-xii deal with adenocarcinoma of the cervix. In this book adenoma does not even designate a benign tumor, and adenocarcinoma "indicates a glandular growth, which runs rampant, invading the tissue in all directions." All phases of this form of carcinoma are presented with great completeness. This is also true of adenocarcinoma of the body of the uterus (Chapters xii-xix). A valuable feature of these chapters is the careful descriptions and the illustrations of the uterine scrapings, from the appearances of which the diagnosis was made in many of the cases. Throughout the book the objective character of the statements and of the whole manner of presentation can not fail to impress the reader. In adenocarcinoma of the body, the question of lymphatic metastasis is of little practical importance, because it has been found that in operable cases lymphatic invasion has not had time to develop. The reason for the late development of metastasis is to be found probably in the large size of the tumor cells. The chapter (xv) on other processes associated with adenocarcinoma is full of valuable practical suggestions. And in Chapter xvii, on the differential diagnosis in adenocarcinoma of the body of the uterus, all the clinical and pathologic material of the hospital for the last seven years has been utilized, and every condition that may be confused with adenocarcinoma is dealt with. This chapter is very valuable. Operation for carcinoma of the body of the uterus gives brilliant results, provided the diagnosis is made early. Nearly every disease of the endometrium is marshalled before the reader in word and picture with a view to render the diagnosis of obscure cases of carcinoma more frequent.

Primary squamous-celled carcinoma of the body of the uterus is rare; only three cases are authentically described; no such case has come under Cullen's personal observation.

In Chapter xx an instance of a rare form of adenocarcinoma of the uterus is described. Chapter xxii contains a full summary of our knowledge of deciduoma malignum, based largely on the articles of Williams and Dorland. Chapter xxiii discusses pregnancy complicating carcinoma of the cervix; C. xxiv the clinical phenomena common to all forms of uterine carcinoma; and C. xxv the prognosis. Inasmuch as the cases studied date back only six or seven years, the question of the number of permanent cures is set aside. The general summary shows that in 123 cases of squamous-celled carcinoma 62 came too late for operation; of the 61 operative cases 13—20 per cent.—were well Jan. 1, 1900. Of 18 cases of adenocarcinoma of the cervix 6 came too late for operation and 2—16 per cent. —were alive on the above date. Of 35 cases of adenocarcinoma of the body 5 came too late, 20—66 per cent.—are now living. This shows, in the first place, the large percentage of patients that are deprived of the possible benefits of operation until it is too late, and secondly, that the prognosis is best in adenocarcinoma of the body. Dr. Cullen, we are glad to say, belongs to those who "are content to operate, provided there is the slightest possibility of saving the patient." In this he evidently reflects the spirit of his chief.

In Chapter xxvi, devoted to the etiology of carcinoma, Cullen considers the various theories in vogue in their application to carcinoma of the uterus. The conclusion is inevitable that "the injuries incidental to labor have a potent influence" in the development of squamous-celled carcinoma of the cervix. There is no evidence in the support of the theory of an embyronic origin of uterine cancer; the histologic pictures all go against Ribbert's theory and favor the view that carcinoma is primarily a disease of the epithelium. Chapter xxvii discusses briefly experimental inoculation of carcinoma and the accidental implantation of carcinoma into healthy tissue during vaginal hysterectomy. The evidence indicates that implantation may occur and that the chance of conveying carcinoma particles into healthy parts should be avoided by all means.

The book ends with an appendix containing J. Knowsley Thornton's plea for the early diagnosis of malignant disease of the uterus. It is the general practitioner who is first consulted, as a rule, and on him largely rests the responsibility of reaching a timely diagnosis. It is universally known that the number of cases of uterine carcinoma allowed to run along until too late for operation is appalling. Ways and means must be devised by which the dread disease may be detected at the earliest moment possible. It has been Dr. Cullen's aim to give the family physician a clear idea of the early signs of carcinoma, in order that he may always be on his guard, and may not treat too lightly any suspicious indications which may be present. That Cullen has achieved an unqualified success is absolutely certain. Even the skilled gynecologist and pathologist will derive much help and encouragement from this book. Written in a clear and attractive style, admirably arranged, and permeated throughout by a practical yet scientific spirit, we venture the opinion that few medical books make as interesting reading. The book is remarkably free from irrelevant material and from omissions. Throughout, there is the closest correlation between the clinical picture and the pathologic process; the tendency is always toward the practical, but it is perspicuously shown from beginning to end that the best practical results are obtainable only by following strictly scientific methods. This we submit is practical in the highest degree and in the truest sense. The natural outcome of a clinical and pathologic organization that few hospitals can equal, Dr. Cullen's book is a model clinico-pathologic study which can not fail to create a renewed interest in, and closer study of, uterine carcinoma throughout wide circles.

Association News.

Is Your Address Correct?

A list of members of the American Medical Association will be published in an early number of The Journal. It is important that this list be correct, and we would, therefore, ask each member to examine the label on his wrapper and, if not correct, notify us immediately so that the name may be correctly printed in the list. Subscribers who are eligible for membership and desire to be enrolled are requested to make application at once so that their names also may appear in the published list.

American Medical Association.

The following are a few of the comments on the last meeting of the Association:

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

It can be said with good reason that the Atlantic City meeting of the American Medical Association, which was held from June 5 to 8, inclusive, was the most successful in the history of the organization, the attendance even exceeding that of the centennial meeting at Philadelphia.

The addresses before the general sessions were scholarly and timely, and the work of the various sections was in keeping with the advances of progressive medicine.

A fair sprinkling of Southern physicians was noticeable, and their contributions to the scientific program of the meeting were no less valuable than were their good humor and rare wit, indispensable adjuncts on the festal occasions.

We note with pleasure and gratification that the South has not been wholly overlooked in the disposition of the various offices, but we should gladly see this section honored by the selection of a Southerner for the presidency of the Association at some early time in the future. And also we doubt the wisdom of confining the places of meeting of the Association to the more Northern cities. It has been many years since a Southern city claimed the privilege of entertaining this talented body, but there certainly are several which are equal to the occasion, and in which the members of the Association would be royally welcomed with all the reputed hospitality of Dixie land.—*Memphis Medical Monthly*, July.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

. . . . The scope and magnitude of the work before the Association can best be understood when it is remembered that its program consisted of 478 papers, presented in 13 different sections, with a registration of 2200 physicians. To arrange in all its detail such an amount of scientific material implies much preparation and labor. Those having these important duties in control did their work wisely and well. With the broadening of the work of the Association the suggestion is made from official sources that the time has arrived for a more permanent and distinct organization of the various sections. This is evidence of a comprehensive and progressive spirit which is entitled to and presumably will receive the support of this great Association. The scientific work accomplished by the Association, collectively and in sections, was varied and extensive. It embraced papers and discussion on them by representative men in every department of medicine and surgery. Viewed from a scientific standpoint there was much for commendation and little to condemn. It is by such meetings as these that the valuable in human knowledge and experience grows and expands. In the aggregate it may not be large, but the newer truths it reveals will and must be abiding. But not alone on these lines was it advantageous. It affords the busy man, the tired worker, a pause and a moment for rest, from the accustomed "daily round, the common task," and to take observations from a new standpoint. Scientific truth and clinical experience, as such, is revealed to him in a changed and more comprehensive aspect, and in the homeward journey, whether it be to the new and expanding West, the South, the Lakes, or the East, he returns with a new zest for work, and enlarged capabilities in his undertakings. From the scientific standpoint it seems the American Medical Association is reaching out for better things. It appears that it is less tolerant in spirit to those whose feelings and convictions on ethical and other questions varied from their standard. Medical science is a unit, and those who accept this dogma will yet see eye to eye in matters, both scientific and secular, which interest the medical practitioners in this twentieth century. It is devoutly to be hoped that this great association will regard its work as scientific, and that the perturbing ethical questions be left to the wise discretion of associations sending delegates to it, to deal with as they may decide, with the single qualification that every member shall be held to strict accountability for conduct becoming a gentleman.—*New York Lancet*, July.

Deaths and Obituaries.

Dennis L. Shea, M.D., New York University, 1890, died July 23, in New York City.

John S. Drain, M.D., New York University, 1884, died at his home in New York City, July 21.

Oswald B. Finney, M.D., University of Pennsylvania, 1834, died at his home in Onancock, Va., July 23.

John R. Bowen, M.D., Paris, Ky., died July 16. He was a graduate of the Bellevue Hospital Medical College, in the class of 1878.

W. R. Pepper, M. D., a graduate of the Jefferson Medical College, Philadelphia, died at his home in Christiansburg, Va., July 17, aged 87 years.

Henry T. Herold, M.D., Bellevue, N. Y., 1887, aged 38 years, died July 25, while undergoing an operation for appendicitis, at his home in Newark, N. J.

Thomas Welch, M. D. died at his home near Annapolis, Md., July 16, aged 61 years. He was graduated from the medical department of the New York University in 1862.

Justus Lessey, M. D., for more than forty years a practicing physician of Philadelphia, died July 13, aged 80 years. He was a graduate of Penn Medical College, now extinct.

Henry Hall Cadwell, M. D., Pittsfield, Mass., died July 16. He studied medicine at the University of Michigan, and was for a time on the staff of the Long Island City Hospital.

Chas. A. Parker, M. D., died very suddenly, of cardiac asthma, in Columbus, Ohio, July 19, aged 32 years. He was graduated from the Columbus Medical College in 1890. He was assistant physician at the penitentiary.

Wm. E. Aiken, M.D., died at his home in Winnsboro, S. C., July 19, aged 81 years. He was graduated from the medical department of the New York University in 1849. He then spent seven years in Europe, studying and traveling.

Elias S. Peabody, M. D., aged 87 years, died at his home in Taylorville, Ill., July 19. He was born in Stonington, Conn., the son of a Revolutionary soldier, and the great grandson of Elizabeth Starr, the first white girl born in New England.

Thos. Louis Brown, M.D., Cincinnati, Ohio, died July 23, of peritonitis. He was born in Manchester, England, in 1837, and came to this country in 1854. He was graduated from the Ohio Medical College in 1872 and had since practiced at Cincinnati.

J. M. Richmond, M. D., St. Joseph, Mo., died in Kansas City, Mo., July 16. He was born in South Carolina in 1837. After a course in medicine at the New York University, from which he was graduated in 1860, he spent a year studying in Paris, and then entered the Confederate Army as a surgeon. After the war he practiced medicine in Abbeville, S. C., and

Richmond, Va., before locating in St. Joseph in 1872. In 1886 he was president of the District Medical Society of Northwest Missouri; in 1895, of the Missouri Valley Medical Society, and in 1896, of the State Medical Society. At the time of his death he held the chair of obstetrics in Ensworth Medical College, St. Joseph.

DEATHS ABROAD.

Thomas Jones, M.D., Manchester, England, died in Springfontein, South Africa, June 18, aged 52 years. His professional studies were commenced at the Northern Hospital, Liverpool, and continued at Guy's Hospital, London. He had been surgeon of the Manchester Royal Infirmary since 1872, and of the Children's Hospital since 1874. In 1880, he was appointed lecturer on practical surgery in Owens College, and in 1892, he accepted the professorship of systematic surgery. He was a frequent contributor to medical journals, his articles being of a highly practical character.

D. J. Leech, M. D., died at his home in Manchester, England, July 6, aged 60 years. For twenty-one years he had been physician to the Manchester Royal Infirmary and professor of materia medica and therapeutics in Owens College, where he founded the museum in that department. He was a member of the British Medical Association, an ex-president of the Manchester Medical Society, and founder of the Manchester Therapeutical Society. He was for several years editor of the *Medical Chronicle*, and a frequent contributor to numerous other journals.

Miscellany.

A German Decree Against Preserved Meats.—According to the *Munich Allgemeine Zeitung*, July 19, an imperial decree against the importation of sausages and canned meats is soon to be issued. No decision, however, has been reached as to when other sections of the meat inspection law will take effect.

Correction.—In the New Instrument Department of July 21 there was a description of a sterilizer attributed to E. Diko, M.D. The name should have been E. Viko. In the eighth line from top of page 183 "a" and "b" should read "b" and "c," in the ninth line "a" should be "b," and in the eleventh line "b" should read "c."

Mercurol, Not Mercauro.—Through a blunder in the composing room, an error was made in our last issue, through which one advertiser "pushed" another's product. The error occurred on advertising page 11, the word "Mercauro" being substituted for "Mercurol." It would not be amiss, under the circumstances, to refer those interested to the third article on the "Relation of Pharmacy to the Medical Profession," in The Journal for May 5, p. 1115, first column, under the caption, "Confusion of Names."

An Elaborate Index.—The Journal of the American Medical Association for the half year ending last month appeared with what may fairly be regarded as a new departure in the matter of indices. Not only is there an unusually complete index of all that has appeared in the pages of the publication, but it also embraces the original communications which have appeared in all the medical journals in the United States and Canada; in other words, it is an index medicus of American medical literature. Such a compilation must necessarily have entailed an enormous amount of work, and the question has already arisen whether such an index is appreciated. The readers of The Journal are appealed to to decide whether or not the task is one worthy of being continued. For our own part we cannot doubt that such an index will be found of the greatest utility by those interested in medical research, though whether one in twenty—the proportion which would be accepted as satisfactory—of the readers will take the trouble to testify to that opinion is open to question.—*Medical Press and Circular*, London, July 18.

Climate and Pathology of the Tien-Tsin Region.—The *Semaine Méd.* of July 11 states that the French troops ordered to China are supplied with clothing for a tropical climate, as the rainy season, from June to October, is very hot. The temperature falls abruptly in October and the northeast winds with tempests of frozen dust render the winter climate very severe; consequently the troops are to be supplied in the fall with woolen clothing, underwear and socks, and will be allowed to buy fur jackets at their own expense. The drinking water, and even the fish in the rivers, are all contaminated. Pork is almost invariably infected. An alcohol is made from sorghum and extensively consumed, which is the more toxic the deeper the color, and sells for less than ten cents a quart. "Liquor of any kind is dangerous for the health during the summer heat." The French troops are to be supplied with pocket potassium permanganate filters which destroy many of the most injurious germs, but the use of tea is advised as a general measure. The valley of the Pei Ho is a hot-bed of malaria during the summer, and prophylactic measures should be imposed on all the troops. Heat and sun strokes are frequent in July and August, also congestions of the liver, but with the exception of malaria, diarrhea presents the most serious complications. The slightest tendency to diarrhea should be treated from the start, as epidemics of cholera are frequent in China, and any diarrhea may inaugurate one if the cholera germ happens to be in the intestines. Variola ravages the native population almost continuously, vaccination being ignored outside the districts where Europeans reside; consequently all the troops should be revaccinated.

Societies.

The German Ophthalmological Society will meet at Heidelberg, September 13, 14 and 15.

Roentgen Society of the United States.—This Society will meet in New York City, Dec. 13 and 14, 1900. President, Heber Robarts, St. Louis, Mo.; secretary, J. R. Jieinsky, Cedar Rapids, Ia.

Massac County (Ill.) Medical Association.—This Association met in Metropolis City, July 12. The following officers, all of that city, were elected: president, J. A. Orr; vice-president, J. A. Helm; secretary, C. E. Trovillion; treasurer, A. C. Ragsdale.

Wyoming County (N. Y.) Medical Association.—This Association met in Warsaw, July 10. The officers for the ensuing year were elected, as follows: president, C. R. Seeley, Attica; vice-president, Mary Green, Castile; secretary and treasurer, Gifford Truesdell, Warsaw.

Northern Tri-State Medical Association.—This Association met in Montpelier, Ohio, July 17. The following officers were elected: president, J. A. Weitz, Detroit, Mich.; vice-president, L. E. Maire, Detroit; secretary, H. D. Wood, Angola, Ind.; treasurer, T. F. Wood, Angola.

Scott County (Iowa) Medical Association.—At the annual meeting of this Association, held in Davenport, July 18, the following officers, all physicians of that city, were elected: president, C. M. Robertson; vice-president, John H. Kulp; secretary, Karl Volmer; treasurer, Chas. Preston.

Southwestern Minnesota Medical Society.—This Society met in Luverne, for the semi-annual meeting, July 12. The following officers were elected for the ensuing year: president, Conrad DeLong, Edgerton; vice-president, C. O. Wright, Luverne; secretary and treasurer, H. D. Jenckes, Pipestone. The next meeting will be held in Sibley.

Franklin County (Pa.) Medical Society.—This Society met in Chambersburg, July 17, and the following officers were placed in nomination for 1901: president, Joseph Snively, Shady Grove; vice-presidents, W. A. Thrush, Orrstown, and A. D. Dalbey, McConnelsburg; recording secretary, J. J. Coffman, Scotland; corresponding secretary, H. C. Devilbiss, Chambersburg; censor, A. H. Strickler, Waynesboro.

Cumberland County (N. J.) District Medical Society.—The July meeting of this Society was held at Millville, July 10, 1900, Vice-President Miller in the chair. A paper on "Observations in Obstetrics," including a report on the progress of obstetrics, prepared by Dr. T. G. Davis, Bridgeton, was read by Dr. Ellsmore Stites, of Bridgeton, and discussed. A report on the progress of therapeutics was presented by Dr. L. L. Hand, Leesburg. Dr. Jos. Tomlinson, Bridgeton, reported a case of cancer of the stomach and exhibited the specimen. Other cases were also reported. The Society adjourned to meet at Millville the second Tuesday in October.

German Congress of Naturalists and Physicians.—The seventy-second annual congress will be held at Aachen, from September 17 to 21. Verworn and Nissl will describe the present status of the "Neuron Theory," Chiari, "Pathologic Anatomy in Connection with External Medicine," and Naunyn, "Internal Medicine." An exhibit of preparations and appliances is also announced. Three hundred communications have been already received.

American Association of Obstetricians and Gynecologists.—This Association will hold its thirteenth annual meeting in Louisville, Ky., Sept. 18, 19, and 20, 1900, under the presidency of Dr. Rufus Bartlett Hall, of Cincinnati. The following titles of papers have already been received: President's address, R. B. Hall; ovarian fibroma—case with microscopical report—L. H. Laidley, St. Louis; cholelithiasis—with report of cases—H. E. Hayd, Buffalo; appendicitis during pregnancy, Charles G. Cumston, Boston; diagnosis of ectopic pregnancy before rupture, based on ten cases, J. F. Baldwin, Columbus; three cases of extrauterine pregnancy, with specimens, W. B. Dorsett, St. Louis; the private hospital, Joseph Price, Philadelphia; extirpation of the rectum and sigmoid per vaginam, John B. Murphy, Chicago; the hymen—of what significance is its presence or absence in determining virginity? John Milton Duff, Pittsburg; a satisfactory method for suspension of the uterus, Robert T. Morris, New York; some points regarding surgery of the gall-bladder, A. Vander Veer, Albany; surgery of the liver and bile-ducts, W. G. Macdonald, Albany; observations respecting malignant disease of pelvic organs, Augustus P. Clarke, Cambridge; bilateral celiotomy and shortening of the uterus, A. Goldspohn, Chicago; round ligament ventrosuspension of the uterus, D. Tod Gilliam, Columbus.

Third District Branch of the New York State Medical Association.

Binghamton, N. Y., June 21, 1900.

President J. M. Farrington, Binghamton, in the chair.

BROTHERHOOD OF THE MEDICAL PROFESSION.

Dr. J. M. Farrington, Binghamton, delivered the annual address, taking the above as his subject.

In the early years of one's medical career one particularly feels the need of the beneficent influence of a true medical brotherhood. As far as can be conscientiously done the mantle of charity should be thrown over the faults of professional brethren. After long years of patient and persistent obedience to the Code of Ethics he had learned how good and pleasant it is for men to dwell together in unity. He urged with the greatest earnestness, a firmer brotherhood among physicians, showing this not only by helping brethren when avaricious people desire to rob them of their just remuneration but by sympathy and friendly administrations in time of trouble and affliction. He felt confident that each one would work out for himself the most practical method of promoting this feeling of brotherhood.

INDIGESTION AND BILIOUSNESS.

Dr. J. H. Martin, Binghamton, in this paper, said that in the digestion of albumins the process should begin in the mouth with mastication. When the resulting process, albuminose, reaches the duodenum, it is transformed into peptone. Fatty substances are not acted upon in the mouth except that the fatty envelope is broken up. Good teeth, a healthy stomach, plenty of hydrochloric acid and pepsin are requisite for proper digestion of albuminoids. Sad intelligence, fright, marked emotions, all interfere seriously with gastric digestion. Nervous disturbance sometimes causes a too rapid passage of the food into the intestine, with resulting diarrhea and the passage of undigested food from the bowel. Where the patient suffers from epigastric discomfort, and yet rises from the table with the appetite unsatisfied, the underlying condition is usually an excess of hydrochloric acid. In treating indigestion, the first thing is to determine whether the albuminoids or the hydrocarbons are at fault. In one case of exceptionally feeble gastric digestion under the author's observation, the patient was kept on a diet of boiled rice for five years, with the result that normal digestion was restored. This was, of course, an extreme case and ordinarily it is not necessary to persevere so long with such a restricted diet. There is a decided excess of indican often in the urine where much fermentation is going on in the intestine. Such an excess of indican often indicates not only intestinal fermentation, but carcinoma of the stomach. For ordinary gastric flatulence he had never found anything act more satisfactorily than a mixture containing resorcin, peppermint water and simple elixir. Biliousness was defined as a form of indigestion occurring in persons who eat meat very freely, and whose livers have been overworked. If, for some reason, the liver is unable to break up the nitrogenous portion of the food into the soluble constituent of the urine—urea—there is formed uric acid, or urates. With this excess of uric acid and urates come the numerous symptoms of lithemia and functional nervous disorders. In the so-called cases of "torpid liver" there is, in addition to coated tongue, a bitter taste in the mouth, yellowish conjunctiva, and other familiar symptoms. The patient is apt to complain of feeling intensely drowsy after eating. The indications are to clear out the alimentary canal and administer a mercurial or that much-despised but very excellent cholagogue, sulphate of soda. The diet should be, of course, suitably restricted.

Dr. Frederick Holme Wiggin, New York, said he had noticed for some time that in cases of chronic intestinal obstruction from any cause there was very apt to be a glazed and swollen tongue. He supposed it was produced by the depraved state of the blood resulting in a condition allied to scurvy. He had recently had a case of benign tumor of the cecum in which there had been in addition, swollen gums, and ecchymotic spots on the skin. He had removed the cecum and tumor, and afterward the occurrence of hemorrhages from the vagina had still further emphasized the depraved and scurvy-like condition.

Dr. Marvin said that before he had paid so much attention to disturbance of the digestive organs he recalled the case of an old lady whose tongue had presented this peculiar glazed condition. Without really knowing why, he had given her the old tincture of iron, and it had acted most satisfactorily. It was ascertained subsequently that she was suffering from carcinoma of the stomach, and then it had occurred to him that the explanation of the beneficial action was to be found in the absence of hydrochloric acid in the stomach and the filling of this deficiency by the hydrochloric acid in the tincture of the chlorid of iron.

CEREBRAL SYPHILIS.

Dr. L. P. Blair, McDonough, said that cerebral syphilis made its appearance in the secondary and tertiary stages of the disease, and at a period of from one to twenty years from the time of the original infection. In one case in his practice the cerebral symptoms had developed promptly after the healing of old varicose ulcers of the leg. The prodromal symptoms of severe and localized headache, worse at night, with pain increased on pressure; insomnia without well-defined cause; sensations of numbness in the extremities; great irritability of temper, all point to this condition, but the diagnosis of cerebral syphilis is often extremely difficult, and often is made only by the good results from antisyphilitic treatment. Extreme tenderness over the dorso-lumbar spine never had been found absent in these cases of severe cerebral disease. While all admit that mercury and potassium iodid are the only remedies which can be relied upon, their administration is often rendered very difficult by the intolerance of the stomach, especially to iodids. The latter are given ordinarily by the mouth, but he has recently administered them in nutrient enemata to a person who could not swallow, and with the best results. The patient at the time was thought to be moribund; consciousness was lost; the limbs were in a state of tonic contraction, and the temperature was subnormal. Thirty grains of potassium iodid were given in a pint of beef peptonoids by the rectum every three hours. He was requested to see the man again three days later, and, to his surprise, found him conscious and greatly improved in every way. He admitted having contracted syphilis about ten years previously, and having had treatment for about one year. The iodids were increased, and were given by the rectum most of the time until he fully recovered, about four months afterward. An attempt was made to give the iodids by the mouth, but this caused so much gastric disturbance that the administration per rectum was resumed.

Dr. Elias Lester, Seneca Falls, said that where there was a distinct history of syphilis the treatment outlined in the paper was, of course, eminently proper, but there were not infrequently cases in which no such history could be obtained, and the medical attendant learns of the true nature of the case only after death of the patient. A case was mentioned in which a well-known and respectable business man had suddenly lost consciousness in the street. He recovered promptly, but had another attack shortly afterward, diagnosed as cerebral apoplexy and hemiplegia. After his death the wife brought letters from a post surgeon in the army who had treated the man for syphilis years before, and urged the man to keep up his treatment. In the case just narrated there had not been the slightest suspicion of syphilis. His favorite treatment was the use of potassium iodid and injections of a mercurial cerate rather than the ordinary blue ointment.

Dr. F. W. Higgins, Cortland, said that he had tried antisyphilitic treatment in cases which he had supposed to be syphilitic lesions of the central nervous system, but without any success. After further study of the subject he had come to the conclusion that if the tertiary lesion is in the nerve substance proper, this treatment is of little value; but if there is pressure on the nerve truncs or centers, prompt relief is afforded by such medication. He did not know that this statement would be borne out by others, but it had been his experience. He believed the antisyphilitic treatment should be pushed when once begun, and that the iodid was of more importance than the mercury. It was not well to lay too much stress on the results of such treatment, as proving the syphilitic nature of a case. He had learned that where there was a hemorrhage there was apt to be an increased temperature. When there was sudden loss of consciousness and the temperature was not increased after a day or two, he would be suspicious of the presence of an embolus, or of some such lesion as had been indicated in the paper. If one could distinguish between a lesion in the brain and one pressing on the brain it would greatly influence both our prognosis and treatment.

Dr. Williams, Green, said that three or four years ago he presented a paper to the Chenango County Medical Association on "Subnormal Temperature in Disease." Mention was made of a patient who presented alarming symptoms, though thoroughly saturated with iodid. There was a history of continuous subnormal temperature. He had been under the author's care from the beginning. With the increase of pain the temperature was decidedly lower, often as much as four or five degrees below normal. In another case there was a history not only of syphilis, but of traumatism to the cervical ganglion. In this case, the exacerbations and remissions of pain were about twelve hours apart. During the height of the pain, which was excruciating, the temperature would drop to 95 F., and during the remission of pain the temperature would rise to within one or two degrees of normal. In the first case, after thorough saturation with iodid, this was abandoned, and the patient was given one grain of calomel every hour. Improvement followed immediately, and had been steadily progressive. He could not recall a single case of secondary syphilis of the brain in which there had not been a persistently subnormal temperature. This might prove a diagnostic aid in obscure cases.

Dr. E. D. Ferguson, Troy, said that about a dozen years ago Dr. Savage, of London, had told him, in the course of conversation, that he had never seen a gumma of the brain. Whether or not his experience has been exceptional he could not say, but he felt satisfied that it was not uncommon to diagnose gumma of the brain when some other lesion was present. Again, it should be remembered that potassium iodid undoubtedly has a favorable influence on other pathologic lesions of the body than those associated with constitutional syphilis. In the early stages of atheroma, for example, benefit was often noted from the administration of potassium iodid.

Dr. W. A. White, of the Binghamton State Hospital, did not think there was anything in the immediate symptomatology which would indicate actual destructive lesion of the nerve elements. The prognosis should always be tentative on that account. For instance, a person with obliterating endarteritis might have a slight hemiplegia, and yet instead of complete recovery, more or less permanent weakness might result. Secondary softening was another sequel which should be borne in mind when considering the prognosis. Probably 80 per cent. of paretics give a probable or an absolute history of syphilis. Those who develop general paralysis are apt to be persons having mental proclivities which lead them to such excesses in life as especially expose them to syphilis. All cases of paresis present elevation of temperature at some stage. This is particularly true of the convulsive crisis and the apoplectiform or hemiplegic attacks. If paresis were a syphilitic disease, this subnormal temperature would be of special interest in connection with the remarks already made. So eminent an authority as Dr. M. Allen Starr stated that gumma of the brain was a very common condition; probably 25 per cent. of all cerebral tumors were gummata. Whether or not they were gummata in the sense referred to by Dr. Ferguson probably depended largely on the definition of a gumma.

REORGANIZATION OF THE NEW YORK STATE MEDICAL ASSOCIATION.

Dr. Frederick Holme Wiggin, New York, Chairman of the Committee on Reorganization, said it must be evident to those who were in touch with the medical profession, that there was a sad lack of proper organization. His attention had been called to this matter most pointedly in connection with efforts to remedy the dispensary abuse. Several years ago, at a dinner of the Society of Alumni of Bellevue Hospital, one of the chief officials of New York City had made a statement that, in his opinion, physicians had no influence. If this opinion were correct, it was most significant, and required very thoughtful consideration. The public generally exacts a great deal from physicians, and yet it has a very low estimate of the medical profession.

In looking for the remedy for this state of affairs, it seemed necessary that the profession should organize into a compact body, which would serve the public faithfully, and, at the same time protect physicians against unjust persecution. In the first place, it was necessary to have organization. This organization should begin in the county, and from this pass to the state, and to the national association. The present mode of becoming a member of the New York State Medical Association seemed to be defective, and under the control of a few. The underlying principle of reorganization was home rule. It was proposed that wherever there were ten members of the New York State Medical Association in any county, they should form a subordinate county association. Membership in this county association should carry with it membership in the state association, and eligibility to membership in the national organization—the American Medical Association. In counties not having such a county association, those desiring to become members of the state association should apply to the District Branch Association. Already the New York, Kings, Erie, Genessee and Wyoming county societies had become subordinate county associations of the State Association, so that instead of having a membership of 600, there is now a membership of about 1400 in the state association, with every indication that this number will soon be increased to 2000. The branch associations elect their own officers, and the presidents of these branch associations are members of the council of the state association.

Another feature of this scheme of reorganization is the publication of a medical directory for its members, as only by such means can the publication be properly controlled and improper advertisements kept out. Already the work done in this direction on the medical directory has borne good fruit, for it had been the entering wedge by which The Journal had been persuaded to clean up its advertising columns, and exclude $6000 worth of objectionable advertising. To show their appreciation of this concession, the New York physicians had added more than two hundred members to the American Medical Association.

Another important feature is a means of protecting members against unjust malpractice suits. It is almost certain that such organized protection will be a most potent and salutary means of preventing the very common speculative suits for malpractice. In the future, if it should seem wise, a small death benefit might be paid to the members.

Dr. E. D. Ferguson said the very fact that the New York State Medical Association was now a chartered body was a most significant one. The association was now a creature of the legislature of the state of New York so far as its legal rights and responsibilities are concerned. Those making application, and accepted as members prior to July 1 are charter members of the state association. The same was true of all who are now members of the association, and who pay before that date.

The American Medical Association is the pivotal point of organization of the medical profession in this country, and to become a member of that organization should be the prime object of all physicians in this country. It is now fast becoming so, although at one time there had been a disposition to sneer at the Association. The theological rule of once a member, always a member, did not apply to the American Medical Association. One might become a permanent member so far as its scientific proceedings were concerned, by continuing in the membership of one of the subordinate affiliated bodies. The time had come to insist upon this. A fee of $5 not only pays for membership in the national organization, but secures for one year probably the best weekly medical journal published anywhere.

ALCOHOL IN THERAPEUTICS.

Dr. H. D. Didama, Syracuse, quoted Holt as saying that alcoholic stimulants are no doubt greatly abused in the hands of many practitioners, but that they are well tolerated by many children, even young infants, and that for a child of four years one ounce of whisky was not too much to begin with. Osler says that some of the effects of alcohol are irritability of temper, impaired judgment, enfeebled will, catarrh of the stomach, disease of the liver and kidneys, yet he adds that "alcohol may be given when the pulse flags in delirium tremens, and, that in moderation, wine, beer, and spirits may be taken throughout a long life without impairing the general health or causing disease of any organ." The unanimous testimony of athletes is that alcohol is harmful, and it is already ancient history that Arctic explorers withhold all alcohol from their companies, and that General Kitchener cut off the usual ration of grog from his men though they were marching over the hot sands of Africa and fighting bravely with the enemy. Brunton expresses the opinion that alcohol and strychnin are antagonistic, and yet they are often given together. Victor Horsley, in a lecture delivered April 27, 1900, reported certain experiments which demonstrated that the effect of alcohol on the brain is first an apparent quickening of the cerebral act, lasting for a few minutes, and that for a period of three or four hours this cerebral activity is diminished. The number of observers who are of the opinion that alcohol is an anesthetic rather than a depressant is rapidly increasing.

Dr. F. H. Wiggin said that, without having any bias on the subject, he had found that year after year he used less alcohol. He had found that hot peptonized milk would stimulate patients after abdominal operations much better than alcohol in any form.

Dr. E. D. Ferguson said that all had been interested in the experiments of Professor Atwater regarding the possible utilization of alcohol as a food. Probably most of us would not rely upon it as a food so much as for something else.

Dr. J. H. Martin, Binghamton, said that early in his practice he had made use of alcohol in certain classes of cases in which he had been taught that it was useful, but not having obtained the desired effects, had discarded it. In the last ten had been as successful as before. There were a host of other years he had not used it at all as a cardiac stimulant, and he and better cardiac stimulants.

Dr. Henry C. Hendrick, McGrawville, said that he had found glycerin a much better preservative of remedies than alcohol.

Dr. J. M. Farrington here called attention to the fact that at the present time there were on the market extracts made with acetic acid instead of alcohol.

Dr. Frank D. Reese, Cortland, thanked Dr. Didama for his paper, and added that of recent years he had had better success without than with alcohol.

Dr. R. S. Harnden, Waverly, said that about twenty years ago he had been asked to sign a pledge not to use alcohol in his practice, but he had at that time declined, as he felt that he could not practice medicine successfully without alcohol. At one time he had been a heroic user of alcohol as a remedy for diphtheria, but to-day he secured better results without alcohol in any form. He used antitoxin, of course.

Dr. E. D. Ferguson thought many other drugs besides alcohol had done harm, and great harm. There could be no doubt that alcohol was often prescribed when it was not indicated; nevertheless it was a remedy which had a definite and useful action, though this was hard to define. He was in hearty sympathy with anything which would limit the abuse of alcohol, but he did not think its improper use would be abolished by asserting it had no place as a drug.

Dr. W. A. White, Binghamton, said he was fully convinced that alcohol had a value, though he was not so enthusiastic about it as at one time. He could recall cases where he was convinced he had saved life by its use. One of these cases was that of an old alcoholic who was on the verge of delirium tremens after an injury, and in whom the attack was aborted and his life apparently saved by the use of alcohol. In justice to Professor Atwater he would say that he defines food as any substance which nourishes the body by supplying the waste which takes place in its tissues, or any substance which supplies energy. In this second class he places alcohol. It certainly was capable of doing this, because it was oxidized in the system, and was not excreted as alcohol. Alcohol, like most all drugs capable of good, was capable of evil in equal proportion. There was perhaps no other drug in regard to which so much idiosyncrasy was shown. In the last number of the *American Journal of Psychology* were detailed some interesting experiments bearing on the effect of alcohol on the mental state. These experiments show that for about half an hour after its moderate administration, the mental working force of the individual is increased. It was not claimed that this effect was more than temporary. He believed the only way to determine the actual status of alcohol as a remedy was by careful experimentation in the laboratory rather than by making sweeping statements as to its detrimental influence.

Dr. J. M. Farrington said that he had given alcohol very freely in the early years of his practice, because he had been taught to do so, but personal observations had made him lose confidence in its value.

EXOPHTHALMIC GOITER.

Dr. F. W. Higgins, Cortland, read this paper, which will be published in a future edition of The Journal.

ABUSE OF THE OBSTETRIC FORCEPS.

Dr. W. L. Ayer, Owego, said that the obstetric forceps might be life-destroying as well as life-saving. His observation had been that the less the experience of the practitioner, the more frequently did he make use of instruments in obstetrics. The strongest argument for their too frequent use comes from the gynecologists. He protested against using the obstetric forceps regardless of the factors of delay, or as a mere convenience to the medical attendant. It should be made a rule, whenever possible, not to employ the forceps without calling counsel. Statistics show that the forceps are used more frequently in this country and England than on the Continent. This is dependent quite probably on racial peculiarities and on different conditions under which patients are brought to the hospital in the different countries. According to recent statistics it appeared that they were used about once in fifteen cases, and this he considered too large a proportion—a revulsion from the days when they were used too seldom.

Dr. F. W. Higgins said that it was not the use, but the abuse of the forceps which should be condemned. He had been recently called to see a case in which forceps had been applied to a face presentation, and the slipping of the forceps had produced an extensive laceration of the vagina. If the true presentation was recognized, and the operation done under proper precautions, he was a thorough believer in the use of the forceps.

Dr. R. S. Harnden remarked that to-day he did not use forceps once where thirty years ago he used them a dozen times. Experience had taught him that nature was the best accoucheur, and the nearer we follow her work the better for the patient. Occasionally their application would save the child, it is true, but he would agree with the author of the paper, that the extensive use of the forceps was not to be recommended.

Dr. Styles, Owego, said that the older one grows the less frequently does he employ obstetric instruments, and then to save time and suffering alone. The physician should be held accountable for the use of the forceps. Too many young men like the *éclat* of operative cases, but as their hair becomes white, they use instruments much less. In the large majority of cases of injury from the use of forceps, it is the result of ignorance or carelessness.

Dr. Farnham, Binghamton, referred to the collective investigation made by a colleague from all classes of medical practitioners with regard to the use of forceps. One of the replies received was from a man who said, "Give me plenty of lard and plenty of time, and I will not have much use for obstetric forceps." A reasonable time should always be allowed to elapse before resorting to their use, and such conservatism, he thought, would be better for both mother and child.

Dr. E. D. Ferguson said that he could not see how aseptic forceps introduced into the aseptic parturient canal through an aseptic vulva with reasonable care could do the woman any harm. These instruments were often used when they were not indicated, and they were often blamed for results dependent entirely upon other conditions. A woman suffering agony from labor prolonged by tardy extension should be very thankful to the physician who cuts short her suffering by the aseptic and skilful application of the forceps.

Dr. Chittenden said that he believed, with Dr. Ferguson, in cleanliness and in removing the forceps before the delivery of the head. He had practiced many years before he had owned a pair of forceps, yet the labors had terminated satisfactorily.

ELECTION OF OFFICERS.

Dr. T. A. Wales, of Elmira, was elected president, and Dr. Chauncy P. Biggs, of Ithaca, secretary, for the ensuing year.

Chicago Surgical Society.

June 1, 1900.

SURGICAL EXCLUSION OF INTESTINE.

Dr. Carl Beck said: "I will not take up much time, but bring the question before the society in order to elicit some discussion on a subject which is of great importance in intestinal surgery. Historically it has developed about like this: In 1892 Salzer recommended exclusion of a portion of the bowel for incurable tumors or incurable inflammatory conditions. He did not perform the operation himself, but shortly afterward one of Billroth's assistants performed an operation of that kind. Long before, however, the same question had been brought up by the physiologists, who had selected a portion of the bowel, excluded and closed it from both sides, to examine the physiologic effect of the discharge. Also two Viennese physiologists made this experiment first and examined the physiologic functions of different portions of the intestine. From that time until the present there are, according to the latest paper published, twenty-four cases of surgical *total exclusion* of the bowels. What is total exclusion of the bowel? We distinguish partial and total exclusion. Partial exclusion is, for instance, exclusion by gastroenterostomy or gastroanastomosis. A portion of a loop of the bowel is excluded, but communicates with the general intestine. If we close up the two ends entirely and leave the excluded portion in the abdominal cavity or make it communicate with the outside by a fistula, we have a total exclusion. This experiment has been tried on animals and men. In animals it has been found that when the intestine was normal a piece of the bowel could be excluded without any bad consequences. You have read about the experiments of Hermann, who left portions of the side-tracked bowel inside the abdominal cavity, which remained there and became a cyst, the fluid doing no harm. In man it is different; this experiment is entirely impossible in man, as there are always microbes in the excluded portion, and it is invariably necessary to make a communication of the excluded portions with the outside.

"The indications for this operation are, first incurable fistula; intestinal fistula which can not be cured by any other method can be cured by total exclusion of the bowel, by closing up the bowel on both sides of the fistula and bringing the ends of the severed portions, distal and proximal, together. I have operated so far in four cases, in one with a fistula exclusion, only a few days ago. The reasons for these operations were different. The case I illustrate is one I have already demonstrated before the Chicago Medical Society, an incurable fistula. Eight laparotomies were necessary to cure the fistula. First, operation was for appendicitis. There was a large abscess cavity. I tried by different methods to close a fecal opening, which I finally found away behind the colon ascendens. The seventh operation, side-tracking of the bowel, was done in this way: The cecum was severed and the ileum was severed; this portion of the bowel communicating by the fistula with the outside was left *in situ* and the two ends united by a Murphy button. The Murphy button sloughed through and I had a fecal fistula again. This could only happen by the Murphy button sloughing into the old portion that was agglutinated to the newly united bowel. I had to make another exclusion, which makes it a unique case. The second time I used Frank's coupler, and this time it succeeded. The Murphy button has been in the bowel ever since and has apparently caused no damage; as far as pressure and other symptoms are concerned he is perfectly well. There are many pockets of excluded bowel, secreting now and then a cheesy white mass which comes out and may be squeezed out by the patient every two or three weeks. In the meantime he does not discharge anything outside; he squeezes out this thickened, cheesy mass, which relieves him, and afterward he feels well. I have lately operated on another case of tuberculosis, with acute symptoms of obstruction. In this case also it was impossible to do total resection of the tubercular mass. I left that in situ and made exclusion of this portion. I have not opened the excluded portion yet toward the outside, but I will do it in a few days because I am afraid it will accumulate masses which will perforate inward instead of outward. The two other cases were similar but not as extensive.

"The experience I have gained from these four cases differs somewhat from the experience of others. There is, for instance, Obalinski, who claims that the excluded portions atrophied and formed an entirely solid mass. He has made a section of a case after eight months' exclusion of the bowel and he has found the portion he excluded totally solid. Such a thing eight months afterward, I think, is impossible. He probably found some portion which has not been the bowel. This is the only case which is claimed to have gone from total exclusion to cicatrization. Perhaps it was a kind of bowel which had no mucous membrane. The other cases have all been treated the same way, some of them scraped and cauterized. All of these methods seem objectionable. I think the best way is to leave it as it is and keep drainage as long as possible, and allow the patient to remove the contents of such excluded bowel."

Dr. L. L. McArthur said he would like to refer to a case in which he was driven into this operation by an accident in the use of the Murphy button. The patient was an old man with carcinoma at the ileo-cecal valve, of slow development, causing hypertrophy of the ileum to the size of the colon, and atrophy of the colon beyond the stricture, to the size of a small intestine, producing symptoms to such an extent that the patient was extremely emaciated and exhausted. The only thing in contemplation at the time of operation was to make an anastomosis between the ileum and the ascending colon. The fact that the ileum was so markedly hypertrophied made it easy to insert the half of the button for that part of the intestine, and the fact that the colon had atrophied to such an extent as to be smaller than the small intestine made it difficult to recognize the colon and difficult to insert the strong suture which is usually put in before incising the bowel for the second half of the button, due to some faulty dipping of the needle with failure to grasp the mucous membrane, that half of the button tore it loose from its attachment. The button was inserted in the colon, purse-string tightened, and when the ileum and colon were buttoned together fecal mater entered between the muscular and peritoneal walls of the colon. He immediately clamped the ileum again and found it necessary to excise that portion of the colon which has been infiltrated, to turn in its end where it had not been infiltrated, and to make an end-to-side anastomosis of the colon to the side of the ileum, not making a total, but a partial exclusion. He stopped at that, because the patient was in such a delicate condition. Emphasis should be made of the fact that where the distal portion of the intestine is atrophic an incision should be made in that portion and the overlapping stitch used to catch the mucous membrane firmly, and not let it be pushed away, as that may make a faulty union and fatal outcome.

In the case of the young boy that Dr. Owens operated on at the World's Fair for tuberculosis of the ileum from tubercular appendicitis, exclusion of the ileum was made, and the process being tubercular, later a successful effort was made to excise the cecum. It was tubercular and was left excluded for the time. A year later the boy died of pulmonary tuberculosis.

Dr. D. A. K. Steele said: "The case cited by Dr. McArthur illustrates what I intended saying with regard to the facility with which we may criticise cases as reported. Theoretically we ought always to have an ideal result; we ought to be able to do the very best thing at a given time and operation, but the fact is, frequently these operations are done to save life; usually they are done for the purpose of prolonging or making life more comfortable. I felt somewhat like asking Dr. Beck why the Murphy button was left in the portion of the bowel put out of commission, just as Dr. Bevan asked, why it was not removed in its entirety. The reason is apparent, I think, to those of us who have seen these cases. We know the impossibility of doing an ideal operation under such circumstances. There is a mass of tissue matted together which is difficult to recognize; the condition of the patient precludes a prolonged and more difficult operation than anastomosis, cutting off and excluding a portion for the direction of the fecal current through a new channel. Most of the cases I have seen have been of the class where operation was done for the purpose of saving life; where the condition of the patient would not permit the prolonging of the operation. I think Dr. McArthur will remember a case he operated on in the Chicago Hospital, where, in malignant disease of the cecum a simple lateral anastomosis was all that it was possible to do on account of the infiltration of the tissues and evident hopelessness of the case, but the life of the woman was prolonged some months with comparative comfort. Another, more recent case, comes to mind in which acute obstruction required the exclusion of the bowel in a lady, for a very long fibrous stricture of the rectum and apparently a portion of the cecum. An artificial opening or the left inguinal colostomy was the only proper operation to save the life of the patient. Subsequently the complete removal of the mass that takes the place of the rectum can be done. I allude to these cases simply to illustrate the impossibility of always doing an ideal operation."

Dr. Carl Beck, in closing the discussion, said: "I will first answer the question of Dr. Bevan, why I did not remove this bowel. I tried in the first six operations to close the bowel by suture. You can imagine that the intestines were so matted together that I really could not recognize any portion of the cecum or ileum in that region, and it was very difficult to leave the whole matted portion outside. It was hardly possible to find the distal and the proximal portion because of the recent adhesions. This operation was done shortly after the Murphy button operation, and adhesions of the whole intestinal tract had to be severed, and it was difficult to determine which portion was running upward and which downward, so that we should not attach two faulty portions together. I did not remove the Murphy button, because at the time I did the operation I thought it had passed through the fistula. I did not watch it and the nurses told me that it had been thrown out, but I found afterward that the button was there. I think it is in one of the pockets, and it is not doing any harm, and the boy does not want it removed."

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, July 21.

1 *A Bacteriologic Résumé of the San Francisco Plague. Ernest S. Pillsbury.
2 *Case of Primary Adenocarcinoma of the Gall-Bladder with Secondaries in Both Adrenals, Melanosis of Skin (Addison's Disease?), Vitiligo, and Hypertrophy of the Pancreas. Aldred S. Warthin.
3 *Three Cases of Tuberculosis of the Skin Due to Inoculation with the Bovine Tubercle-Bacillus. Mazyck P. Ravenel.
4 *A System of Personal Biologic Examinations, the Condition of Adequate Medical and Scientific Conduct of Life. George M. Gould.
5 *Are Consanguineous Marriages Injurious to the Race? (To be concluded.) Lawrence Irwell.
6 Peritonitis in the Fetus. J. A. Porter.

New York Medical Journal, July 21.

7 *The Pituitary Gland as a Factor in Acromegaly and Giantism. (Continued.) Woods Hutchinson.
8 *The Prevention of Colds. Lorenzo B. Lockard.
9 *Syphilis of the Brain. (Concluded.) J. T. Eskridge.
10 *The Etiology and Cure of Hysteria. F. Walter.

Boston Medical and Surgical Journal, July 19.

11 *Milk; Its Production, Its Care, Its Use. T. M. Rotch.
12 *General Remarks on the Pathology and Symptomatology of Acute Pelvic Suppurative Processes in the Female and Their Treatment by Posterior Colpotomy. Charles G. Cumston.
13 Parturition Complicated with Suppurating Fibroids. E. H. Stevens.
14 Glandulopenile Hypospadias; Two Urethras, One Extending to the Bladder, the Other Two and One-Half Inches Long, and Terminating in a Blind Pouch. J. Coplin Stinson.

Medical News (N. Y.), July 21.

15 *Appendicitis and Typhoid Fever. H. A. Hare.
16 *The Physiologic Effects of Preparations of the Ductless Glands. R. H. Cunningham.
17 *Iodid of Iron in the Treatment of Certain Forms of Infective Arthritis. J. C. Wilson.
18 Moulds in the Stomach. J. H. Kellogg.
19 A Simplified Apparatus Without Valves for the Administration of Nitrous Oxid Alone or in Combination with Ether. S. Ormond Goldan.
20 *The Continued Use of the Antiseptic and Eliminative Treatment of Typhoid Fever Without Any Deaths. T. Virgil Hubbard.
21 Brief Notes on Rheumatic Joints Treated by Hot Air. Homer Gibney.

Medical Record (N. Y.), July 21.

22 *The Evidences of Prostatic Atrophy After Castration. Edward L. Keyes, Jr.
23 *Neglected Clinical Opportunities in American Medical Centers. S. A. Knopf.
24 *Does "Cross-Eye" Affect the General Health? Ambrose L. Ranney.
25 Report of a Case of Porro-Cesarian Operation. William J. Gillette.

Cincinnati Lancet-Clinic, July 21.

26 *Dermatitis Herpetiformis. A. Ravogli.
27 Some Gross and Microscopic Dermatologic Considerations, from Lantern-Slides. M. L. Heidingsfeld.
28 *Two Cases of Anemia, One Pernicious, the Other Simple, Treated with Antistreptococcic Serum. W. H. DeWitt.

St. Louis Medical Review, July 7.

29 *Hypnotism in Therapeutics. Sydney Kuh.
30 *The Nerves in Consumption; the Other View. Thos. J. Mays.

Medical Fortnightly (St. Louis, Mo.), July 10.

31 Drainage and Closure of the Abdominal Cavity. T. C. Witherspoon.
32 Examination of the Blood in Cancer, with Microscopical Specimens. S. E. Munson.
33 Observations on Certain Early Diagnostic Signs in Measles. George Homan.
34 Surgery at the Meeting of the American Medical Association G. E. Black.

Medical Age (Detroit), July 10.

35 Some Deformities Corrected, Etc. (To be continued.) Daniel La Ferté.
36 Acute Otitis Media. Norton L. Wilson.
37 Throat Coughs. S. G. Dabney.

Virginia Medical Semi-Monthly, July 13.

38 *Wounds of the Abdominal Viscera Without Visible Injury to the Skin. George T. Vaughan.

39 Treatment of Delirium Tremens. D. P. Hickling.
40 Shall Alcohol be Considered as a Food? George M. Kober.
41 Report of Fatal Case of Rabies. Presley C. Hunt.
42 *Discussion of the Organic Obstructions of Defecation. Thos. C. Martin.
43 *Permanent Catheterization. J. Rilus Eastman.
44 The Essential Factors in the Operation for the Cure of Inguinal Hernia in the Male. H. O. Marcy.
45 Report of a Case of Confinement Following a Supposed Double Ovariotomy Complicated with an Intestinal Hernia Through the Old Wound. C. Henry Leonard.
46 Labor "Down Hill." Alexander Irvine.
47 Psychology as Preliminary to Medical Education. W. J. Herdman.
48 Acute Senile Endometritis. L. H. Dunning.
49 Pulmonary Tuberculosis. C. P. Ambler.

American Gynecological and Obstetrical Journal (N. Y.), July.

50 The Personal Factor in the Work of the American Gynecological Society. Ely Van De Warker.
51 *Intra-Abdominal Amputation of the Uterus: A Modification of Hysterectomy. F. H. Davenport.
52 *Relationship Between Dysmenorrhea and Appendicitis. Archibald MacLaren.
53 *Examination of the Sigmoid Colon. A. W. Abbott.
54 *Ectopic Pregnancies Operated on Before Rupture. The Significance of Intervillous Hemorrhages in the Interruption of Ectopic Gestation. C. E. Manierre and Maximilian Herzog.
55 Two Cases of Genital Malformations: 1. Retrohymeneal Atresia; Hematocolpos et Hematometra. 2. Vagina Duplex et Utrus Septus. John M. Fisher.
56. Polyuria in Pregnancy. Wilmer Krusen.
57. Cancer of the Breast. R. Stansbury Sutton.

Chicago Clinic, July.

58 Gonorrheal Conjunctivitis. Allen T. Haight.
59 An Unexpected Termination to an Unusual Number of Epileptiform Convulsions. Marcus P. Hatfield.
60 Eclampsy. Gustav Kolischer.
61 The Fracture of the Ribs. W. A. Kuflewski.
62 The Intramural Sinuses and Nasal Fossæ. W. T. Eckley.
63 Intubation and Tracheotomy. Aime Paul Heineck.

Fort Wayne Medical Journal-Magazine, June.

64 *Contagious and Infectious Diseases in Indiana. J. N. Hurty.

Clinical Review, Chicago, July.

65 *Present Treatment of Syphilis. Wm. Allen Pusey.
66 Etiology, Pathology and Treatment of Varicose Veins. F. Shimonek.
67 Case of Vesical Hernia in a Child. Charles Adams.
68 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
69. What Are the General Practitioner's Duties Regarding the Prevention of the Spread of Venereal Diseases. J. Noer.

American Medical Compend (Toledo, Ohio), July.

70 *Retinitis Albuminurica with Report of Cases. Francis W. Alter.
71 *Discussion of the Organic Obstructions to Defecation. Thos. Chas. Martin.
72 Infantile Diarrhea and Its Treatment. D. E. Bowman.
73 Defective Eyesight in School Children. G. A. Gilbert.
74 Phimosis and Its Treatment. H. A. Klussman.

Oklahoma Medical Journal, July.

75 A Plea for the Better Study of Diseases of Women by the General Practitioner. W. B. Pigg.

Denver Medical Times, July.

76 *The Causes and Importance of Digestive Disturbances in Pulmonary Tuberculosis. C. B. Van Zant.
77 Helps in Refraction by the Subjective Method of Examination. Melville Black.
78 *Chloretone in the Treatment of Confirmed Insomnia. E. A. Lee.
79 Local Use of Guaiacol in Treatment of Frequent, Painful Urination. Jesse Howes.
80 Pulmonary Embolism. F. E. Waxham.

Archives of Pediatrics (N. Y.), July.

81 A Case of Rhachischisis. T. M. Rotch.
82 A Fatal Post-Otitic Cerebral Abscess with Amnesic Aphasia. J. Henry Fruitnight.
83 Treatment of Hydrocephalus by Craniectomy. Edward P. Davis.
84 Intestinal Obstruction Through a Loop Formed by Meckel's Diverticulum with Ligamentous Attachment. Irving M. Snow.
85 Remarks Upon the Diplococci Resembling Gonococci, Found in the Normal Vagina of Children. Charles A. Rosenwasser.

University Medical Magazine (Philadelphia), June.

86 *Historic and Practical Remarks on the Operative Treatment of Cancer of the Cervix. John G. Clark.
87 Two Cases of General Anesthesia. Charles W. Burr.
88 Prosthesis of the Jaw at the Time of Operation. M. H. Cryer.
89 *Observations of Blood Changes Following Celiotomy. C. Y. White.

American Journal of Obstetrics (N. Y.), July.

90 *Syncytioma Malignum and Ectopic Gestation Causing Pernicious Nausea. Edward P. Davis and H. F. Harris.
91 *Selected Topics in Connection with the Pathology of Delivery. J. Clarence Webster.
92 *The Application of Forceps. J. E. Allaben.
93 *The Technique of Version. J. F. Percy.
94 *The Management of Impacted Cases. Henry F. Lewis.
95 *Mutilating Operations in Obstetrics. C. S. Bacon.
96 *Cesarian Section and Porro's Operation. Charles B. Reed.
97 *Symphyseotomy in Illinois. G. N. Kreider.
98 *A Method of Performing Anastomosis of Hollow Viscera by Means of a New Instrument. M. O'Hara, Jr.

Occidental Medical Times, (San Francisco), July.

99 The Plague—Report of Cases. W. H. Kellogg.
100 *The Plague in San Francisco. Douglass W. Montgomery.

Therapeutic Gazette (Detroit), July 15.

101 *An Eperimental Contribution to the Knowledge of the Toxicology of Potassium Chlorate. S. J. Meltzer.
102 *Hot-Air Treatment of Nervous and Joint Affections. Harold N. Moyer.
103 Gynecology in America. Wilmer Krusen.
104 Teaching of Therapeutics to Undergraduates. Eli H. Long.
105 Teaching of Therapeutics to Post-Graduates. Reynold W. Wilcox.

Dominion Medical Monthly (Toronto), June.

106 A Group of Unusual Spinal Cases. B. E. McKenzie.
107 Address, Toronto Association for the Prevention and Treatment of Tuberculosis. E. J. Barrick.

The Medical Herald (St. Joseph, Mo.), July.

108 *What Is the Value of Trauma as an Etiologic Factor in Tuberculosis of the Bones and Joints? Geo. R. Highsmith.
109 Medical London—A Few Hints to Those Who Visit Europe This Summer. Richard T. Hewlett.
110 A Medical Examiner for Our Public Schools. E. A. Donelan.
111 Traumatic Injuries to Skull, with Report of Two Cases. B. M. Spotts.
112 Cholera Infantum. A. E. Chatfield.

Medical Mirror (St. Louis), July.

113 Sanatory Ranch of the Marine-Hospital Service at Fort Stanton, New Mexico. Walter Wyman.
114 Two Practical Points in Cure of the Tubercular. William Porter.

Railway Surgeon (Chicago), July 10.

115 A Standard System of First Aid Instruction for Railway Employes. Charles R. Dickson.
116 Case of First Aid Under Difficulties. Evan O'Neill Kane.

Canadian Practitioner and Review (Toronto), July.

117 *The General Public and the Medical Profession. Adam H. Wright.
118 *Treatment of Squint (Strabismus) from the Standpoint of the Family Physician. J. T. Duncan.
119 *Morphia in the Treatment of Puerperal Convulsions. David Hoig.

Medical Summary (Philadelphia), July.

120 Treatment of Pulmonary Consumption Through the Nervous System. Thomas J. Mays.
121 Obstetrical Experience. C. E. Tucker.
122 State Board Examinations. S. A. Buchanan.
123 Successful Treatment of Acute and Chronic Ulcers. J. S. Caldwell.
124 Treatment of Gonorrheal Cystitis. Milton P. Creel.
125 Rheumatism. J. J. Waller.
126 Chorea—Its Nature and Treatment. Robert C. Kenner.
127 Influence as I See It in the South. Ben. H. Brodnax.

Medical Review of Reviews (N. Y.), June 25.

128 *Cancer of the Uterus. H. C. Cox.

Canadian Lancet (Toronto), July.

129 *The General Public and the Medical Profession. Adam H. Wright.
130 Electricity and Brain Power. James Grant.
131 Removal of Septal Spurs.—A Note Upon the Use of Carmalt-Jones Spokeshave. D. J. Gibb Wishart.

Providence Medical Journal, July.

132 The Relation of the Pathologic Labooratory to Hospital Work. W. T. Councilman.
133 Personal Recollections of the Early History of the Rhode Island Hospital. J. W. C. Ely.
134 Address Delivered at the Opening of the Pathologic Laboratory at the Rhode Island Hospital. G. A. Blumer.
135 Report of a Case of Movable Kidney Demanding Operative Interference. John C. Pegram, Jr.
136 *Opinion Evidence. Wm. H. Palmer.
137 *Some Things in Ophthalmology That Every Physician Ought to Know. F. T. Rogers.
138 *Appendicitis in Women. J. H. Davenport.
139 Appendicitis, with some Remarks Concerning Operative Technique. Walter Lee Munro.

Texas Medical Journal, July.

140 The Physician as a Sanitarian. W. S. Carter.
141 The Country Doctor. W. E. Fowler.

Carolina Medical Journal (Charlotte, N. C.), July.

142 Cough. Edwin Gladmon.
143 Hematuria. Chas. M. Hazen.
144 Remarks on the Diagnosis and Treatment of Mastoiditis. B. R. Kennon.

145 Essentials of Success with Glycerinated Vaccin—A Simple Vaccination Shield. C. Wilbor Ray.
146 My First Case of Midwifery. Richard H. Lewis.

AMERICAN.

1. **San Francisco's Plague Cases.**—In this article Pillsbury argues that the San Francisco plague cases, as demonstrated bacteriologically, were not true plague, but more likely due to the chicken-cholera bacillus, which closely resembles plague bacteria, but has certain peculiarities that distinguish it, and which he claims he has found in one case examined by him that had also been declared a typical instance of a pneumonic form of bubonic plague. He does not appear to have facts as regards the other cases examined by the City Health Board and the Marine-Hospital officers, but he assumes that they were all the same. He also argues that eleven of the thirteen cases of bubonic plague could hardly occur in the sporadic form without any connection with each other and without any evident transmission of the disease to others by them. He also claims that as no infected ships had arrived, as the clinical histories in all of these cases were distinct from those of any other recorded cases of plague, and as they were diagnosed by bacteriologic and inoculation experiments only, the facts are not conclusive as to the existence of the disease.

2. **Adenocarcinoma of the Gallbladder.**—Warthin discusses the conditions found in his case, which he thinks of great interest. Reviewed briefly, they are given as follows: Cholelithiasis followed by primary carcinoma of gallbladder, obstructive jaundice, compensatory hypertrophy of the pancreas, carcinomatous infiltration of the adrenals, melanosis of the skin—Addison's disease—followed by vitiligo.

3. **Tuberculosis of the Skin.**—Ravenel reports three cases of inoculation from bovine tuberculosis causing what he thinks was true tuberculosis of the skin, and dwells on the importance of recognizing contagion from this source. In two of his cases no bacterial findings were reported. With inoculation experiments, one caused tuberculosis in the guinea-pig. In the third case tubercle bacilli were found in sections from the diseased nodule excised. He believes that the greater virulence of bovine tuberculosis holds good for man as well as for other animals, and the cases that he has reported, with some from other sources, prove that the pathogenic power is fully as great as that of germs from the human source.

4.—See also The Journal of July 21, p. 134.

5. **Consanguineous Marriages.**—Irwell discusses the chances of degeneration following consanguineous marriages, quotes authorities at length and gives instances. The general result of his inquiry is not positively stated, from the fact that the illustrations given by him, as he himself admits, have more than one interpretation. In all, however, we have a specially healthy people to deal with in these cases, hence the comparative apparent innocuousness of consanguineous marriages. If such unions were common among neurotics and degenerates, he believes the results would be disastrous.

7. **Acromegaly and Giantism.**—Hutchinson finds from his study thus far on the subject of the phenomena of giantism, that the great number of over-growths are found at or near the tips of the segment-crescents, as in acromegaly, differing from the latter mainly that it is not exclusively confined to the tip of the segment or last division of the limb; that the facial part of the skull is enlarged out of all proportion, particularly in the region of the lower jaw, and that the condition, whether normal or morbid, distinctly tends to shortness of life and physical vigor. The giant is distinctly below par, and death usually comes from a steady increase of this weakness, or some trifling accident or mild intercurrent disease. The sexual power in a great majority of cases is far below par. There is a decided predominance of males among the victims of this condition. In all of these there is a decided parallel with acromegaly. Lastly, and of greatest interest, is the fact that the one morbid condition peculiar to both these disturbances of nutrition, the enlargement of the pituitary body, is found in the large majority of the cases of both. He reports and illustrates a number of cases of giantism. In his next communication he will give the results of his study on the microscopic nature of the over-growth of the glands.

8. **Prevention of Colds.**—Lockard's article is mainly a plea for the hardening and training processes for infants, and a protest against the effeminate methods of living, superheating of rooms, over-clothing, etc., so largely in vogue. As an example of the effects of training of infants, he reports the case of a child of Professor Stagg, of the University of Chicago. At two months, with a little aid, he could turn somersaults and stand on his head; at three months he could walk, and at seven months could raise himself from the recumbent to the sitting posture without using his arms.

9. **Syphilis of the Brain.**—In this instalment of his article Eskridge reviews the principal points of general and local diagnosis of syphilitic cerebral lesions; headache, disturbance of sleep, collateral symptoms like iritis, presence of secondary or tertiary manifestations, epilepsy, hemiplegia, etc. The forms of lesions, syphilitic growths, and chronic local syphilitic meningitis, with their symptoms of isolated nerve lesions are described. The prognosis is better the earlier the specific treatment is instituted, but the scars that are left are not amenable to therapeutics. The more he sees of syphilis of the brain the more difficult seems to him the problem of its treatment. Prevention of the tertiary lesions is largely to be secured by potassium iodid, usually by a sort of intermittent treatment covering a considerable period of time. The specific treatment must be governed by the acuity of the case and the results of medication. What we learn from a study of this subject is that, for a certain time, antisyphilitic agents may be given to the point of toleration for the removal of gummata, and that there are numerous non-specific intracranial lesions resulting from specific causes, for which specific medication is ineffective.

10. **Hysteria.**—According to Walter, if a massive culture of the colon bacillus originally taken from non-infectious sources is administered to subjects of hysteria of active or convulsive type—latent or post-hysterical phenomena, such as paralysis being excluded—the patient is restored to health so far as the hysteria is concerned, though debility or neurasthenic phenomena may remain indefinitely. He claims that the uniformity of this result makes the treatment a sort of specific. He takes the bacillus from the stomach or intestinal mucosa of the hog, from the dejections of the same animal or from the barnyard fowls, and makes agar cultures. When it is all developed it can be scraped off, suspended in water and mixed with some indifferent substance, as starch, and administered in capsules. The well-matured growth on one Petri dish may serve to make from three to six doses. This given three times a day will be sufficient. The growth should be fresh, otherwise no results are obtained. This treatment does not seem to be very attractive.

11. **Milk.**—The motive of Rotch's article is the importance of getting safer milk for children's use, and he emphasizes the fact that it will be necessarily somewhat expensive. We can not have the required care given and the quality insured at the ordinary cheap prices. The chief principles insisted on are: 1. That the milk must be obtained from healthy cows by the most cleanly and antiseptic methods known. 2. That it must be taken care of under the most strict precautions. 3. That it must be delivered to the consumer as quickly as possible.

12. **Posterior Colpotomy.**—The pathology of pelvic suppuration in the female is described by Cumston, together with its etiology, symptoms, etc. The advantages of posterior colpotomy for the relief of many cases of this condition are insisted on. He thinks that it is a justifiable procedure in a large majority of cases and, if we can cure the patient by a simple operation, that is the one to be selected. The operation is described and its safety and simplicity shown. While it is not claimed that it will cure all cases, it has a field of usefulness not as fully appreciated as might be.

15. **Appendicitis and Typhoid Fever.**—The object of this article is first to call attention to the cases of typhoid which begin with symptoms of appendicitis and, second, to the cases of typhoid with later-developing appendicular symptoms. Both classes of these are illustrated by cases. Hare believes that appendicular symptoms in the first stage of typhoid are by

no means rare, and a differential diagnosis is important. The leucocytosis, which will be of use in some cases, is not always a perfect guide, though its absence may be of some value. In the ordinary cases of appendicitis it is a well-known fact that the white blood corpuscles are increased in number, while the reverse is the case in typhoid. The possibility of a patient being about to pass through a course of typhoid is not a contraindication to operation, though it seriously complicates the case.

16. **Ductless Gland Preparations.**—Cunningham, noticing first the enormous number of preparations on the market, reviews the different ones that have been more prominently advertised. The pituitary extract has not been a success, according to clinical experience. Suprarenal extract has a decided utility in local complications of mucous membranes, and, when used internally, it seems to have a beneficial result in certain cases of asthma, cardiac trouble with diseased arteries and Graves' disease. We may also say that it has abbreviated about 58 per cent. of the cases of Addison's disease, but its therapeutic value in general diseases is not yet decided. He does not speak with any enthusiasm as regards thymus extract, though he has had benefit from it in some instances. He thinks the excellent results sometimes obtained with it may be attributed to the nutritious food the patients receive when they eat several ounces of slightly cooked thymus daily. The therapeutic position of thyroid extract is well assured in certain forms of disease like myxedema and where the disorder is due to diminished thyroid function. The author does not use the ordinary commercial desiccated thyroid extract, but prefers the more reliable and equally active purified colloid obtained by himself from fresh sheep thyroid by precipitating an alkaline solution with glacial acetic acid.

17. **Iron Iodid.**—Wilson has found iron iodid effective in several cases of arthritis where the ordinary rheumatic remedies failed. He publishes cases illustrating his statement. He finds this method especially valuable in gonorrheal arthritis, and uses it in half-dram doses of the syrup, gradually increased with very satisfactory results. Several of his associates in clinical work have also tested the treatment with equal advantage.

22. **Castration for Prostatic Atrophy.**—The history of the operation of castration for prostatic atrophy is reviewed by Keyes, who sums up his conclusions on the subject as follows:

1. Experiments, whether on man or the lower animals, relating to the normal prostate do not of necessity apply to the enlarged prostate.

2. I know of no direct pathological evidence that castration has ever caused atrophy of a hypertrophied prostrate.

3. There is direct pathological evidence that in a few cases castration has failed to cause atrophy of the hypertrophied prostate.

4. The majority of cases reported thus far have been labeled "cured" or "improved" so soon after operation that many of them are doubtless instances of local depletion.

5. Clinical evidence of this is afforded by relapses occurring months after the operation.

6. Of the permanent cures some may well be instances of permanent advantages derived from reduced congestion.

7. The clinical evidence as to the actual atrophy of the prostate after castration lacks, as yet, its scientific confirmation, and has failed thus far to prove its title to the surgeon's credence.

23. **Neglected Clinical Opportunities.**—Knopf points out the defects of clinical instruction in our great medical centers and the comparatively limited opportunities for hospital internship according to our present system. He suggests the unification of our medical colleges and the appointment to hospital positions only of those who can act as clinical instructors without regard to college affiliation, to the partial suppression of didactic lectures and their substitution by clinical work. He gives his plans in detail.

24. **Strabismus.**—This paper by Ranney is along the usual line of magnifying effects on the general conditions of ocular abnormalities. He thinks that a small percentage of cases of cross-eye owe their deformities to refractive errors. Serious nervous phenomena may co-exist in this class of cases. Where this is not the case, the phenomena do not occur. Those who suffer only occasionally are especially liable to reflex nervous conditions. He points out the methods of testing, the advantages of the phorometer and the tropometer, and the value of operations, which are now-a-days done without pain under cocain.

26. **Dermatitis Herpetiformis.**—Ravogli's article is a rather lengthy description of this condition, the prognosis of which is not very bad, but, in fact, is rather favorable. The treatment recommended is attention to the general condition of the subject, good diet, avoidance of mental strain, worry, overwork, and alcohol, care as to the digestive organs, condition of the bowels, and the use of tonics. Arsenic has not proved beneficial in his hands. The external treatment with carbolic acid solutions, ichthyol, etc., is of importance. Permanent recovery is to be expected in these cases.

28. **Antistreptococcic Serum in Anemia.**—DeWitt reports two cases, one of pernicious, the other of simple, anemia, in which he gave injections of antistreptococcic serum with the very best results, though he administered at the same time iron and arsenic. He does not, however, attribute the good results to these latter agents. The dose of the serum was 8 c.c. at intervals of two or three days.

29. **Hypnotism in Therapeutics.**—Kuh relates cases where hypnotism had a disastrous effect and states as of his own knowledge that Krafft-Ebing has had unpleasant results from this agency, though he has carefully refrained from publishing them. He does not believe, moreover, that it is more beneficial than other equally available and safer remedies. He concludes that hypnotism is not so safe a remedy as others employed for the same purpose, and that it is not more active in relieving most of these symptoms of disease for the cure of which it is used than other methods. Since the very patients from whom we may expect good results—the neurotics—are also the ones most liable to injury, we should be doubly careful in employing it.

30. **The Nerves in Consumption.**—Mays discusses the nervous influence in consumption and thinks that the most beneficial results will follow the treatment directed to the protection of the nervous system.

38. **Abdominal Injuries Without Skin Lesions.**—These cases, which are often very important and also difficult of diagnosis, are treated at length by Vaughan, who discusses the symptoms and methods of operation, and reports cases which have occurred in his practice. The questions for the surgeon's consideration are: Does the lesion require celiotomy? What organ is probably injured? The temperature is not reliable, as it is usually lower in serious cases—probably from shock—and rises later. The pulse is increased and is often a good index in regard to the cases, a weak thready pulse indicating trouble. Pain and tenderness are always present to a greater or less degree, and may help in localizing the injury. Vomiting is almost certain to occur when the stomach is involved and may appear with injuries to the intestines and liver. Restlessness and thirst indicate hemorrhage or peritonitis. A pinched expression with dilatation of nasal alæ is a valuable symptom, but its absence is not conclusive. Rigidity of the abdominal muscles with or without distension is another valuable symptom, but not always an early one. Blood in the vomit, stools or urine is also to be considered. After opening the abdomen he first stops the hemorrhage, and yards of gauze may be demanded in some cases when the sources of hemorrhage are numerous. Compression of the abdominal aorta may be necessary in extreme cases. Laceration of the stomach or intestines and rents in the solid viscera should be sutured, but extensive laceration of the spleen or one kidney requires removal of the organ. If the contents of the stomach or bowel have escaped into the peritoneal cavity, free irrigation with salt solution is necessary, but if only blood is found, sponging it out will be sufficient. Drainage is a question to be decided in each case. The intravenous injection of salt solution, six parts to 1000, has saved the lives of many patients. He reports cases of rupture of the jejunum, injury of sigmoid flexure, laceration of liver, pancreas and spleen, left kidney and rup-

ture of the diaphragm. In none of the cases reported was there recovery.

42.—See also ¶ 71.

43. **Permanent Catheterization.**—Eastman remarks on the tolerance of the urethra for the rubber catheter and thinks the danger of permanent catheterization has been somewhat overestimated. After it has been in position two or three days, a distinct tolerance is established. He reports two or three cases illustrating these points.

51.—See abstract in The Journal, xxxiv, p. 1338.

52.—Ibid., p. 1339.

53. **Examination of the Colon.**—Abbott describes his method of examining the rectum and lower portion of the sigmoid flexure. He found by experimental demonstrations that it is possible to inspect ten to twelve inches of the lower bowel without serious difficulty. The instruments which he has used for this purpose are only straight flat pieces of steel with four inches bent down for a handle. The sizes he has found most convenient are one twelve inches long and three-fourths of an inch wide; one ten inches long and one-half an inch wide; one eight inches long and one-quarter of an inch wide. Of course, great care must be used when the caliber of the bowel is reduced or the resiliency diminished by inflammation or tumors.

54. **Ectopic Pregnancy.**—Manierre reports cases of ectopic pregnancy operated on before rupture. The pathologic report is given by Dr. M. Herzog. In these cases pregnancy was only a few weeks old and was accompanied by uterine hemorrhage, which suggests the possibility of this as a useful sign that the fetus had died from intervillous hemorrhage. If it be possible, as Herzog remarks, to establish a set of symptoms characteristic of intervillous hemorrhage, it will be a valuable practical point and may save many patients from the dangers following rupture.

64. **Contagious and Infectious Diseases in Indiana.**—The diseases considered by the Secretary of the Indiana State Board of Health are tuberculosis, typhoid, diphtheria, scarlet fever and the diarrheal diseases of infancy. He thinks that the schools are largely the disseminators of diphtheria and scarlet fever, and that they should be cleansed and disinfected thoroughly.

65.—See abstract in The Journal, xxxiv, p. 1415.

70. **Retinitis Albuminurica.**—The conclusions of Alter's paper are, in substance, as follows: 1. Retinitis albuminurica indicates a highly toxic condition of the blood, which, in chronic kidney diseases, will prove fatal within one, or, at most, two years. 2. The eye symptoms in such cases are always the first definite demonstrable lesion of chronic kidney disease; particularly is this true of the shrunken kidney. 3. Retinitis from Bright's disease assumes two forms—exudative and degenerative. In the first, occurring with acute nephritis, recovery with serviceable vision is possible. In the second, connected with chronic nephritis, recovery is impossible. 4. Retinitis occurring in pregnancy gives evidence of a toxic condition of the blood, which endangers the life of both mother and child, and unless remedies have an inhibitive effect, abortion is justifiable, especially when retinitis occurs in the early stages of pregnancy, or if previous pregnancy has already left its imprint on the retina of the optic nerve. 5. The appearance of the lesion in albuminuria so vividly described first by Liebreich does not agree with the ophthalmoscopic picture in the majority of cases. Probably not more than one-half agree with his description. The paper concludes with a plea for the more general use of the ophthalmoscope by the practitioner.

71. **Organic Obstructions to Defecation.**—Martin's article pleads for the surgical treatment of mechanical disturbances of defecation due to the valves which he has described. See also title 42.

76. **Digestive Disturbances in Tuberculosis.**—The questions asked by Van Sant are: 1. Are dyspeptics more prone to tuberculosis than others? 2. Are tuberculous sufferers more prone to the development of digestive disorders than others? The answer to the first is, he thinks, absolutely in the affirmative, hence the importance of attending to digestive disturbances in persons predisposed or exposed to the disease. The answer to the second is also in the affirmative. He thinks the digestive disorders of consumptives, as a rule, purely functional, but they may represent organic changes. The important bearing of these disorders can not be too greatly emphasized. We can not too promptly attack and attempt to cure these harmful conditions and meet any disease that may exist.

78. **Chloretone.**—Lee finds chloretone one of the most satisfactory narcotics, and better results have been obtained by it than by any other remedy of its class that he has prescribed. It has the effect of keeping up a soothing and satisfied condition after awakening. He had also had the very best results in a case of senile chorea of great severity. Nothing could have had a happier effect than a six-grain dose of this hypnotic given every four hours. He also reports excellent results in several cases of whooping-cough.

86. **Cancer of the Cervix.**—Clark reviews the history of operative treatment of cancer of the cervix, reproducing Freund's original case. He has, with others, suggested that the pelvic lymph-glands should be removed in cancer of the uterus, but subsequent investigation has proved that the lymph-glands are not so frequently involved as has been estimated. He thinks that removal of the pelvic lymph-glands is of greater prognostic than therapeutic value. They are freqently not the site of metastases even in cases of excessive involvement of the uterus, as Cullen has shown. As regards the operation, he thinks the modification of the combined method recently suggested by Werder, of Pittsburg, offers the best chances for the thorough removal of the cancerous processes. He first performs an abdominal section and ligates both the ovarian and uterine blood-supplies. The uterus is separated from its pelvic attachments and pushed down into the vagina, after which the peritoneum is whipped together over the site of the operation. This step being completed, the patient is placed in the lithotomy position and, with strong tractors, the uterus is drawn outside the vaginal outlet, which greatly facilitates the excision of a large portion of the vagina either by actual cautery or by knife. Clark feels certain that the cautery is preferable to the knife, as it removes all cancerous tissue that is possible. Treatment of cancer is lamentable from the point of view of radical cure, and by no means what ideal surgery demands. It is to be hoped that a cure may be found by some other than surgical methods. These remarks are especially applied to cancer of the cervix. In cancer of the fundus, recurrences are infrequent after hysterectomy, and the prognosis for complete cure is good.

89. **Blood Changes Following Celiotomy.**—White reports studies of the blood in cases subjected to major gynecologic operations. The prolonged etherization and pathologic lesions have, to a certain extent, their expression in the blood. Post-operative changes in this condition have been only partially studied, and it is his hope to elaborate previous studies in order to see the relation of these reactions to convalescence, and the presence of these reactions in impossible complications that might arise. Counts and estimates were made twenty-four hours before the operation, within five hours after operation, and then every twenty-four hours, until the patient's leucocyte-count had returned to normal, while the patient had so far recovered as to make further examination unnecessary. The percentages of leucocytes do not go hand-in-hand with the daily number of erythrocytes, which is undoubtedly due to change in the blood in many cases. The erythrocytic count previous to operation showed in each of these cases a greater richness of blood than would be expected from a general inspection of the patient. The preparation of the patient had undoubtedly something to do with this richness, the purgative causing concentration of the blood. The direct effect of the operation on the erythrocytic count within the first five hours was an increase in 34.6 per cent. of the cases and a decrease in 53.8 per cent., while in 11.5 per cent. there was practically no change. In all those which showed an increase there was more or less excessive vomiting, which had a tendency to further concentrate the blood. In the succeeding counts many of the cases showed variations. These were irregular in 26.9 per

cent., with progressive decrease in 38.4 per cent., and progressive increase in 34.6 per cent. Sudden increase or decrease is indicated by such factors as vomiting, fever, loose stools, and a difference in the amount of fluids taken and urine voided. At the final count the erythrocytes were found to have actually decreased in 62 per cent., increased in 23 per cent., and remained stationary in 15 per cent., but the changes were so slight as to hardly deserve consideration. The study of leucocytes offers more distinct features in cases where there is inflammation alone, or inflammation with pus; 53.8 per cent. showed the leucocytes to be within normal numbers, and 46.2 per cent. showed slight leucocytosis. Of these cases 69.2 per per cent. were in the subacute or chronic stage, while 30.8 per cent. were acute. In the seven cases in which neoplasms were present, three were malignant and four benign. Three of the seven cases showed slight increase of leucocytes. Backward displacement of the uterus gave no leucocytosis, while one case of prolapsed ovary gave 12,920, and another case of displacement 10,840. The differential counts in all these cases before operation did not differ from the counts of like pathologic process under the same conditions in other parts of the body. The eosinophila mentioned by Neusser as occurring in diseases of the reproductive apparatus was not found. The increase of leucocytes after operation must be due to various factors, and first among these is the effects of ether. Following this come traumatism and breaking up of adhesions together to produce the post-operative leucocytosis which was constantly seen in these cases. The highest count was recorded within five hours after the operation, excepting in severe cases, where glass drains were used, and tended to fall to normal in a few days, excepting in rare cases, when it was somewhat delayed. The average was 20,975 in the total of his cases. Post-operative leucocytosis consists in a relative and absolute increase of the polymorphonuclear neutrophiles, and absolute increase, at the expense of the other cells in 59.2 per cent.; an absolute increase with increase of other cells as well in 25.9 per cent., and an absolute increase with no change in the number of other cells in 14.9 per cent. of the cases. The polymorphonuclear cells were increased in 40.7 per cent., decreased in 48.1 per cent., and unchanged in 11 per cent. The transitional cells were increased in 56.5 per cent., decreased in 48.1 per cent. and unchanged in 11.0 per cent. The lymphocytes increased in 18.5 per cent., decreased in 70.3 per cent. and remained unaffected in 11.1 per cent. of cases directly following operation. The eosinophiles disappeared in 96.3 per cent. of the cases during the highest leucocytosis; in 3.7 per cent. or one case, they remained, but in reduced numbers. They returned after several days with decrease of leucocytes; their number was then decreased only in three-fourths of the cases, but in one-fourth was apparently increased. Complications during convalescence had their expression in the blood in an absolute increase of the total leucocyte count, or a relative or absolute increase in the polymorphonuclear neutrophiles, or sluggish fall in the total number of cells daily estimated. The author discusses the value of blood-examination in such cases. He thinks that it is only a part of the thorough investigation of the patient and should be considered in this connection. He thinks the range of 5000 to 10,000 leucocytes usually given as normal is too wide a limit, though leucocytosis can hardly be considered to be present when they are under 10,000.

90. **Pernicious Nausea of Pregnancy.**—Davis briefly reports two cases of pernicious vomiting of pregnancy of somewhat unusual types. In the first case the ovum was situated in the cornu of the uterus, and had ruptured into the abdominal cavity. The patient recovered. In the second case there was ectopic gestation with excessive headache and vomiting. The patient finally succumbed. A tumor was found attached to the optic thalamus and another tumor was found in the left kidney which were diagnosed as syncytioma malignum. The pathologic examination is reported in full by Professor Harris, Jefferson Medical College, who remarks that this case strongly suggested a very unusual and peculiar form of parasitism. The syncytial masses were found not only in the kidney and brain tumors, but in the thyroid, liver and other portions of the body, rapidly destroying the tissue with which the new formations came in contact, the whole making a picture familiar to every pathologist in connection with infected processes. He has not found any literature in reference to cases of pernicious nausea in which syncytial growth was an active factor.

91.—See abstract in The Journal, xxxiv, p. 1413.

92.—Ibid., p. 1414.

93—Ibid.

94.—Ibid.

95.—Ibid.

96.—Ibid, p. 1415.

97.—Ibid., p. 1414.

98. **Intestinal Anastomosis.**—O'Hara describes a method of intestinal anastomosis consisting of the use of two pairs of forceps clamping the intestine which is excised between them close up to their surfaces and suturing over them. When they are withdrawn, a single stitch or two fills up the opening left. The article is fully illustrated.

100.—See Journal, July 14, p. 86.

101. **Potassium Chlorate.**—Meltzer has experimented on dogs with potassium chlorate and finds that it is a direct poison to the nerve-cells, which are at first intensely excited, then paralyzed by it. He asks whether we may not assume that a certain proportion of it reaches the brain, especially the respiratory center, in sufficient concentration to paralyze it.

102.—This article has appeared elsewhere. See The Journal, xxxiv, ¶ 123, p. 1481.

108. **Trauma and Joint and Bone Tuberculosis.**—Highsmith reviews the authorities in regard to the possibility of trauma exciting tuberculosis of the bones and joints, and finds as a result of his investigation of the literature and also his own experience that accidents are credited as causative factors where really the evidence is not sufficient to satisfy the intelligent investigator. He asks, too, how many cases of accidents have we seen in subjects of pulmonary tuberculosis when the whole system is reeking with infection, and no manifestation of tuberculosis of the bones at the point of local injury.

117.—See also title 129.

118. **Treatment of Squint.**—The treatment of strabismus from the standpoint of the family physician is summed up by Duncan as follows: 1. In a child aged three years or over, he would in every case (with the exceptions noted) advise a thorough examination of the eyes, so as to ascertain the refraction. 2. He would advise that this be done as soon as possible, but if some weeks must elapse before this can be done, he wouud use atropin drops once, twice or three times a day in both eyes, ordering that the drops be left off for at least two weeks before the child goes to be examined. 3. If it be reported to him that the child needs to wear glasses, he would exercise his influence with the parents to see that they were worn. 4. In case of any hesitancy on the part of the parents to attend to the matter, he would free himself from responsibility by pointing out some of the dangers of delay: 1. The child may be permanently cross-eyed. 2. He may be partially blind. 3. An operation may be needed in after years. 4. The operation, although it may straighten the eye, will not cure the blindness.

119. **Morphia in Puerperal Convulsions.**—Hoig concludes that while morphia is a valuable, and perhaps the most valuable, drug for the control of puerperal convulsions, he is not inclined to call on it in the worst types of the disease with complete suppression of the urine and a comatose state between attacks. In such cases he would prefer to use other remedies for diaphoresis and free action of the bowels. Morphin is much less useful in non-albuminous cases than in those where albumin is present, and may be even harmful in such cases. It is practically of little value before delivery, chloroform being the preferred drug at that period, and to be efficient it is necessary to use it in large doses, as much as .5 grain being borne without harm resulting.

128. **Cancer of the Uterus.**—Coe insists on the importance of early diagnosis as a prerequisite to successful operation

for cancer of the uterus. The proportion of operable cases will be increased only by the general education of the profession and laity regarding the vital significance of hemorrhage as an initial symptom. Every suspicious case should be most rigidly scrutinized, the microscope being also utilized. Before assuming a case as favorable for radical operation a careful examination should be made under anesthesia. Whatever the operation is to be it should be thorough; unless the incision can be made in the healthy tissue, well beyond the diseased area, and all outlying foci can be removed, the operation is palliative rather than curative, hence the probability that abdominal hysterectomy will be the future chosen method.

129.—See also title 117.

136. **Opinion Evidence.**—This article by Palmer reviews the subject of medical expert testimony in a very satisfactory way, showing how its defects that have been so deprecated may very easily and naturally arise. Medicine is not an exact science, and the chances, therefore, for differences of opinion are the greater and the restrictions placed by law upon testimony are often provocative of the evils. He mentions the various methods that have been offered to mend the matter: The appointment of state experts; examination by the court; conference between experts, etc. He believes that the latter is the best method of obtaining agreement in such cases.

137. **Eye Diseases that the Practitioner Should Recognize.**—Among the special points which Rogers claims every practitioner should recognize in diseases of the eye are: The presence of foreign bodies, distinction between various phlyctenular types and diseases of the conjunctiva as distinguished from iritis, the diagnosis of iritis, of glaucoma, need of distinguishing refraction errors, etc. He believes that the more common affections should be treated by the general practitioner, though the more serious and complicated ones should be referred to the specialist.

138. **Appendicitis in Women.**—The following are the conclusions of Davenport's article: 1. Appendicitis is not so rare a disease in women as has been generally supposed. 2. On account of the smaller size and better blood-supply of the appendix in the female it is less liable to become so acutely inflamed as to call for operation, and, too, on account of the many diseases in the female with which appendicitis may be confounded, its true diagnosis is often overlooked. 3. In every abdominal section, for whatever purpose, it is absolutely essential for the best interest of our patients to examine into the condition of the appendix. 4. Appendicitis is frequently observed as a complication or extension of many of the pelvic disorders of women where it had not been suspected prior to operation. 5. Appendicitis may be the cause of salpingitis or right-sided pelvic suppuration, but probably more frequently happens as a result or effect. 6. Chronic appendicitis is sometimes found to be the sole trouble in women of a neurotic temperament, when a previous false diagnosis of ovaritis or ovarian neuralgia has been made. 7. The differential diagnosis of appendicitis and the various diseases of women with which it may be confounded becomes comparatively easy if a complete history of the case is taken in connection with a carefully made physical examination.

FOREIGN.

The Lancet, July 14.

On the Confusion of Two Different Diseases Under the Name of Rubella (Rose-Rash). CLEMENT DUKES.—From his experience the author concludes that two diseases are confounded under the general name of rubella. The second form represents a distinct condition varying slightly in the course of the eruption, which is more discrete at first and covers the whole body in the course of a few hours. The throat is more swollen and velvety in appearance, desquamation is more thorough, resembling in this respect scarlet fever, and the disease is not so infectious in the early stages as is rubella. He reports cases that he has observed, and concludes that while its resemblance to scarlet fever in many cases is close it can not possess any affinity with that disease, since both occur concurrently in the same epidemic, and some individuals have one disease following the other. Nearly one half the cases in which this new type occurred had had the regular rubella within a year or two, which is not credible, according to Cullen's established law.

A Note on the Results Obtained by the Anti-Typhoid Inoculations in the Beleagured Garrison in Ladysmith. A. E. WRIGHT.—This brief report of statistics of anti-typhoid inoculations in Ladysmith garrison shows there must be a real protection from the procedure. In the uninoculated the disease occurred in the proportion of 1 to 7.07, while in inoculated subjects it occurred in 1 to 48.7, and deaths in the two classes were in the proportion of 1 to 32 and 1 to 213, respectively. The proportions of deaths in those attacked were very nearly alike. Among the officers alone the figures were not quite so favorable, though still showing the proportion in favor of inoculation as compared to uninoculation. Wright is not certain as to the perfection of the inoculation given in these cases. In only two cases amongst those who had been twice inoculated was there any typhoid fever. Therefore, it seems that the double inoculation is a considerable additional protection. It may be possible that certain of the officers set down as inoculated may have been inoculated with anti-typhoid serum and not with vaccin consisting of sterilized typhoid cultures, and it is also possible, owing to the exigencies of military service, that they did not receive the full dose in all cases. He has found some instances where not more than one-fourth of the usual dose had been given.

Illustrations of Vasectomy or Obliteration of the Seminal Ducts Relative to Hypertrophy of the Prostate and Bladder Atony. REGINALD HARRISON.—The writer finds that vasectomy is equally effective and a very much safer operation than castration. The latter operation has in the aged sometimes produced serious trouble and occasionally is dangerous to reason and often to life. The operation of vasectomy causes, according to his observations, when performed in the manner prescribed in a previous paper, no untoward results whatever, and does not at all interfere with the internal secretion functions of the testicles, the absence of which is considered responsible for many of the effects observed after castration.

British Medical Journal, July 14.

The Importance of Post-Graduate Study. WILLIAM OSLER.—In this address Osler points out the advantages of post-graduate study and its needs amongst all classes of physicians. He thinks that the majority of us are apt to fall into the ruts of routine, hence the necessity of something to bring us out in contact with the progressive world, and the specialists are the ones that fall into the deepest ruts. No men need renovating more frequently than those who teach in schools of learning, the very dogmatic ways necessary to the teacher react upon him and intellectual staleness begins. In the conclusion of his lecture he speaks of the tendency to advance in the United States, and prophesies that English physicians of the twentieth century will find their keenest inspiration in the land of the setting sun.

Degeneration of the Neurone. FREDERICK W. MOTT.—In this fourth lecture Mott dwells on the close relationship, etiology, and pathology of tabes and general paralysis, showing that in both the syphilitic poisoning is the original cause and in both there are juvenile hereditary forms. In his experience about 10 per cent. of cases of paralysis are associated with the tabetic cord lesions. In the one disease we have the disorder affecting the exogenous afferent spinal neurones, and in the other especially the neurones of the frontal and central convolutions of the hemispheres, but in both a similar process may take place. He reasons out the etiology of paralysis by assuming that it starts in venous congestion, which especially affects the portions of the brain involved. The following are the reasons advanced for considering it a primary degeneration of the neurone with secondary meningo-encephalitis. 1. Its relation to tabes. 2. The existence of the Argyll-Robertson symptoms in the majority of cases. 3. The existence of a gray atrophy of the discs more frequently than can be explained by mere coincidence, which can only be accounted for as a primary atrophy. 4. The evidence of wasting of the whole nervous system, affecting some parts more than others, but out of proportion to the evidences of inflammation. This must be primarily in the nervous system, for in no cachectic disease nor even in starvation do we find such extensive wasting take place. 5. Thickening of the pia-arachnoid membrane is proportional to and corresponds with the degree and locality of the atrophy, so it is with tabes. 6. In many cases the tabes, especially those with mental symptoms, atrophy of the tangential and superradial association fibers of the brain are found, quite similar to, but in different situations to those of general paralysis. 7. In cases of well-marked meningo-encephalitis, where there is no question as to its inflammatory nature, we do not find this extreme atrophy. As an example of efferent neurone degeneration he mentions amyotrophic lateral sclerosis, which must be due to some form of autointoxication. Peripheral neuritis is also discussed and questions of heredity in its relations to degeneration of the neurone, especially as illustrated by juvenile general paralysis, are also treated.

Annales de Dermatologie (Paris), June.

Anatomic Evolution of Syphilis. GASTOU.—Examination of the cadavers from Fournier's service during the last seven years has established that syphilis favors infections, especially hospital tuberculosis, cancer and various microbian associations. The anatomic evolution of the disease is shown to be, first a period of incubation, a silent interval extending from the inoculation to the appearance of the chancre, during which the pathogenic microbe of syphilis, leading a strictly anaerobic existence, produces lesions in the lymphatic system. The rare autopsies of syphilitic patients dying during this period, or as the chancre is first appearing, show these lesions predominating in the lymphatic system, and thus testifying to a general infection. The invasion period begins with the chancre and includes a second phase, the eruptive, a typical eruptive fever, whose anatomic localizations are on the venous system, and indicate that the pathogenic germ is a facultative anaerobe. This second, virulent, contagious period characterizes the disease essentially, and transmits it congenitally. It kills by cerebrospinal, hepatic or embryonal infection, and is cured by the specific, mercury. The third period is a true medical septic pyohemia, in which the specific microbe, its toxins and microbian associations focus on the arterial system all the energies of the disease. In this period the soil is more important than the germ. The disease creates an eruptive polymorphism which simulates any skin disease, and organic lesions which simulate those of any infectious disease. It is this period which begets degeneracy and malformations. It is characterized by infiltrations and scleroses, curable with potassium iodid. This conception of the evolution of syphilis and of the anaerobic existence of its microbe, indicates the importance of discovering a culture-medium for it which will reproduce the conditions of the lymphatic and venous systems in which it flourishes in the organism.

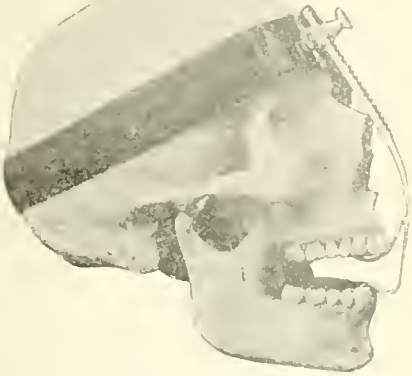
Annales de la Soc. Med.-Chir. de Liege, May.

Curvature of Head of Tibia in Fetus. A. BRACHET.—Scientists have always been much interested in the fact that the skeletons of pre-historic races show a backward curvature of the head of the tibia, apparently incompatible with an erect posture. Retzius has recently announced, and his statements have been confirmed by Brachet, that the tibia in the fetus invariably presents this anomaly, which changes to normal straightness during the first few months of life. It is more pronounced the younger the fetus.

Bulletin de l'Academie de Medecine (Paris), June 26

Inhalation of Gaseous Antiseptics. P. LACROIX.—The principle of the inhaler invented and urgently recommended by Lacroix is the passing of a current of air through a mixture of .5 menthol, two to ten drops of bromoform, and five drops to twenty gm. of formic aldehyd, heated in an air-tight vessel, the patient inhaling the fumes generated. The microbicidal action was shown in tubes inoculated with pus, into which the current of air from the inhaler was turned for forty-five minutes, with the result that no cultures developed. Tuberculous sputa were also treated with the fumes for five hours and a guinea-pig was then inoculated with .5 c.c., with no effect on the health of the animal. The larynogoscope shows that there is no congestion of the tissues in the throat after inhalation of the fumes for therapeutic purposes, but the mucopurulent secretions of chronic laryngo-bronchitis dry up, and there is general relief and improvement in all pulmonary troubles. Bacillary ulcerations in the larynx become cicatrized; tuberculous laryngeal catarrh is healed, etc., while there are no inconveniences from the inhalations except a slight, transient sense of fullness in the chest at first.

Appliance for Anesthesia. A. REVERDIN.—The chief danger in administering an anesthetic is the possibility of arrest of the heart action by reflex action from the nasal mucosa. Reverdin causes his patients to inhale the anesthetic—preferably ether—through the mouth for this reason, and keeps it automatically open for the purpose by the simple contrivance shown in the cut.



Differentiation of Abscess in Cerebellum. DIEULAFOY.—Any otitis, acute or chronic, recent or even of forty years' standing, is liable to induce an intracranial lesion. As soon as the tympanum is infected, the pathogenic germs are liable to have their virulence enhanced under the influence of the closed cavity, as in the case of the appendix, and may spread thence in any direction. The cavities of the ear, including the mastoid cells, afford peculiarly favorable conditions for increasing the virulence of germs which have penetrated through the Eustachian tube, and the thin or porous bony walls offer but slight obstacle to their further migration, resulting in meningitic lesions, phlebitis or thrombosis, or an abscess in the cerebrum or cerebellum. The symptoms of the latter are generally cephalalgia, predominating in the occipital region, vertigo, ictus, loss of balance, staggering, vomiting, nystagmus, contraction in the neck, neuritis of the optic nerve, muscular asthenia, somnolence, torpor approaching coma, and possibly fever. This syndrome occurs, whatever the portion of the cerebellum involved, but paresis of the facial and external motor ocular nerves localizes the lesions on the same side. The violence, persistency and localization of the cephalalgia differentiate it from the aural or labyrinthic syndrome. The lack of motor disturbances, paresis, contractions and spasms on the side opposite the lesion, differentiate it from an abscess in the temporo-sphenoid or occipital lobes. Word-blindness and hemianopsia are also important symptoms of the latter. Tumors usually induce further symptoms, from compression of neighboring regions, and syphilitic lesions should also be carefully discriminated and receive specific treatment. Prompt surgical intervention, before the abscess has involved the adjacent tissues, is the only treatment applicable to abscesses of the cerebellum. Laborde exhibited in connection with this communication several rabbits which demonstrated the peculiar functions of the cerebellum as the "regulator of the equilibrium." A needle had been inserted in the cerebellum through the skull, inducing a strictly localized and circumscribed lesion, with the identical result for each point, in a large number of tests. Lesion of the middle peduncle induced a lively motor reaction, with loss of equilibrium, the animal turning rapidly on the lengthwise axis of the body, from right to left if the lesion was on the right side. Pricking the superior peduncle induced a motor reaction similar to the motion in circus-riding. Lesion of the inferior peduncle caused a deviation of the head and upper portion of the body to the side of the lesion. ' Frogs thus treated deviated invariably and irresistibly to the right in jumping and swimming. These three manifestations of loss of motor balance—due to lesions of these three points in the cerebellum, all closely connected with the innervation of the ear—easily explain the vertigo, etc., in an auricular lesion. The typical case of abscess in the cerebellum described by Dieulafoy was consecutive to an otitis a few weeks before, so slight that the patient had quite forgotten it. In entering the hospital he had been seized with sudden vertigo and had fallen violently toward the left. The abscess was found as diagnosed, in the left lobe, but not until the autopsy. The cerebellum appeared quite normal when exposed, and punctures missed the site of the lesion. The respiration suddenly ceased completely for twenty minutes, although the pulse could still be faintly felt at intervals. In exploring with his finger the surgeon touched the posterior surface of the medulla oblongata and immediately the patient made a deep and loud inspiration. Removing the finger respiration ceased again, but was resumed as soon as the finger was replaced and the patient was finally restored to life for a few days longer. The finger had probably lifted the pressure of the abscess from the respiration center in the floor of the fourth ventricle. The antero-external abscess was in the white matter, not encapsulated, containing about two gm. of creamy, greenish pus, with the pneumococus pure but not virulent. There was no other lesion.

Presse Medicale (Paris), July 4 and 7.

Tropical Fevers and Quinin. E. Legrain.—The conclusions of this study of 300 cases of tropical intermittent fevers in respect to their reaction to quinin, compared with that of non-intermittent pyrexias. show that a dose of quinin has no effect upon an established attack of intermittent fever, but that the proper amount—10 to 25 cg. —promptly administered at the first indications of an attack. will always cut short an intermittent fever for a minimum period of five days. On the other hand, all other pyrexias show the effect of quinin at once by an artificial and transient drop in the temperature, the amount varying with the disease and characteristic of each. In biliary affections and in septicemia of intestinal origin, the effect of quinin is disastrous, as it adds its own hemolytic action to the globulicidal action of the infection.

Resection of the Gasserian Ganglion. O. Jacob.—Attention is called in this article to the danger of injuring the sphenoidal sinus in resecting the Gasserian ganglion, with consequent infection and possibly fatal results. Jacob recommends the Krause-Hartley operation as less liable to injure the sinus than the pterygo-maxillary route, which he formerly advocated.

Semaine Medicale (Paris), July 4.

Immunity to Malaria. C. Firket.—The generally accepted idea that malarial infection is a typical example of a disease which does not confer immunity against future attacks, has been controverted by Koch's latest research, which tends to demonstrate that an immunity is gradually acquired in the course of time, and that whites can attain this immunity as well as negroes. This conflicts again with the experience of foreigners in tropical countries, who show an increasing mortality the longer their stay. Firket attributes this fact to the injurious influence of the climate. which hinders or prevents the colonists from benefiting by their acquired immunity. He, therefore, urges the necessity of diminishing this unfavorable influence by improving the general conditions of existence, especially during the convalescence from the first malarial attack—a critical period which may determine the degree of immunization and of ulterior capacity for work.

Berliner Klinische Wochenschrift, July 2.

Origin of Tuberculosis from the Blood. Aufrecht.—The fact that tuberculosis is not induced by inhalation of the germs seems to be established by Aufrecht's research mentioned in The Journal of July 28, p. 262. He has shown that the first stage of the tubercular process is a thrombus in one of the finer capillaries where the bacilli lodge, with consecutive thickening of the walls of the vessel and necrotic changes —caseous foci—in the portion of the tissue from which the blood-supply is thus cut off. He now announces that tubercle bacilli were invariably found in the thrombus or in the thickened walls of the vessel in both experimental and human tuberculosis in all his research, showing that they must have been derived from the blood. In one instance he found a pure culture in a thrombus in a tiny capillary leading to a single caseous nodule in the kidney of a rabbit. The discovery of the bacillus in these primary anatomic localizations offers a plausible explanation of all the varied phenomena of tuberculous affections in any part of the body in man or induced experimentally in animals.

Centralbatt f. Chirurgie (Leipsic), July 7 and 8.

Thyreoptosis. A. Kocher.—It is more than probable that many cases of thyreoptosis have been mistaken for asthmatic affections, and been vainly treated by internal remedies. The condition sometimes requires surgical intervention and Kocher has successfully operated on several patients. The gravity of the intervention is proportionate to the size of the displaced goiter, and consequently its early recognition is of great importance. An observation is described in which the only symptoms to suggest a hidden goiter were indications of slight paralysis of the recurrent and sympathetic nerves on one side. There were no signs of a goiter in the neck and the trachea was free its entire length. An elastic, deep goiter was palpated in the thorax, corresponding to an area of dulness over the upper half of the sternum and upper right ribs. It rose and fell in breathing, but caused no disturbance, as the thorax was large. The displacement in this case could be traced to an old, chronic muscular contraction, forcing the head forward.

July 14.

Etiology of Congenital Dislocation of Hip-Joint. P. Bade.—In twenty-five out of ninety-four cases of congenital dislocation of the hip-joint, Roentgen photographs showed more or less alteration of a similar nature on the sound side; the acetabulum unduly wide, the roof flat, the sides of the socket thickened, asymmetrical atrophy, or else anomalies in the growth of the head. Congenital dislocation is, therefore, due to a primary defect in formation, which may be so slight as not to induce dislocation. If the primary alterations are located in the upper portion of the neck and not in the acetabulum, coxa vara may result.

Deutsche Medicinische Wochenschrift (Berlin), July 5 and 12.

Traumatic Pancreatic Abscess. W. Strohmayer.—Two months after an injury in the gastro-abdominal region a workman, 43 years of age, presented symptoms suggesting an internal malignant tumor, not located in the stomach or intestines. There was no fatty diarrhea nor evidences of diabetes to direct attention to the pancreas, but frequent vomiting and increasing tympanism, icterus and cachexia were noted. The patient died in a sudden attack of intense dyspnea a month later, and the autopsy disclosed a perforation of an abscess in the pancreas into the pleural cavity. The trauma had probably induced a hemorrhage in the pancreas with subsequent abscess formation—Körte noticed a similar co incidence of trauma and abscess in three out of forty-six cases.

Spontaneous Rupture of Esophagus. Heintze.—The observation described resembled the twelve already recorded, except that there was no sensation of laceration and no subcutaneous emphysema. The patient was a mason, 43 years old, in vigorous health, although addicted to liquor; no antecedents. Immediately after a hearty meal he experienced a violent pain in the stomach, intensified by deep breathing, nausea. pulse 140, small, no fever, lungs free in front, heart sounds distinct, abdomen apparently normal. Death occurred in collapse seven hours later. A longitudinal perforation was found in the esophagus 1½ cm. long, 6 cm. above the cardia. The left pleural cavity contained 1½ liters of food from the last meal, the lung completely collapsed. There was no evidence of any abnormal processes to acount for the laceration.

July 12.

Immunity in Connection With Epidemics. A. Wassermann.—As the laws of epidemics and immunization are becoming better understood, they seem to establish that all infection diseasses—even malaria—confer immunity against further infection by the same microbe, the immunity varying in its intensity and permanence. Study of the recent small epidemic of influenza in Germany demonstrated that the influenza bacillus vanished rapidly and completely from the blood; this fact indicates a condition of immunity in the subject. But the additional fact was noted that the disappearance of the bacilli was followed by symptoms of intoxication;

the immunity only covers the live bacilli and does not protect against the toxins liberated by their dissolution. Koch and Donitz have suggested that the immunity conferred by an epidemic places a zone of immune individuals around an endemic focus which prevents the further spread of the infection until their immunity has lapsed. Wassermann found that every one of his patients in the recent epidemic of influenza had passed through a severe attack ten years ago. The immunity conferred by the latter had evidently not sufficed to prevent a new attack, but had caused the rapid destruction of the bacilli in the system, with consequent severe intoxication. He remarks that the recent slight epidemic is an indication that the populace is beginning to be ripe again for a new, extensive epidemic of influenza.

Staining of Malarial Parasites. R. RUGE.—The stain recommended in this communication is as effective as the usual ones, but dispenses with the necessity of a contrast stain. The "reds" are greenish, the "whites" bright blue and the different forms of the malaria germs almost black or dark blue. A solution of .2 soda in 100 c.c. water is heated, and as it boils .3 methylene blue pur. is added. The mixture is set aside to cool for forty-eight hours, when it is filtered ready for use. The amount of blue must be increased if the blood is over four weeks old.

Enucleation vs. Evisceration et al. H. SCHMIDT-RIMPLER.—This communication from the Göttingen ophthalmic clinic was compiled with reference to the discussion of the question of the relative advantages of operations on the eye, announced for the approaching International Congress of Medicine. Enucleation was done 160 times, evisceration 149, and optic-ciliary neurectomy 26. Recovery was most rapid after the first and slowest after the last operation. In 4 of the 10 cases in which the eye was enucleated with existing sympathetic inflammation, it subsided in 4, leaving the sight good. Sympathetic serous iritis has a better prognosis than plastic iridocyclitis with extensive posterior synechiæ. Iridectomy in the latter case usually entails softening and loss of the eye, which without it may last a long time. Sympathetic ophthalmia is caused by a reflex irritation by the mediation of the ciliary nerves, and this irritation affords the disposition and a favorable soil for inflammation from any cause. This theory is supported by Moll's recent experiments with rabbits. He set up an irritation in the anterior chamber, with a fragment of copper introduced and then injected a culture of the pyocyaneus into the vein of the ear. The next day the microbes were found in the aqueous humor of both eyes, while none were found in either eye in control animals without a preceding injury. In one of the six case-reports which Rimpler adds to his communication, the sympathetic ophthalmia first appeared in the course of an angina. It may occur years after neurotomy or neurectomy or evisceration, by the growth of new fibers into the sclerotic. On the other hand, he has been frequently amazed at the way in which an eye that seemed ripe for enucleation has finally recovered without inducing sympathetic disturbance. When a condition of irritation in both eyes is evident, he treats it with mercurial inunctions or subcutaneous injections of sublimate, and a darkened room. He advises evisceration as the operation for non-specialists and in case of suppurative processes and also to prevent asymmetry in the development of children. The indications for optic-ciliary neurectomy are limited. It should never be done unless the danger of sympathetic disturbance is very slight, and consequently, never in case of a foreign body, nor of extensive defect of the eye.

Meningotyphoid Fever. A. HOFMANN.—There is evidently a close connection between all the cerebral symptoms in typhoid fever, from the extremely severe manifestations in the observation described, with death in coma, to the convulsions, twitchings, trembling of the fingers, delirium or slight somnolence noted in others—all directly traceable to the influence of the toxins secreted by the typhoid bacillus and circulating in the blood. But when, as in the case reported, the bacilli penetrate into the meninges and thus bring the full strength of the toxin directly in contact with the nerve tissue, the effect attains its maximum. The unusually large spleen confirmed this conception of the syndrome; the patient died before a suppurative meningitis had time to develop.

Experiences with Light-therapy. H. STREBEL.—Whenever a sweatbath is indicated, the electric-light baths accomplish the desired end without taxing the heart, and they seem to have a specifically favorable effect on cardiac and diabetic troubles. The combination of light and warmth in the incandescent-light baths proved especially effective in some cases of old, chronic diabetes, in which the sugar was reduced from 6.7 per cent. to .1 within four weeks. Neuralgia was favorably influenced—especially ischias—in many cases, by the "light-warmth" baths, never by the light baths alone, but the most striking effects were observed in cutaneous affections, ulcus cruris, acne, furunculosis, etc. One case of ulcus cruris which had resisted all treatment for two years began to heal in five days of "light-warmth" treatment and was completely cured in twenty. Finsen uses the cold light exclusively, but Strebel finds the combination of light and heat most effective, and sunlight through a hollow lens filled with a vitriolized solution, the cheapest and best source, whenever practicable.

Muenchener Medicinische Wochenschrift, July 3.

Bilirubin in Urine in Heart Disease. F. OTT.—The Salkowski test revealed the presence of bilirubin in the urine of patients with heart disease accompanied by an icteric complexion. It also showed that the elimination of bilirubin persisted after that of urobilin had ceased. Much albumin or hemoglobin in the urine, or ingestion of salol, etc., prevented the detection of the bilirubin.

Venesection in Heat Stroke. C. KLEIN.—A severe case of heat stroke, from the unusual work in the engine-room of a steamer, was proceeding rapidly to a fatal termination from increasing edema of the lung. The convulsions prevented artificial respiration and bathing; the pulse and breathing contraindicated chloroform, and there was no time to prepare an artificial salt solution for transfusion. Klein withdrew 220 gm. of blood, the effect of which was immediately beneficial. The pulse and respiration became slower and fuller in a few minutes; the convulsions gradually ceased, and the patient slept calmly for ten hours.

Venesection in Uremia. R. V. HOESSLIN.—Two observations are reported in which life was undoubtedly saved by venesection. One was a case of croupous pneumonia, the crisis rapidly following the intervention. In the other case nephritis and severe uremia had induced cardiac insufficiency, which had in turn diminished the urine and aggravated the nephritic process. The immediate danger was relieved by venesection—the patient was too agitated for the contemplated transfusion of artificial serum—and digitalis was then administered, which by raising the blood-pressure rapidly put an end to the remaining uremic symptoms by increasing the urine. The congestive processes in the kidney were also relieved at the same time as the cardiac insufficiency, and under the influence of the improved circulation through the kidneys, the nephritic process soon healed.

Atropin in Ileus. BATSCH.—Two more cases are reported in which severe ileus with fecal vomiting was successfully cured with two injections of .005 atropin. In another observation laparotomy had finally to be performed, but the influence of the atropin was evident, facilitating the operation and preventing gangrene in the incarcerated loop.

Inexpensive Thermostat for Bacteriology. K. WALZ.—A simple, reliable and inexpensive oven for bacteriologic cultures is afforded by applying the principle of the thermophore to a small incubating apparatus.

Therapie der Gegenwart (Berlin), June.

Electric Treatment of Bladder Troubles. E. V. TOVÖLGYI.—Certain bladder troubles accompanying organic nervous affections are amenable to electrotherapy. Two observations are related in detail of the success of three weeks' treatment with electrization of the vesical sphincter and of the prostate through the rectum, putting an end to serious urinary troubles of many years' standing, in patients with syphilitic antecedents and tabetic symptoms, one a butcher of 47, the other still younger, a cabinetmaker, with symptoms of sclerosis in patches.

Pain-Soothing Effect of Roentgen Rays. L. Stembo.—The analgesic properties of the Roentgen ray are extolled by the writer, who states that he has cured 21 out of 28 cases of severe neuralgia by a few sittings, usually three, of three to ten minutes in length. The current was 16 to 20 volts, with about 1500 interruptions to the minute and spark 45 cm. long.

Oak-Bark Baths for Pemphigus Malignus. A. Baginsky.—Five complete recoveries in eighteen cases of dermatitis exfoliativa or pemphigus malignus foliaceus, Baginsky considers a good record for his method of treatment, which consists in a six to eight minutes' bath at 27 C., with 1 kilo of a decoction of oak-bark in the water. The patient is then wiped dry with cotton and dusted thick with a powder of equal parts of zinc oxid and talcum, renewed several times a day. He has recently treated a fourteen-day babe in this way with brilliant results. All other salves and fluids are rigorously forbidden and the results are incomparably better than he has ever attained before.

Sozoiodolates in Scarlet Fever. A. Baginsky.—The severe ulcerative necrotic angina in some cases of scarlet fever is favorably influenced by insufflating sodium sozoiodolate with equal parts sulphur, several times a day, which has proved a valuable local adjuvant, in Baginsky's experience.

Tidsskrift t. d. Norske Laegeforening (Christiania), July 1.

Pregnancy with Intact Hymen. H. Brodtkorb.—Summoned to attend an obstetric case, the writer found a well-developed woman, married a year before. The pregnancy had been normal to term, but the hymen was intact, with merely an opening .25 cm. in diameter. The urethra was very much stretched and had been used for coitus without consciousness of the error on the part of either husband or wife.

Brazil Medico (Rio Janeiro), June 8.

Medicinal Plants. R. M. Da Silva.—Two plants grow in the Espirito-Santo district where the writer resides, which have been used by the populace for generations. One is of the Lamiacea family, genus leonotis. It is called "poor man's quinin" and contains a bitter alkaloid which cures malarial and gastric affections and is of great assistance in washing clothes. It renovates the skin, making it delicate and satiny as that of any European *grande dame*. The other plant is of the Amaranthacea family, the "Gomphrena pohlu." The infusion of the dried leaves forms a delicious, aromatic drink, much used in rheumatic and syphilitic affections. Da Silva recommends it in place of tea or coffee. The popular name is *chapco de couro*, while the leonotis is known as *herva macahé*, *lavadeira*, and *S. Fidelis*.

New Patents.

Patents of Interest to Physicians, July 3 and 10.

653,193.	Stopper for atomizers or perfumery bottles, Joseph Albiez, New York City.
653,013.	Syringe, Wm. A. Armour, Thomaston, Conn.
652,889.	Surgical or obstetrical pad. Tillie Camphell, Oakland, Cal.
652,999.	Vaccinating instrument. Louis A. Denis, West Hoboken, N. J.
653,179.	Splint. James G. Hughes, Port Arthur, Texas.
652,969.	Making ionone. Wilhelm Krauth, Griesheim-on-the-Main, Germany.
653,120.	Pasteurizing apparatus. Alban H. Reid, Philadelphia.
652,985.	Syringe, injector, etc. John H. Walker, Charters Towers, Queensland.
653,466.	Measuring spoon. Edward L. and K. K. Bigelow, Everett, Mass.
653,440.	Invalid's bed. Albert B. Clark, Hamburg, N. Y.
653,547.	Invalid bed attachment. Anna E. Countryman, Marcus, Iowa.
653,575.	Apparatus for massaging by vacuum. Henry F. Garey, Baltimore, Md.
653,259.	Invalid bed. Emil Otto, Elmhurst, Ill.
653,321.	Adjustable surgical chair. Tiffin J. Shackelford, Warsaw, and C. A. L. Kirkpatrick, Fort Wayne, Ind.

Queries and Minor Notes.

GOAT LYMPH CURE.

Salisbury, Mo., July 24, 1900.

To the Editor:- Please give us something in The Journal about goat lymph: its use, value, status with the medical profession, etc.

J. D. B.

Ans.—The Journal does not advertise the goat-lymph cure, because it sees no reason for placing any faith in it. Moreover, the methods and claims of those exploiting it are not such as commend it to thinking physicians.

A COMPOSITE PROFESSION.

Dr. Adam H. Wright, in his President's Address before the Ontario Medical Association, calls attention to the following advertisement, taken from a newspaper of Shakespeare's time:

> WANTED—In a family who have had bad health, a sober, steady person in the capacity of doctor, surgeon and man-midwife. He must occasionally act as butler and dress hair and wigs. He will be required sometimes to read prayers, and preach a sermon every Sunday. A good salary will be given.

It would be an interesting addition to the "ad" if it could be stated what was "a good salary" at that time.

COAL-GAS POISONING.

Flint, Mich., July 5, 1900.

To the Editor.—In The Journal for June 30, 1900, page 1678, I notice an article with the heading "Poisoning by Coal-Gas and Its Treatment." In this article we are told that methane or marsh-gas is the ingredient that produces the light in coal-gas. I wish to call your attention to the fact that marsh-gas when burned is easily recognized by its producing a pale-blue flame far inferior to olefiant gas in luminosity, and very much inferior to acetylene. The writer of this article is mistaken as to the illuminating properties of methane, as it is acetylene that makes the gas rich in light-giving qualities and not marsh-gas. Some of the coal gases contain the cyanogen vapors in the shape of uncombined hydrocyanic acid together with several chemical compounds not mentioned in this article, and a novice that would base a solution of a problem upon this article would not be on the right road to success.

O. Millard, M.D.

Ashton, R. I., July 4, 1900.

To the Editor.—In an article entitled "Poisoning by Coal-Gas and Its Treatment," in The Journal, June 30, the writer asserts that "asphyxia means suffocation," and therefore the term "asphyxiation" as applied to this condition is incorrect. He quotes from Mr. N. Wiley Thomas, proving that carbon monoxid is an impurity, which poisons the blood by uniting with the hemoglobin, thus rendering the latter incapable of taking up the necessary oxygen.

As to treatment, he says that experiments made by Dr. Darrah show that carbon monoxid, by excluding oxygen, causes a feeble pulse—asphyxia—while the respiration is increased in frequency and depth, thus that the above condition is caused not by a failure of respiration—apnea—or suffocation, but by failure of pulse—asphyxia. The proper term to use, therefore, is "Asphyxiation."

N. O'D. Parks, B.A., M.D.

Ans.—In the article on coal-gas poisoning, referred to by our correspondent, the statements concerning the formula and the luminosity of coal-gas were misleading. The word "formula," in reference to a chemical substance indicates that it has a definite and unvarying composition. Coal-gas is a mixture, not a definite compound, and therefore, the word "composition" would have been more applicable.. Again, the composition of coal-gas varies according to the variety of the coal used in its manufacture, and the composition given therefore is only a typical one. In giving the composition, the article mentioned illuminants, ethylene, acetylene, etc. These are included in the illuminants and therefore are mentioned twice.

As to the luminosity of coal-gas, both the article and our correspondent are partly correct, yet neither has told the whole truth. Marsh-gas, as such, does not burn with a luminant flame, but when heated it becomes changed to acetylene, and is thus the principal illuminant. As to the appropriateness of the term "asphyxiation," we should not be too hypercritical. Asphyxiation originally meant pulseless, and as the lack of pulse is one of the commonest symptoms of suspended animation, the word has come to be used in reference to any suspension of vital phenomena.

The Public Service.

Army Changes.

Movements of Army Medical officers under orders from the Adjutant-General's office, Washington, D. C., July 6 to 24, 1900, inclusive:

H. Eugene Allen, acting asst.-surgeon, from Fort Sam, Houston, Tex., to Fort McPherson, Ga., to accompany Co. M, 15th United States Infantry, to the Philippine Islands, via San Francisco, Cal., and on arrival at Manila to report for assignment to duty.

W. Edson Apple, acting asst.-surgeon, from Fort Columbus, N. Y., to West Point, N. Y., to accompany Co. E, Battalion of Engineers, to San Francisco, Cal., and thereafter to return to his proper station.

Lewis Balch, major and surgeon, vols., leave for absence granted on account of sickness.

John M. Banister, major and surgeon, U. S. A., member of board to examine candidates for admission to the United States Military Academy, West Point, N. Y.

Charles N. Barney, acting asst.-surgeon, from Fort Edward, N. Y., to temporary duty at Fort Monroe, Va.

Peter W. Beckman, acting asst.-surgeon, from Alton, Ill., to the Department of California.

William C. Borden, captain and asst.-surgeon, U. S. A., leave of absence granted.

Wilmot E. Brown, acting asst.-surgeon, from Taylorville, Ill., to Denver, Col., to accompany troops from the Department of the Colorado to the Philippine Islands.

Charles B. Byrne, major and surgeon, U. S. A., from Plattsburg Barracks, N. Y., to San Juan, Porto Rico, for assignment as chief surgeon, Department of Porto Rico.

W. Earle Chapman, acting asst.-surgeon, from Cheboygan, Mich., to the Department of California.

Alpha M. Chase, acting asst.-surgeon, from Denver, Col., to the Department of California.

August von Clossman, acting asst.-surgeon, from Jefferson Barracks, Mo., to duty as attending surgeon and examiner of recruits at St. Louis, Mo.

Marshall M. Cloud, lieutenant and asst-surgeon, U. S. A., to proceed to San Francisco. Cal., to accompany the 1st U S. Cavalry, en route to Manila, P. I.

William H. Corbusier, major and surgeon, U. S. A., from San Francisco, Cal., to Washington, D. C., to report to the surgeon-general for instructions.

Joseph J. Curry, acting asst.-surgeon, to report in person to the surgeon-general for instructions.

William B. Davis, major and surgeon, U. S. A., member of a board to examine candidates for admission to the U. S. Military Academy, West Point, N. Y.

Samuel M. DeLoffre, acting asst.-surgeon, from Washington, D. C., to Omaha, Neb., to accompany the 1st U. S. Cavalry to the Philippine Islands, reporting on arrival at Manila for assignment to duty.

Charles H. Fischer, acting asst.-surgeon, leave of absence granted.

John S. Fogg, acting asst.-surgeon, from Columbus Barracks, Ohio, to Fort Myer, Va., to accompany a squadron of the 3d U. S. Cavalry to the Philippine Islands, and on arrival at Manila to report for assignment for duty.

Marion O. Fulcher, acting asst.-surgeon, to accompany the 3d Battalion, 15th U. S. Infantry, from Madison Barracks, N. Y., to the Philippine Islands, *via* San Francisco, Cal., and on arrival at Manila to report for assignment.

Leigh A. Fuller, lieutenant and asst.-surgeon, U. S. A., to report at Washington, D. C., for instructions while en route, under previous orders, from Fort Monroe, Va., to San Francisco, Cal.

Charles M. Gandy, captain and asst.-surgeon, U. S. A., member of a board to examine candidates for admission to the U. S. Military Academy. West Point, N. Y.

Lewis T. Griffith, acting asst.-surgeon, leave of absence granted. and relief from duty at Fort Preble, Me.; on expiring of leave to proceed *via* San Francisco, Cal., to Manila, P. I., for assignment.

John Van R. Hoff, major and surgeon, U. S. A., relieved from duty as chief surgeon, Department of Porto Rico, to report to the surgeon-general for instructions.

Francis J. Ives, major and surgeon, Vols., relieved from duty as chief surgeon, Department of Matanzas and Santa Clara, to proceed to New York City and report by telegraph to the surgeon-general for instructions.

David J. Johnson, acting asst.-surgeon, to accompany the 1st Battalion, 15th U. S. Infantry, from Plattsburg Barracks, N. Y., to San Francisco, Cal., and thereafter to return to his proper station.

Dryden H. Lamb, acting asst.-surgeon, from Owosso, Mich., to the Department of California.

Edward E. Lambkin, acting asst.-surgeon, from St. Louis, Mo., to the Department of California.

Harry R. Lemen, acting asst.-surgeon, from Upper Alton, Ill., to the Department of California.

A. N. Mahon, acting asst.-surgeon, leave of absence granted.

Henry C. Many, acting asst.-surgeon, from Honesdale, Pa., to the Department of California.

James G. McKay, acting asst.-surgeon, leave of absence from the Department of Santiago and Puerto Principe extended.

John S. Nagle, acting asst.-surgeon, from Chicago to St. Paul, Minn., to accompany troops from the Department of Dakota to the Philippine Islands, where he will report for assignment to duty.

Ralph W. Newton, acting asst.-surgeon, from Barre, Vt., to the Department of California.

Arlington Pond, acting asst.-surgeon, from Rutland, Vt., to duty at Fort Preble, Me.

William W. Reno, acting asst.-surgeon from Detroit, Mich., to the Department of California.

Michael J. Rowe, acting asst.-surgeon, from Bridgeport, Conn., to the Department of California.

Ira A. Shimer, lieutenant and asst.-surgeon, U. S. A., leave of absence from the Department of Santiago and Puerto Principe extended.

Charles F. Smith, acting asst.-surgeon, from Whitehall, Mich., to Denver, Col., to accompany troops from the Department of the Colorado to the Philippine Islands.

Louis A. Spaeth, acting asst.-surgeon, from Jersey City, N. J., to the Department of California.

Charles H. Stoeckle, acting asst.-surgeon, from Philadelphia, Pa., to Denver, Col., to accompany troops from the Department of the Colorado to the Philippine Islands.

Lionel A. B. Street, acting asst.-surgeon, from Brookline, Mass., to the Department of California.

Harrison W. Stuckey, acting asst.-surgeon, from Columbus Barracks, Ohio, to Fort Myer, Va., to accompany a squadron of the 3d U. S. Cavalry to the Philippine Islands and on arrival at Manila to report for assignment to duty.

Isedor M. Unger, acting asst.-surgeon, from Warren, Ind., to the Department of California.

Francis M. Wall, acting asst.-surgeon, from Warren, Ind., to Denver, Col., to accompany troops from the Department of the Colorado to the Philippine Islands.

Charles Willcox, captain and asst.-surgeon, to proceed to San Francisco, Cal., to accompany the 9th U. S. Cavalry to Manila, P. I.

Henry E. Wetherill, lieutenant and asst.-surgeon, U. S. A., to duty with the 1st U. S. Cavalry en route to Manila, P. I.

Frank T. Woodbury, acting asst.-surgeon, from Philadelphia, Pa., *via* San Francisco, Cal., to Manila, P. I., for assignment.

Navy Changes.

Changes in the Medical Corps of the United States Navy for the week ending July 21, 1900.

Medical Director P. Fitzsimons, detached from the naval examining board, Annapolis, Md., and ordered to duty in charge of the naval hospital, Newport, R. I.

Medical Director H. J. Babin, detached from duty as president of the medical board of examiners, naval laboratory, Brooklyn, N. Y., July 25, and ordered home and to wait orders.

Surgeon L. G. Heneberger, detached from the naval hospital, Brooklyn, N. Y.

P. A. Surgeon A. M. D. McCormick, detached from the *Chicago*, and ordered to the *Montgomery*.

Asst.-Surgeon J. R. Whiting, detached from the *Montgomery* and ordered to the *Chicago*.

Asst.-Surgeon C. N. Fiske, detached from the navy yard, Boston, and ordered to duty with marines at San Francisco, Cal., and then to duty at the naval hospital, Mare Island, Cal.

Asst. Surgeon J. H. Payne, Jr., detached from the naval hospital, Mare Island, Cal., and ordered to the Asiatic Station with the Fifth battalion of marines.

Pharmacist A. Prosperi, detached from the naval academy, July 21, and ordered home and to wait orders; retired from July 3, 1900, under th provision of section 1143, Revised Statutes, upon his own application after forty years' service.

Marine-Hospital Changes.

List of changes of station and duties of commissioned and non-commissioned officers of the United States Marine-Hospital Service for the seven days ending July 19, 1900.

Surgeon P. M. Carrington, upon expiration of sick leave of absence, to proceed to Point Pleasant, N. J., for special temporary duty.

Surgeon T. B. Perry, upon return of Surgeon McIntosh from leave of absence, to proceed to Wilmington, N. C., and assume command of the service, relieving P. A. Surgeon C. P. Wertenbaker.

P. A. Surgeon C. P. Wertenbaker, to proceed to Washington, D. C., preparatory to receiving orders to assume command of the service at New Orleans, La.

Asst.-Surgeon H. S. Mathewson, to proceed to Philadelphia, Pa., and report to medical officer in command for duty.

Asst.-Surgeon M. J. White, upon being released from duty at Philadelphia, Pa., to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon W. C. Hobdy, bureau order of June 27, 1900, directing Asst.-Surgeon Hobdy to proceed to Honolulu, H. I., revoked and directed to proceed to Savannah, Ga., and assume command of the service.

Asst.-Surgeon W. C. Billings, granted 15 days' extension of leave of absence from July 15.

Asst.-Surgeon D. E. Robinson, upon being relieved from duty at Memphis, Tenn., proceed to Seattle, Washington, and assume command of the service, relieving Acting Asst.-Surgeon Eagleson.

Asst.-Surgeon Carroll Fox, relieved from duty at Port Townsend quarantine, and directed to proceed to Dutch Harbor, Alaska, reporting to medical officer in command for duty.

Asst.-Surgeon W. A. Korn, upon being relieved from duty at Evansville, Ind., to proceed to Philadelphia, Pa., and report to medical officer in command for duty.

Asst.-Surgeon C. W. Vogel, relieved from duty at San Francisco, Cal., and directed to proceed to San Francisco quarantine and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon B. J. Lloyd, relieved from duty at San Francisco Quarantine, Cal., and directed to proceed to Cape Nome, Alaska, and report to Asst.-Surgeon B. H. Earle for duty.

Asst.-Surgeon J. T. Burkhalter, upon being relieved from duty at New York City, to proceed to Mobile, Ala., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon G. W. McCoy, relieved from duty at St. Louis, Mo., and directed to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters.

Acting Asst.-Surgeon R. C. Craig, granted leave of absence for 7 days.

Acting Asst.-Surgeon A. G. Greenstreet, to proceed to Wilmington, N. C., and report to medical officer in command for duty and assignment to quarters.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, United States Marine-Hospital Service, during the week ended July 20, 1900.

SMALLPOX—UNITED STATES.

Illinois: Chicago, July 7 to 14, 2 cases.

Kansas: Wichita, July 7 to 14, 2 cases.

Louisiana: New Orleans, July 7 to 14, 11 cases, 3 deaths; Shreveport, July 7 to 14, 3 cases.
Maryland: Baltimore, July 7 to 14, 1 case.
Massachusetts: Fall River, July 7 to 14, 1 case.
Nebraska: Omaha, July 7 to 14, 2 cases.
New Hampshire: Manchester, July 7 to 14, 1 case.
Ohio: Cleveland, July 7 to 14, 29 cases.
Pennsylvania: Philadelphia, June 8 to 16, 1 case.
South Carolina: Greenville, July 7 to 14, 1 case.
Utah: Salt Lake City, July 7 to 14, 2 cases.
Washington: Tacoma, July 1 to 7, 1 case.

SMALLPOX—FOREIGN AND INSULAR.

Brazil: Bahia, June 2 to 9, 2 cases.
England: Liverpool, June 23 to 30, 5 cases; London, June 23 to 30, 16 cases.
France: Lyons, June 16 to 23, 1 death; Roubaix, May 1 to 31, 1 death.
Greece: Athens, June 23 to 30, 4 cases, 2 deaths.
India: Bombay, June 5 to 12, 12 deaths.
Italy: Genoa, June 8 to 16, 3 cases.
Mexico: Vera Cruz, July 1 to 7, 9 deaths.
Scotland: Glasgow, June 22 to July 6, 170 cases, 3 deaths.
Switzerland, Geneva, June 8 to 16, 1 case.

YELLOW FEVER.

Africa: Goree Dakar, May 30 to June 16, 3 cases, 2 deaths.
Colombia: Barranquilla, June 23 to 30, 9 cases, 6 deaths; Cartagena, June 22 to 29, 11 cases, 9 deaths.
Cuba: Havana, June 27 to July 4, 5 deaths; Santa Clara, June 26 to July 7, 7 cases.
Mexico: Cordoba, July 1 to 8, reported: Progreso, June 23 to July 8, 3 cases, 2 deaths.

CHOLERA.

India: Bombay, June 5 to 12, 72 deaths.

PLAGUE

Arabia: Aden, June 8 to 16, 3 cases, 3 deaths.
Australia: Sydney, June 2 to 16, 14 cases, 6 deaths.
India: Bombay, June 5 to 12, 117 deaths.
Japan: Osaka, June 15 to 19, 1 case; Shidzuoka, June 15 to 19, 1 case.

Change of Address.

Dr. Spencer P. Irvin, from 1157 S. 19th St., Philadelphia, Pa., to Freedman's Hospital, Washington, D. C.

Dr. J. Klein, from 4800 N. Clark St. to 530 Lunt Ave., Rogers Park, Chicago.

Dr. F. C. Kovats, From 640 Jackson Boul. to St. Joseph's Hospital, 360 Garfield Ave., Chicago.

Dr. L. W. Lewis, from 4702 to 4711 State St., Chicago.

Dr. J .P. McMahon, from Lincoln Ill., to 69th St. and Wentworth Ave., Chicago.

Dr. J. A. Patton, from 2271 Harrison St. to 1150 Sheridan Road, Lake View Station, Chicago.

Dr. J. A. Prescott, from Cottage Grove Ave. and 31st St. to 4303-4305 Berkeley Ave., Chicago.

Dr. F. V. Watson, from Roberts, Wis., to 4658 State St., Chicago.

Dr. D. S. Adams, from 617 Orleans St., Keokuk, Iowa, to 905 20th St., Rock Island, Ill.

Dr. J. A. Guertin, from 731, 63d Court, Englewood, Ill., to L'Erable, Iroquois County, Ill.

Dr. G. H. Just, from Sheldon to Broadwell, Ill.

Dr. D. H. Pelletier, from St. Anne, Ill., to Fowler, Ind.

Dr. C. C. Birney, from Nora Springs to Mason City, Iowa.

Dr. Thomas G. Duncan, from Victoria, Texas, to 219 E. 4th St., Owensboro, Ky.

Dr. S. D. Holstein, from Leland to Sicily Island, La.

Dr. M. C. O'Brien, from New York City to Lewiston, Me.

Dr. Robert Sattler, from Groton Bldg., Cincinnati, Ohio, to Biddeford Pool, Me.

Dr. J. Madison Taylor, from Philadelphia, Pa., to Bar Harbor, Me.

Dr. C. G. Vary, from 47 W. Michigan St. to 47 W. Main St., Battle Creek, Mich.

Dr. B. F. Simon, from 3298 Hoyne Ave., Chicago, to 546 Mississippi St., St. Paul, Minn.

Dr. J. H. Amerland, from 2737 to 2739 Chippewa St., St. Louis, Mo.

Dr. G. W. McCoy, from Bristol, Tenn., to U. S. Marine-Hospital, St. Louis, Mo.

Dr. W. E. Walker, from Waveland to Pass Christian, Miss.

Dr. E. S. Goodhue, from Piru City, Cal., to Kailua, N. Kona, Hawaii, H. I.

Dr. M. C. Butler, from 516 College Ave., Elmira, to 49 Bridge St., Corning, N. Y.

Dr. F. S. Pearce, from Philadelphia, Pa., to Massawepie, N. Y.

Dr. F. A. Scratchley, 151 E. 72d St., New York Cty, to Palenville, N. Y.

Dr. S. G. Grant, from 58 W. 56th St. to 2 E. 45th St., New York City.

Brooklyn Medical Journal, from 103 Court St. to 1313 Bedford Ave., Brooklyn, N. Y.

Dr. T. Hubbard, from 145, 22d St. to 44 W. Bancroft St., Toledo, Ohio.

Dr. R. Bellamy, from 210 W. 57th St., New York City, to Stereus Villa, Newport, R. I.

Dr. M. L. Parler, from Parler, to Wedgefield, S. C.

Dr. F. M. Gage, from Lucknow to Rhea Springs, Tenn.

Dr. J. W. Bounds, from Chambersville to Weston, Tex.

Dr. J. D. Wiltrout, from Eau Claire to Marinette, Wis.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, AUGUST 11, 1900. No. 6.

Addresses.

MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

ADDRESS OF CHAIRMAN.*

LEON L. SOLOMON, A.B., M.D.
LOUISVILLE, KY.

As I appear before you to-day, I am deeply moved by the honor which you conferred upon me one year ago, when you selected me to be your chairman. Then and until now, I have sought to be ever mindful of the obligation which the position brings, and, as in previous years, have held the welfare and continuous advancement of the Section constantly before me. It has been my pleasure to be intimately associated with this Section for several years, during which time I have attended the sessions of none other; for two consecutive terms I served as secretary, and to-day, having a feeling of close affiliation with the work before us, I can appreciate all the more the honor of being your chief executive officer. And just here, let me say, greater good would come, I believe, to the individual sections of the Association, did the men who read papers devote their whole time to a single section. Instead, and it does seem unfortunate, men—among them some of the best—are prone to run diametrically in the opposite direction, and are willing to prepare papers and to read them, and to take part in discussions, oftentimes before several and totally different sections. So far as my acquaintance with scientific members of the profession permits of a judgment, I know few men capable of the production of several essays in one year, the original matter in which shows sufficient research, investigation or observation records to make them worthy of a hearing, before different departments of the Association. In a large medical body like this, the greatest good can only come from individual effort, properly correlated, and so long as the present system prevails certain sections must necessarily remain dwarfs, while others flourish, and viewed as a whole, no department can attain to its fullest success under the present régime.

To correct this evil the following resolution, or a modification of it, is recommended: No member shall be permitted to read a paper before more than one section during any one annual meeting of the American Medical Association. As unfair as such a resolution, on its surface, and at first sight, may appear, I believe the best interests of the individual sections and of the Association as a unit would, in such wise, be subserved. Furthermore, it is recommended that a closer watch be kept over titles and abstracts of papers, in order that such papers be presented to and read before the section to which they properly belong. This would necessitate the enforcement of a resolution which was once offered and recently passed, I believe, compelling authors to send in abstracts of their essays in good time for such proper classification. Papers have been read before this Section, in years gone by, which belonged to the Practice of Medicine Section, and, because of the high standing of the latter, it is not at all uncommon for members to select it, and there read essays, the character of which at once places them in our Section. However, since we have come to occupy a more exalted position, it is a matter which gratifies us to see dignified and distinguished fellows of the Association less frequently guilty of offering this unintentional slight, in favor of our most worthy sister department.

The Section on Materia Medica is one of the youngest in the Association. And, because of its youth, as well as for other reasons directly to be set forth, in its effort to survive, many obstacles have been contended with. When first established, therapeutics did not belong to the Section. It can not be said that the alma mater has failed to manifest an interest in us. However, the many other offsprings had, for the most part, already reached hardy youth, if they had not attained the full vigor of adult life, before the Materia Medica Section came into existence, and their needs, their requirements were greater, their interests seemed to be more conspicuous than ours. Such being the case, we had, and no doubt it was best for us, to work out our own future. What this future was the present now indicates; what it will be in years to come remains yet for us to prove; and if we and our successors dared venture an opinion, basing it upon the accomplishments of the Section during her past, surely there need be no cause for concern. If we but follow in the footsteps and path of the faithful officers and members who preceded us, glowing success can not but surely come. Besides our youth, until very recently there has been a general feeling of distrust, shared largely by the entire profession, in matters pertaining to drugs and other medicinal agents, and especially to drug therapeutics. When we require an explanation for this distrust we see the reason at once in the greater interest which has centered and attached to diagnosis, to pathology, histology, bacteriology, and other laboratory branches during the past several decades. While the study of materia medica and therapeutics lagged, the profession was perfecting itself in other seemingly more important branches, and very few men were devoting their time and interest to the investigation of the actions and uses of drugs. During this time, even the large number of medicinal agents already at our disposal was neglected. Original research and investigation was, for the time being, almost unknown; when men, in past decades, employed a given medicinal article, it was often with an indefinite knowledge of the best preparation of that article to employ, or how that best preparation might be obtained; nor did the prescriber know the certain effect which a given dose of a given drug might be expected to afford, to say nothing of the diversified uses to which the drug in varying doses might be put. Powerful weapons in the hands of men who do not know how to use them are inclined to do harm as well as good; besides, they create fear and distrust in the minds of others who might employ them to better effect. Drugs and medicinal agents are the armamentarium of the physician; to him they are what tools are to the mechanic, he must know how to employ these tools, else they serve him poorly. This fear and distrust of drugs became a dislike; men reasoned that the materia medica was a failure, therefore refused to consider it. Under such circumstances it was no wonder that our Section could not gain caste. However, the very causes which gave us our backset—the consideration of the several laboratory branches occupying the professional mind to the exclusion of drugs and drug therapy—when these considerations had once been fairly concluded, paved the way for a better and more wholesome study of this, the loftiest end and highest aim of all medicine. I repeat, my colleagues, the subjects which this Section has the honor and glory to study and consider, the questions upon which these essays of ours are written and upon which expressions of opinion are ventured, the matters which are discussed before this body—all these things belong to the department of medicine, which, as Fothergill has said, represents the highest aim and end, the loftiest attainment of all medicine. Without materia medica, deprived of therapeutics, using this word in its largest sense, what would the science and art of medicine be? The answer is so easy—nothing. The treatment of the sick, the healing of the wounded, the relief from pain and suffering—these things give medicine its great claim and make it the grandest and most divine gift of an all-knowing, all-kind and all-merciful God.

---

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Our materia medica and therapeutics is builded upon the foundation of all the knowledge afforded by the laboratory branches. For its proper construction and appreciation a thorough conception of anatomy, physiology, histology, pathology, bacteriology, botany, mineralogy, pharmacy, chemistry, heat, light, electricity and other allied forces is now-a-days presupposed; and those who would then wield the medicinal agent to its best advantage, accomplishing with it the maximum of good with the minimum of bad, must have also mastered the larger subject of clinical medicine and clinical disease. Indeed, materia medica, and more properly therapeutics, is the "superstructure" builded upon all medicine. I congratulate you, then, gentlemen, upon your affiliation with this Section of the Association. I congratulate you upon being present at this, the fifty-first meeting, and I extend to you a hearty welcome to our proceedings during the next four days. I trust we will have a full attendance. A glance at the names which grace our program and the titles which have been selected by the Fellows who will read papers, to say nothing of the names of the gentlemen who will take part in the discussions, is sufficient to guarantee the success of this meeting. In the name of the Section, I desire to thank these gentlemen for the spirit which characterized their willingness to take part in our proceedings. They have done us an honor and we appreciate the compliment. The thanks of the Section are also due our worthy secretary, by whose diligent efforts, and to whose conscientious and painstaking devotion to all the arduous duties of his office, is due the completeness of the program. And now, gentlemen, in accordance with Section 2 of the by-laws, which says, "The Chairman of each section shall prepare an address on the recent advances in the branches belonging to his section, including suggestions in regard to improvements or methods of work, as he may regard important," etc., I beg your indulgence while I briefly review the several conclusions which the year's work with serum vouches. And by way of explanation, for the selection of such a topic, I would say the preponderance of positive testimony in favor of the usefulness of this class of medicinal substances demands that a closer study be made by investigators, in order that a better understanding of the whole truth be had, than is the case to-day. In the calling of attention to this necessity, and in the stimulation of profounder research, I trust a consideration of this subject by your chairman, this afternoon, will result. The study of certain so-called specific diseases, namely, those where the specific, etiologic factor is known, has, first in the laboratory, and then at the bedside, led to a study of specific medication. There are to be found, on the market to-day, and in more or less general use, the following articles, belonging directly or indirectly to the so-called class of serums or antitoxins: Diptheria antitoxin, tuberculin (old and tuberculin T. R.), antipneumococcus serum, antistreptococcus serum, antirabic serum, toxins of erysipelas and bacillus prodigiosus, yellow-fever serum, and vaccination against smallpox. To a brief consideration of the present status of these, I invite your attention. But, before we undertake their separate consideration, a general word seems proper. Immunity or resistance against intoxication and infection is of two sorts: natural and acquired. Acquired immunity may be active or passive. The production of active immunity consists in the graduated use of dead broth-cultures of poisonous bacteria in the lower animals or fowls. The resultant blood-serum has both antitoxic and anti-infectious (germicidal) qualities. When the immunization is brought about by the use of dead bacteria alone, freed from their adherent toxins, the resultant serum is germicidal only (anti-infectious) but not antitoxic, viz., will not neutralize toxins. In active immunity, we have a perfect example of the *vis medicatrix naturæ*. Passive immunity represents the employment of serum from such actively immunized animals or fowls, which is more or less rich in so-called antitoxic units. A unit of antitoxin is an arbitrary quantity, depending entirely upon the quality and concentration of the serum. In diphtheria, for instance, one unit has been selected to represent the amount of antitoxin which will protect a guinea-pig against one hundred otherwise fatal doses of concentrated diphtheria toxin. Clinical observation has, however, demonstrated that the curative dose of antitoxin must be much larger than the passive immunity dose. Among the theories which have been advanced to explain the action of immunity, "Ehrlich's Side-chain Hypothesis" is now the most generally accepted. Based upon a chemical theory of poisons attacking cells, it applies an accepted biologic principle—that of "functional hypertrophy." Ehrlich assumes that the reaction which follows the application of a bacterial poison, rendering the molecular side-chain functionally useless, results in the production, by the nutritive process within the nucleus of the cell, of an excess of side-chain radicles, and this excess, which is far beyond the immediate needs and requirements of the cell, leaves it, and, in the circulating fluids of the body, is an antitoxin. It must be remembered that certain portions of the body contain cells whose existing side-chain radicles are especially susceptible to the action of a given bacterial poison; thus, for instance, the central nervous system contain cells whose side-chains are susceptible to the action of the toxin of the bacillus tetanus; the toxin of diptheria affects the side-chains of bone marrow and of lymph-adenoid tissues. At the same time, it is readily proved that these same susceptible tissues often exert an immediate antagonistic action on bacilli and toxins; for example, place a virulent culture of the bacillus tetanus, containing toxic products, in an emulsion of fresh brain and it will be seen that the toxin is more or less neutralized—another instance of the powerful force of our so-called *vis medicatrix naturæ*.

DIPHTHERIA ANTITOXIN.

The action of this serum is so positive and the consensus of opinion is so nearly identical, regarding its usefulness, that little need be said in a résumé like this, regarding its value. The general rules which can be laid down to-day regarding the serum, are as follows: The more potent grades of antitoxin are superior to the weaker ones. A dose of 2000 or 3000 or 4000 units is advised for a severe case of diphtheria in an adult, or even 4000 for a very severe case in a child past three years of age, to be repeated in twelve hours if necessary, and a third dose—infrequently a fourth dose—is permitted in exceptional cases; 1000 units is employed in a mild case, if seen early, or 2000 in a mild case seen late. Babies under six months of age had best never have over 1500 to 2000 units, but in all cases the character of the disease more than the age regulates the size of the dose. Behring's first statements regarding the immunity from antitoxin are now abundantly proved; namely, it is of little or no value to give even large doses of the serum in severe cases of diphtheria, well advanced. When the side-chains of cells are once overwhelmed by very virile toxins of diphtheria in *great* quantity the nutritive forces within such cells are unable to produce the necessary excess of side-chains to antagonize these toxins; therefore the patient succumbs. The greater success of the antitoxin of diphtheria over other antitoxins or serums for other diseases is due to the fact that all of the chemical poisoning or poisonings, the result of the life-growth and propagation of the bacillus diphtheriæ, are neutralized by the diphtheria antitoxin. The result of a given dose of this antitoxin on the diseased process is considered as about as follows: Symptoms grow less intense, gradually abating; the swelling and congestion lessen, and the local disease does not extend. How unfortunate it is that the same can not be said of tuberculin nor of the antipneumococcus serum. As an immunizing agent, the action of the antitoxin of diphtheria is, if we will except vaccination, without a parallel in the history of medical science. The writer recalls no instance in his 1895-96 experience in the children's wards of several eleemosynary institutions in Berlin and Vienna, where a single case of diphtheria developed after exposure, providing the immunization dose of antitoxin was administered. Recently, the New York Department of Health published its records of over 6500 children, observed during a period of five years just ended, in whom such perfect immunity had been secured by antitoxin that only in twenty-eight cases did the disease develop, after exposure, and, among these, there were no deaths, we are informed, except one complicated by scarlet fever. Immunity is said to last about two weeks, but it was our custom, in 1895 and 1896 to administer other immunization doses, even within one week, providing a fresh exposure seemed to necessitate it. No harm, as a rule, other than rashes, passing joint inflammations and more or less fever occurred, and these were not permanent. Genuine scarlet-fever rash is sometimes closely simulated by this eruption, and, no doubt, scarlet fever has at times actually complicated, when the serum received the blame for the eruption. It is now attempted by an, as yet arbitrary selection of certain horses to avoid the production of this rash, and some of the laboratories are careful not to dispense serum which experience or experiment has shown will produce a rash—it having been found that certain horses will supply serum capable of provoking an eruption at one time, whereas other serum, obtained from the same animal at another time, has no such effect. These efforts, on the part of the manufacturer, oftentimes necessitating the casting aside of more or less considerable quantities of serum, otherwise very potent, and meaning to him a large pecuniary loss, are, to say the least, very commendable from a humanitarian standpoint. Such losses necessarily render more costly the better serum supplied, but this only demonstrates the wisdom and value of choosing the best, always. Chemical antiseptics, in small quantity, are permissible in a serum, but no serum should be offered for sale over the counter that is as old as six months.

TETANUS SERUM.

In the agent which is supplied us to antidote tetanus we have another seemingly powerful article, which, except for the fact that the latter disease can only be demonstrated after clinical symptoms manifest themselves, and not early in the stage of the disease, would, it is thought, yield a percentage of cures in a measure comparable to diphtheria antitoxin. But by the time clinical symptoms have manifested themselves in tetanus, the accumulated toxins have already brought about, as a rule, much harm in the susceptible side-chains of cells, in the central nervous system. When, if ever the time comes, tetanus shall be diagnosed early, as from the local wound appearances, which may at some future day be considered sufficient to make a diagnosis, then good may be expected from the serum which we are taught now is its complete antidote.

ANTIPNEUMOCOCCUS SERUM.

The germ which causes the disease, pneumonia, is distinctly a producer of septic poison, and the patient who succumbs to pneumonia most frequently dies because of the action of the septic material in the blood exerting its destructive influence on the special center of circulation. The pneumococcus differs from a bacillus, which, like the diphtheria or tetanus micro-organism, produces localized foci of disease from whence toxins are absorbed into the system, the bacillus itself not invading the general circulation and tissues of the body as a rule. Now, the pneumococcus does enter the circulation and it produces general bactericidal, septic poison. To-day, it is almost the consensus of opinion that it devolves upon the leucocytes to deal with this foreigner. The action of leucocytes, under such circumstances, on the pneumococcus, is described as a destructive one by a process of "engulfing," and it is explained, that the power of a given leucocyte to engulf pneumococci is largely increased by the antipneumococcus serum. In this wise, the tendency to intense septic poison is limited. However, the several varieties of serum, as now prepared from the human species, the turkey, the dog or the rabbit, have not, as yet, been found to possess any other merit, except in isolated cases, than this controlling influence on the septicemia. In order to be called genuinely useful, antipneumococcus serum must control the extension of the local process in the lungs, it must shorten the duration of the disease and bring about a prompt crisis. And since these accomplishments can not, as yet, be accredited to the serum supplied us, we must refuse to give it, in its present unfinished state, the certain place which, by fulfilling requirements, it may some day deserve. To this end, that it may come to meet, if possible, all the requirements of a perfect antagonist and antidote to this dread disease, further investigation and research must be continued.

TUBERCULIN.

Tuberculin, old, and tuberculin T. R., are of undoubted value. As a diagnostic agent, old tuberculin, employed in man as well as animals, has accomplished much. Koch's assistant, Brieger, asserts that failure, with old tuberculin, in the treatment of tuberculosis, may be and no doubt is sometimes due to the carelessness with which cases have been selected for its use. The bacillus tuberculosis manufactures, during its development, several poisons, and, at certain stages in the progress of this development, it is possible to antagonize the existing toxins, in the system, by tuberculin. However, at present, all of the toxins produced by this disease germ are not known, and unfortunately neither old tuberculin nor tuberculin T. R. is the perfect antidote to all of them. In lupus, it is proved now that old tuberculin and tuberculin T. R. are both curative. But, until we have a better knowledge of this particular department of therapeutics, we must consider it still in its experimental stage, and in the management of a selected case of tuberculosis, where either agent is tried, we should not lose sight of the value of foodstuffs and of other reliable medicinal substances to be conjointly employed in our plan of management. Surely, it must be said that an agent like tuberculin is deserving of some place in our materia medica and therapeutics, if, in exceptional cases, it seems to act well. In those, in whom cures are said to have resulted, and where tuberculin, in conjunction with other remedial agents, has been used, it is asserted that the patient remains, as a rule, in better condition than in other so-called cures, where tuberculin has not been used. And, just here let me emphasize another valuable feature of such an agent, which, like tuberculin, permits us to feel more confident of a "sure cure" in those cases where the patient no longer shows signs or symptoms of disease. I refer to the propriety of using tuberculin as a diagnostic agent in our so-called cured cases. If no reaction takes place, following the use of tuberculin under such circumstances, we can feel more certain about the safety of the patient, and consider that a real cure has been effected.

ANTIRABIC SERUM.

The "Pasteur preventive inoculations," for rabies, lose their value, if symptoms of the disease have once developed. They are only of service as preventive inoculations—in the modified sense of immunity. Tizzoni and Centani have lauded the influence of their "antirabic serum." But several points in their procedure are open to criticism and lay the effectiveness of their serum open to doubt. Therefore, this antitoxin has not yet found a place, notwithstanding the good reports of the two above-named gentlemen. In their hands, it has been used in conjunction with Pasteur's preventive inoculations and this fact also modifies the seeming value of their "results."

TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS.

The mixed, unfiltered and very virulent toxins of a culture of streptococcus erysipelatosus and bacillus prodigiosus are being used by several investigators, with undoubted results, in spindle-celled sarcoma. The dose of one-half minim, thrown directly into the tumor, is employed. Dr. Coley has had very satisfactory results in a sufficient number of cases to give to this plan a place. He reports it to be much less useful in the small round-celled tumor and still less in the melanotic.

ANTISTREPTOCOCCUS SERUM.

The consensus of opinion is, that, in genuine streptococcus infection, viz., where not only undoubted clinical symptoms of streptococcus infection exist, but where the germs may be demonstrated, as well in the urine sediment and in the blood as in the wound discharges, little or no good results from the use of the serum. Notwithstanding this fact, it has been employed by some with seemingly encouraging results. Urticaria infrequently follows its administration. The dose of antistreptococcus serum is twenty cubic centimeters.

It is needless for me, in this résumé, and at this time, to add to the already abundant literature on the value of vaccination against smallpox. Besides, time forbids, and I hasten to call your attention to a subject of greater and far more vital interest and importance to the Section than anything else, I believe, which, as your chairman, it is my duty to introduce. And, in offering this subject to you to-day, gentlemen, for your consideration, I am not unmindful of the fact, that in the opinion of some men, and possibly in the opinion of some of those present this afternoon and within hearing, it would be considered both the part of wisdom and of valor, as well as proper and politic, to dispose of the matter best, by at once dropping it and ignoring entirely the source of its origin. This was my intention at one time last year, when first the question arose, and notwithstanding the fact, that the brunt of the attack then fell on me, because I was your chairman, I had decided to pay no attention to the blasphemy and insults heaped upon us, since they came from a source whose private monetary interests were calculated to make them take an unfair and partial view of the situation; and more especially, since those who preferred charges, and very recently have reopened the attack, were entirely *outside* of the profession. I am calling your attention, gentlemen, to the exceptions taken last June, after our adjournment in Columbus, by some of the interests of that institution known as "proprietary medicine." The Section had elected its officers, then, as usual, had appointed delegates to the Pharmacopeial Convention, had appointed its several committees and had transacted other business before it, in a regular, routine way. But it would appear from communications which began to reach my desk soon after that neither the election, the appointments nor the other business transacted was in keeping with the hopes and the wishes or desires of certain manufacturers. The fact that the Section had gone on record a year previous, at the Denver Meeting, and again at the Columbus Meeting had fixed its seal of disapproval on papers exploiting nostrums was seemingly sufficient grounds for the "outsiders" to begin then a secret attack, which more recently they have been audacious enough to wage openly against us. I have letters with me which they have circulated, setting forth from their own standpoint a "strong case." With the contents of these, it seems, you should be made familiar. I shall place them here on the table, for your perusal, and you can then deal with the matter as your judgment directs. However, as your chairman, and being in possession of all the facts, I feel it my particular duty in advance to deny, for the Section, the truthfulness of these statements and accusations. It is not necessary for me to assure members of this Section that there is not now nor has there been, at least for the past several years, any foundation for the belief and the rumor that the Section would be "controlled" by those "allied" with any trade interests. The Section is officered now, I trust it may be said, and no doubt will continue to be in the future, by those who have the lofty interests of scientific medicine at heart. Such was not the case at one time, when the Materia Medica Section of the American Medical Association was the instrument of commercial interests and the organ of such of the proprietary medicine trade as was able to control it. Finally, gentlemen, I commend for your action not only the consideration of this subject, but also refer you to the other recommendations made, and have reason to feel assured that the Section will express, in no unmistakable terms, its feelings, by the course which it will pursue and by the policy which the future will see it develop.

SECTION ON OPHTHALMOLOGY.

ADDRESS OF THE CHAIRMAN.*

H. V. WÜRDEMANN, M. D.

MILWAUKEE, WIS.

The Chairman of the Section on Ophthalmology has but little to say this session, beyond welcoming you to the meeting and making some comments upon the program and plans prepared for our deliberations.

The officers have adhered strictly to the instructions given by the last session, having accepted the prescribed forty papers from the considerable number offered. It seems to me that this plan of procedure, involving as it does a careful selection, while it makes the duties of your officers more onerous, will give the most satisfactory program. We are the representative body of American ophthalmologists, and should not waste our time by unprofitable discussions or on definitely decided diseases or methods of treatment. Our deliberations should be *fin de siècle* and upon new or unsettled subjects, the results of original research. Opportunity is afforded at this meeting for the establishment of the authoritative opinions of American ophthalmologists upon two subjects connected directly with the manufacturing and transportation interests, and for forming a precedent which will sooner or later be brought up in our courts of law.

This plan of program formation and conduction for a medical meeting of this character is the culmination of a long-cherished idea. Three years ago I drew up a series of resolutions for the government of the program committee of the Wisconsin State Medical Society, and as chairman of that committee for the ensuing year had the satisfaction of seeing the number of papers reduced 50 per cent., while their character was increased by a like ratio, and our meeting rendered infinitely more profitable.

From this, or a similar germ, grew the suggestions made in the address of our esteemed presiding officer of last year, from which the seeds are spreading to other sections and to other societies. The method of limitation has thus far proved successful and time will surely show its practical value.

The suggestions of my predecessor, which met with approval by the Section, have been generally adopted by the present officers. There has been arranged one symposium for each day, with stated discussion, after which the subject will be opened for general debate. Those on the relations of visual defects to vocations; on the amount of injury to the business capacity of the individual from eye defects; on the absorption of ocular exudates, may be considered most pertinent and timely. It is very necessary in this country of vast railroad interests that there should be some uniform standard of visual acuity and ocular health established, by which the great corporations, who are responsible for the lives of each one of us for an average of several days in the year, should be able to select reliable employees.

The time has come when the public demands the utmost safeguards; and corporations have found that their efficiency has not only been increased, but vast sums of money saved, through a proper medical, and more particularly ocular, inspection of prospective employees. The damage to the individual from eye accidents is of great medicolegal interest, and a certain precedent for its estimation may perhaps be reached through our discussion of the subject.

The other papers offered seem to be of present interest and to surpass many of those of previous sessions. This is an evidence of material progress and should be deeply gratifying to all members of the American Medical Association, and to the Section on Ophthalmology in particular.

THE MEDICAL PROFESSION.

THE NECESSITY OF AND BENEFITS FROM ITS MORE COMPLETE ORGANIZATION.*

J. C. BIERWIRTH, M.D.

BROOKLYN, N. Y.

In selecting a subject for this address, it seemed to the writer that we might, with profit, turn aside from the well-beaten path of science, and consider briefly what necessity exists for, and what benefits may be derived from, more thoroughly organizing our profession. Recent events concerning this association have pointed out the directions in which we must look for improvements. We need not search very long, nor look very far, for there are many fields, almost barren now, but capable of the highest cultivation and holding out promises of the richest harvest.

Let us pause for a moment and look about us to see what other men, in all the other walks of life, are doing to protect their mutual interests. During the past twenty or thirty years, all professions, except the medical, have organized for mutual benefit. If these organizations had not been needed, or had not accomplished the purpose for which they had been formed, they would have ceased to exist.

Furthermore, these organizations were not made for pecuniary benefit only, but also to protect their members against unjust clients, to protect them when attacked and to aid them and their families in sickness and in death. That the results of this alliance have been more than satisfactory no one will deny. The professional men and women are better paid, and their rights are respected now, where formerly they were not, all of which has resulted in greater self-respect and bettered conditions in all directions.

Let us see how the medical profession compares with other professions in point of organization for mutual benefit. There is no lack of medical societies, "for the advancement of medical science and the maintenance of public health," but how many societies are there in this state, or in the United States, which go farther than this, which will protect their members against injustice and threatened losses of whatever nature? Not one, I venture to say. What is the reason for this? No one, I think, will deny the necessity for such an organization, and yet we have been going on, year after year, suffering indignities and losses without ever attempting to correct the existing evils.

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

*President's address, delivered before the Sixteenth Annual Meeting of the Fifth District Branch, New York State Medical Association, May 22, 1900.

One of the main reasons for this is a lack of proper organization. There are too many medical societies in this state. The multiplication must of necessity increase the difficulties of closer organization, because it divides the interests instead of consolidating them, and makes it harder for the members to concentrate their energies for the common good. I do not wish to be understood as not favoring special and local societies; on the contrary, what I do wish to emphasize is that all members of our profession should unite their efforts to make the representative society of this state the center of their energies for the common welfare of the profession and public at large. If this is done, as I hope it will be, then we may soon see the time when the existing evils will disappear.

What are these evils by which we are beset? They are many and have been too long endured. First of all, is the lack of respect of the public for our profession, as shown by the constantly increasing number of malpractice suits without adequate cause.

Do you suppose that our State Legislature would oppose any measure which was sanctioned by the New York State Medical Association, representing, say, 10,000 physicians of this state; or that any individual would have the courage to sue his physician unjustly for malpractice, if the lattter's cause were defended by the medical associations of this state?

I doubt it very much. The experience of this association at Albany in regard to the legislative matters has always been that the legislature is ready, at all times, to grant proper relief if there is no factional opposition. It is a well-known fact that suits for malpractice are of almost daily occurrence, and, without doubt, more than 90 per cent. are for inadequate cause, and for blackmail only. It is too well known among a certain class of individuals, as well as among a certain class of lawyers, that doctors are an easy prey. They are sensitive, also, to their reputation, which must always suffer from suits of this kind; they abhor publicity, and are only too glad to compromise to prevent this and save trouble. But what a different state of affairs would exist if every unjust suit for malpractice were defended by our State Medical Association and if the people knew that they have to deal with a powerful society instead of a weak individual.

Another crying evil to be remedied is the indignity heaped upon a number of physicians every year, by having to suffer unjust arrest for a supposed criminal abortion. The occurrence of the past year, where two physicians were arrested for a case of this kind through the stupidity of a police official, is still fresh on the memory of every one. They were entirely innocent of the charge and had attended the woman as a charity patient because she was in need of medical aid. Such cases as this one should be resented by every medical man in the state and country, and we should see to it that repetitions of this kind are made impossible. If a law to effect this end is needed, it should be obtained without delay. If the officials know that to arrest a physician unjustly for a supposed complicity in an abortion case may be fraught with the gravest consequences for them, if they know that the medical association of the state will protect its members to the utmost against such outrages, then they will think twice before proceeding, and they will require more than vague suspicions or stupid deductions from the facts at hand before resorting to arrest.

The much-discussed abuse of medical charities is another evil which has existed too long, and which, it is to be hoped will be speedily remedied by the "Dispensary Bill," enacted last year through the efforts of this association. This dispensary evil had assumed such vast proportions that it threatened to seriously affect our profession.

Another evil which flourishes and needs speedy correction is the lodge or association doctor, who makes a yearly contract to treat the members of an organization for a few dollars a year. He can not do good work, because his work is cheapened and he has to work harder and faster in order to make both ends meet; and the patient is the sufferer.

The members of the council of this association, having recognized the need for correcting the existing evils, came to the conclusion that this could be done only by first organizing the profession of this state into a more harmonious whole, and that in order to be able to do this successfully more legal recognition was necessary. An endeavor was therefore made to obtain from the legislature of this state a charter which would confer all the requisite power. After a great deal of hard work on the part of our committee on legislation, especially its chairman, Dr. E. Eliot Harris, and also the different members of the council, our efforts were crowned with success, and we were granted, on April 14, of this year, a charter which will enable us to carry to a successful end all the proposed improvements in our association. This charter is the foundation upon which we may build a structure of any magnitude, without fear of overburdening its carrying capacity; but the erection of this building should be slow and deliberate and should be wisely superintended, lest we commit errors in construction which it may be difficult or impossible to correct later on.

One of its provisions is to the effect that the New York State Medical Association may form district branches and county associations. This forms the real foundation for its construction, upon which the superstructure may safely rest. By virtue of this provision, all members of the county associations become members of the state body, and thus increase its membership materially. The county associations of New York and Kings have already ratified the action of the council of the state association, and have added thereby to its membership about seven hundred members. It is purposed that each county in this state shall have its association, and these different county bodies be grouped under the now existing five branches of the state association. Each county and branch will then have its pro rata representation in the governing body of the parent association. It will thus be seen that each county will be represented with full voting power in all matters pertaining to the welfare of the association and its members. Believing in home rule to the fullest extent, it is thought best to have all members admitted to the association through the county bodies, because applicants for membership are best known in their own communities and their fitness for membership can be best determined there. It is further purposed to protect all members against unjust malpractice suits. If a member is sued, a committee, together with the counsel of the association, will investigate the facts in the case, and if convinced of the member's innocence, the association will carry the case to its end, and will not compromise. Another protection which this association hopes to be able to afford its members will be in cases of arrest for supposed complicity in abortion cases. One case, fought to the bitter end with all the power and resources of our state association, will be sufficient to prevent many repetitions in the future. Let it be known that any one who assails the honor and dignity of a member of the New York State Medical Association assails the honor and dignity of all its members, and that all will rise in a body for the protection of their fellow, provided he is in the right. The creation of a death-benefit fund for the dependents of its members is another important feature in our new charter. There should be no difficulty in making this successful in every way. The details for it can not at present be outlined; they require much thought and care in their arrangement. But its success is assured if all members will lend their help and work for it. It should be no difficult matter to so arrange the finances of our association that we are able to pay to the family of each deceased member a sum of money that will insure to them all freedom from immediate want. What that sum will be is at present impossible to say.

Another advantage to the members of this association is the "Medical Directory of New York, New Jersey and Connecticut." It is a revival of the old "green book," published for many years by the late Dr. William T. White, under the auspices of the New York Medico-Historical Society, and now published by the New York State Medical Association. The first volume was issued in 1899, and the volume for this year is well under way and will be ready for distribution some time in August. Every member of this association receives a copy free of charge. The labor and care necessary for publishing this work has been stupendous and can not be estimated by any one unacquainted with its details; it would have been impossible, had it not been for the unselfish devotion of a few of our members, who were willing to give much of their valuable time, as well as money, for a good cause, and without expectation of personal gain. In order to make the directory as perfect as possible, the committee on publication need the aid of all the members of this association. Every one should keep a record of all the mistakes he finds, and promptly send them to the secretary of the committee for correction in the next issue; every one should encourage the advertisers by patronizing them, when possible, or by telling them that he has been pleased to have seen their advertisement in the directory. To obtain advertisements is hard work, and the financial success of the book is largely dependent upon them. The members can further aid by seeing that the book is in the hands of all who should have it, such as hotels, druggists, newspaper offices, etc., by asking for it, and if it is not at hand, offering to sell it.

In the foregoing I have endeavored to enumerate briefly the existing evils, to point out the ways and means for their remedy, and to outline the plan of the Council of this Association for a closer organization of its members. Our endeavor must be to produce an association of which all shall be proud, and in which membership shall be an honor, coveted by all! If every one will do his duty and give his aid, success is assured beyond a doubt, but all must be willing to set aside personal strife and personal differences for the common welfare of all. When we stand shoulder to shoulder, and present a solid front, none dare to assail us, and our friends will respect us. It is to be hoped that the example to be set by our State Medical Association will be followed by every other state medical association, and that the spirit of closer organization will pervade all state societies. It should then be the endeavor of the delegates to the American Medical Association to infuse this spirit into that body, and to produce a national association which shall be second to none and which shall have a controlling influence in all national affairs pertaining to public health and the science of medicine.

137 Montague St.

Original Articles.

THE TREATMENT OF ACUTE ALCOHOLISM BY LARGE DOSES OF DIGITALIS.*

HENRY P. LOOMIS, M.D.

NEW YORK CITY.

Suggestions for the use of large doses of digitalis in the treatment of acute alcoholism came from Sweden and England. Fothergill and Jones, of Jersey, England, were the first to introduce its use to the medical profession. Both recommended it very highly. The latter publishes a report of over seventy cases treated by this method alone. He claims that he never saw any alarming symptoms following the use of one-half ounce doses of the tincture. A few clinicians in this country have tried the remedy with varying success; among them Dr. Horatio C. Wood, of Philadelphia, who speaks highly of its effect in a certain class of cases. It is interesting to note that a drug whose use even in moderately large doses is supposed to be fraught with some danger, can be given in one-half ounce doses without producing any of the ordinary symptoms of digitalis poisoning. Various explanations have been offered to account for the tolerance of these enormous doses. Wood believes that its explanation lies in the fact that the heart has become by long habit very much benumbed to the influence of stimulants, and explains the narcotic effect of the drug by the fact that the rest and sleep which follow its use are not the result of the cardiac stimulation, but are principally due to the increased flow of blood to the nerve-centers. Others have explained the effect to the digitalis controlling the arteries and compared its action to that of ergot in hemorrhage.

All investigators agree that in acute alcoholism there is singular tolerance of this remedy and the majority believe that it can be used in these large doses with but little danger. Ringer, in an extensive discussion of the subject, recommends it highly and closes his article with these words: "It remains to ascertain the form of the diseases amenable to digitalis."

While this remedy has been used quite extensively in England it has had no extensive trial, so far as I am able to ascertain, in this country. During the past spring, while on duty as attending physician to the alcoholic wards of Bellevue Hospital, I used the tincture of digitalis in one-half ounce doses in a series of ten cases of acute alcoholism. These were selected so as to include different classes of individuals—the strong and the robust, the weak and the anemic, the young and the old; those with nephritis and those with surgical complications. In treatment of those of delirium tremens a routine practice was followed. They were ordered one-half ounce of tincture of digitalis, to be given every four hours for three doses. If the patient became quiet and the delirium disappeared the remedy was stopped before the third dose. If not, another series of three doses six hours apart was ordered.

---

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

In the cases that showed the best results not more than three doses were necessary. The guide to the repetition of the dose was its narcotic effect. No marked dropping of the pulse was noted in any of the cases, but in the successful ones the pulse was seen to be increased in force, and to become fuller, stronger, and more regular after the first dose. The cold clammy perspiration disappeared, the skin became warmer, and the patient went to sleep. No effect of the remedy was noticed on the kidneys as shown by the usual secretion of urine.

In only three cases of the ten was the result so pronounced and so quick that there seems to be no question that it was entirely due to the effect of the digitalis. In some of the cases the remedy was an absolute failure. Two died; in both autopsies were made. In one no lesion was found beyond the wet brain of acute alcoholism. In the other case, which died in convulsions, besides edema of the brain, petechial hemorrhages were found beneath the endocardium. I have always felt that possibly in this case the digitalis had something to do with the cause of death, although it was a desperate case complicated by acute articular rheumatism. Still the man was a robust individual 30 years of age.

The following case is one of those in which the digitalis shows its most beneficial effects: A young man, well nourished, robust, 22 years of age, entered the alcoholic wards late one afternoon, showing all the symptoms of a severe delirium tremens of two days' standing; temperature 101, pulse 102, respiration 24. He was ordered during the first night one-half ounce of tincture of digitalis at nine, one, and five. He slept none during the night and had to be restrained. The next morning at 9 o'clock the temperature fell to 99.5, pulse 100 and respiration 24. The patient became quiet, delirium disappeared and he went to sleep. He slept all that day with the exception of about three hours, when he had to be restrained. He received no more digitalis, and during the next night his sleep was unbroken. The following day he was perfectly rational, and in the afternoon left the hospital. Ordinarily such cases, even under the best treatment, are not discharged before three or four days.

The second of the successful cases was a man of robust build, 32 years of age, who entered the ward with alcoholic delusions. After twenty-four hours he developed delirium tremens and had to be restrained. In twenty-four hours more the ordinary treatment of narcotics was followed, with no effect—temperature 103.2; pulse 108, respiration 30. He was put on tincture of digitalis, half-ounce doses every four hours. After four doses his temperature was 99.4; pulse 106; respiration 24, and he was quieter but still delirious. A second series of three half-ounce doses of digitalis, each four hours apart, was ordered. After the second dose the patient went to sleep and slept almost continuously for twenty-four hours. He left the hospital the following day.

It is needless to report the other cases in detail, but as a result of studying the carefully kept records of these cases and from my personal experience in the use of the drug a year ago in six cases, I would state the following as my conclusions:

1. The indiscriminate use of large doses, half-ounce, of digitalis in acute alcoholism, is fraught with danger. 2. The cases in which it should be given are the strong, robust, those in early life, with no complications, and those with violent delirium. In these cases the result, I believe, will be exceptionally favorable. They become quiet, go to sleep with a certainty and promptness that is obtained by no other methods with which I am familiar. 3. If after three doses no narcotic effect is noted, I would not advise a continuance of the remedy. I believe in the above class of cases it can be used with perfect safety for a limited number of doses. 4. The failures among my cases were in the chronic alcoholic subjects, in those in middle and advanced life, in the anemic, and in those with bad nutrition. 5. One fact noted which showed marked results from the treatment was that when the patients recovered and awoke from their sleep they were in such good condition that they were able to leave the hospital at once. This is an unusual experience, as ordinarily convalescence is delayed for two or three days.

Note.—I am indebted to my house physician, Dr. Metcalf Polk, for assistance in obtaining the above information.

DISCUSSION.

Dr. O. T. Osborne.—It is a question whether such large doses of digitalis are entirely safe in all cases of acute alcoholism. I think that we ought to be very skeptical about adopting the doctrine that the action of a drug is so very different at one time from what it is at another. The condition is probably such that the drug is not absorbed.

The absence of the usual effects following the administration of these large doses of tincture of digitalis may be explained by assuming that the condition of the patient, suffering with acute alcoholism, is one resembling shock, for instance, in which absorption does not take place from the stomach, or is greatly impaired.

NEW SOURCES OF DANGER IN THE USE OF OPIUM.*

T. D. CROTHERS, M.D.
SUPERINTENDENT WALNUT LODGE HOSPITAL.
HARTFORD, CONN.

In a paper read last year at Columbus, on the use of opium in infancy and the effects in adult life, some serious injuries following its use were pointed out. It was shown that both the brain and the nervous system suffered from retarded and perverted growths and other derangements which continued in after life that were clearly due to the early use of opium. In this paper I wish to carry the study farther and to point out some new states of degeneration which have not been noticed before. In my former paper it was stated that opium in any of its forms, given for any length of time, not only weakens the nervous system, but predisposes it to functional and organic diseases marked by a craving for drugs and narcotics. I shall attempt to show that opium used under certain conditions produces a diathesis and a tendency which may be dormant for a long time and then break out into opium addiction from the application of some special exciting cause.

It is a common observation that the effects of opium differ widely in different persons. It is usually given for neuralgias, spasmodic disturbances, and common fluxes. Its effects change not only with the size of the dose, but with some physiologic receptive or repelling power in the organism. In one instance its narcotic action is prompt and soothing; in another it is first a stimulant, then a depressant, and later an irritant; or it may produce nausea at first and a depressant action after. Its narcotic effects are at times transient, uncertain or cumulative. In some instances, several doses are given before its effects are noticed, then a cumulative action of all seems to concentrate in profound narcotism. In certain cases the effects are not marked for many hours; in others they continue for a long time, wearing away by slow degrees. These are supposed to be due to idiosyncrasies, and indicate degrees of susceptibility to or immunity from the poisonous states caused by the drug. They also show some repellant or receptive power to its effects within the body. In a clinical study of opium inebriates examples are seen in which opium or some of its preparations have been given for medicinal effect years before the addiction began. Used for a specific purpose under the care of a physician, it was stopped when the necessity ceased, without any indication that it would be used again. Years afterward it was suddenly taken up without apparent cause, and continued as an addiction. Some exciting causes appear to have aroused a craving for narcotics which in some way dated back to their early use. A predisposition or diathesis was created which remained latent in the system and broke out only on the application of some peculiar exciting causes. The following illustrative examples bring out the clinical history of such cases.

---

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Example 1.—A merchant in good health up to the time of an attack of influenza was given a small quantity of opium daily for two weeks. He fully recovered from the influenza, but began to use opium secretly. Two years after, he threw off all restraint and used it boldly in large quantities. Coming under my care, I found that opium had been used twenty years before for a chronic diarrhea following a term of service in the Civil War. He was given opium pills daily for nearly two months; then recovered. Four years later some obscure neuralgias of the bowels caused him to use opium again. He recovered from both of these attacks, having no craving for the opium or difficulty in stopping its use. In these instances the action of opium was pleasing and the narcotism profound and without any unpleasant impression. The opium was stopped on the recovery of the patient. A few months later he began to use it again, and came under treatment, and in a few months was discharged restored. Relapse followed the next year, and he is now a chronic case in which final recovery is doubtful. In this case there was no history of heredity or of neurotic conditions which would predispose the use of the drug. The use of opium for the chronic diarrhea impressed the organism, creating a diathesis which called for its use from the slightest exciting causes.

Example 2.—A young married woman found in opium a complete relief from the nausea and vomiting which accompanied pregnancy. The opium was continued, and after the death of the child, increased to large quantities daily. She was treated in various asylums and sanitaria, and after each restoration invariably relapsed. Finally she went to an insane asylum, and died demented. In the history of this woman it was stated that at 13 years of age she was treated for neuralgia and exhaustion. This was supposed to have come from intensely active school life and ambition to keep at the head of her class. She was insomniac and intensely neuralgic. The menstrual period began about this time, and morphia was given with pleasing effects for nearly two months, after which it was abandoned. She fully recovered, and did not know the character of the drug she had taken. She continued well for seven years, not using any form of opium or narcotic. Finally the vomiting of pregnancy occurred, which was treated with opium. The early use of opium was clearly the predisposing cause of its later use. There was no mental influence in this, because of ignorance of the name and nature of the drug given at first. The system seemed to respond with absorbing fascination for opium, and the relief which it brought was so pleasing that it could not be abandoned. It is doubtful whether this effect would have followed had not opium been used long before, the system being thus prepared for it.

Example 3.—A lawyer, temperate and healthy, 54 years of age, suffered from a fractured ankle, in which both bones and nerves were injured. The pain was relieved promptly by morphia, which was continued for several months, and withdrawn with the healing of the wound. No addiction or injury followed. Six years afterward, from the depression and grief caused by death in his family, he secretly purchased a needle and again began to use morphia. This was continued for two years; then he came under my care for treatment. He recovered and relapsed within a few months, and is now a morphinomaniac. There was no history of heredity, and no previous addiction to the drug before the time of injury. The use of morphia at the time of injury produced a permanent impression upon the organism, which broke out later in the form of secret addiction.

In these three cases, opium seems to have had a peculiarly pleasing narcotic effect, particularly on the pain centers, with no depression or irritation afterward. For purposes of comparison, the following are noted as cases exhibiting different phases of sensitiveness from the use of opium.

Example 4.—A rugged, healthy farmer, after exposure to the weather, was attacked with severe pain and high fever. Morphia was used. Its effects were those of an extreme excitant for an hour or so; then an ill-defined stupor, followed by nausea and increased fever. Opium in various forms was given with the same results. The excited stage never fully passed away, and the depressed stage was short and uncertain. He recovered, and a few years afterward, when ill, seemed to have an intense dread lest opium should be given as a medicine.

Example 5.—A mechanic, suffering from an attack of acute rheumatism, was given opium. The narcotism was rapid and profound, but was followed by a period of intense irritation of the stomach, which lasted several days. The rheumatism subsided, but the impression of the effects of opium produced a sickening, repellant sensation on his mind ever after.

Many neurotic affections and inflammatory states are relieved by opium, the first effect of which is that of a narcotic, then a stimulant and irritant. It is this stimulant action which is so fascinating to the alcoholic. When it is not followed by irritation of the stomach and nausea, the use of spirits is abandoned for that of opium. The pleasing narcotism makes so profound an impression as to overcome all the irritation and bad feelings; hence alcoholics use opium to escape the gastric and other irritations following the use of spirits. Apomorphia, now given to check the desire for spirits, is noted for its nauseating and irritant effect, followed by depression and narcotism. The relaxation and depression from apomorphia is intensified by the taking of spirits, and is followed by great discomfort and repugnance for the taste and effects of spirits. These marked poison effects are usually transient, although the impression may be so pronounced that some change takes place in the system, apparent afterward in opium or spirit addiction or some other neurotic state. The narcotic stage is often permanent in its impression on the organism, and the irritant effects are transient and soon forgotten. In a case under my care an excessive user of spirits turned to morphia for relief from the delirium and other conditions which followed the use of alcohol. After the narcotic stage passed, intense irritation of the stomach, with mental depression, appeared. These caused a recourse to spirits again. He finally returned to morphia, under the impression that a withdrawal would cause his death.

In many instances, when opium is taken in a prescription or alone for some chronic condition, poison-states follow, not recognized as due to this cause. Some of these symptoms are noted in headaches, sensory troubles, local palsies, depression of spirits and other emotional changes. In one case the withdrawal of opium in a prescription for bronchitis was followed by the disappearance of marked muscular prostration. In another instance sensory troubles and digestive disturbances passed away when the opium was removed. The use of any form of opium should be watched with care and abandoned at the earliest moment when the effects sought for are obtained. The poison-effects in extreme nausea, in some cases, leave a permanent impression and a peculiar sensitiveness to this and other drugs, which may continue for years. In some young persons who have suffered in this way, intense mental and organic aversion is apparent whenever it is used again. The size of the dose may not make much difference. This sensitiveness and extreme susceptibility is often manifest in both narcotism and irritations from the use of the drug. This may be overcome by persistent use, and some instances of addiction have had an early preliminary period of repugnance for it. There is always a degree of exhaustion following the use of opium, especially when it acts as a stimulant and irritant to the nerve-centers. In some instances the transient excitement following its use is noted by great mental activity and freedom of thought. This is supposed to be mental stimulation; in reality it is irritation and delirium, and is always a dangerous symptom. It is this which is sought by the alcoholic, to relieve the depressing effects of spirits. In this the brain is often permanently disturbed and extreme states of exaltation and depression break up the stability of the nerve-centers, as well as the power of control.

When opium has been used with pleasing effects, then long afterward taken up again, there is a psychic effect not seen in other cases. A tendency to secrecy and concealment is marked, with denial of all use of the drug. The quantity used will be misstated, and the efforts to secure it and to provide for an emergency will be strange and unusual. In such cases the danger of poisoning and fatal results from an overdose is very small. The danger-line seems to be overcome and the poison-limit rarely reached. When opium is followed by irritation and nausea with sudden narcotism and pronounced poison-effects there is danger of fatal results. Often large doses are followed by progressive stupor, which continues to final collapse. Here there seems to be no resisting power, the action of opium pervades the entire system like the exhaustion which precedes sleep. The use of opium in which no organic changes or special perversions of the functional activities are apparent is a strong indication of a diathesis and physiologic predisposition difficult to overcome.

Another source of danger has attracted but little attention. It is the effect of opium on fetal life and growth. Many instances are reported of children born of mothers who used opium during pregnancy, which at birth showed defective organisms, low vitality and marks of anemia. The nervous system was imperfectly developed and hypersensitive, the child crying continuously, and only securing relief from the use of opium. I have recorded several instances in which the excessive irritability of infants was only overcome by opium. Most of these died early from exhaustion and acute diseases. Many observations sustain the assertion that alcohol or opium used by the mother both perverts and retards organic growth of the child. Some very interesting facts have been noted by Nicloux, in *La Semaine Médicale*. As a rule, all children born of opium mothers die early, but are not observed very thoroughly.

Probably there is no article in the materia medica more commonly used or more valuable than opium and its preparations. Yet its effect on the nerve-centers, on nutrition and organic growth is very largely an unknown field of study. The facts I wish to make prominent are: 1. The use of opium continuously for any possible purpose is dangerous in that it may impress the organism in some unknown way and leave a diathesis and susceptibility to resort to it again in after life. 2. The condition called opium addiction, in which the drug is used for its narcotic and pleasing effects, is one of organic disease whose origin is preventable by a study of the conditions and peculiarities of the person in early life. 3. Where opium is used with but little, if any, irritant effects, there exists a predisposition to its continuous use and the development of an addiction. 4. When its poisonous effects are marked in the irritations and exaltations which follow its use there is great danger of organic changes and diseases with fatal results. 5. The psychic element in these cases furnishes very suggestive hints of the derangements which follow the mental perversions and disturbances of reason and judgment, and gives some idea of the profound organic changes which take place.

DISCUSSION.

Dr. J. M. Allen, Liberty, Mo.—Having been impressed with the importance of the subject presented by Dr. Crothers, early in my professional career, I have exercised great care in prescribing opiates, fearing their baneful influences, and am happy to say I have never had an opiate habitué as the result of my treatment.

In many instances I have noted the tendency of patients to a fondness for this remedy, and have had some trouble in having them discontinue its use. In after-treatment of acute disease with them, I have been very careful to disguise the opiate, and never let them know they are taking it. In all cases where there is a tendency to become addicted to opium, either in children or adults, I have been able to trace a hereditary tendency in the parent to indulgence in alcoholic stimulants. It is a well-established fact that alcoholic heredity may skip one generation and appear in the next. I have had three examples of this. The relations of alcoholic heredity producing an abnormal condition of the nerve-centers in which some of the offspring have a fondness for narcotics, I have observed frequently.

I can safely say that all of the narcotic habitués that have come under my observation had for their ancestors fathers and mothers who were addicted to the use of alcoholic stimulants. In support of this, I give a history of one family: A prominent citizen, whose family history was the free use of alcoholic stimulants; he was what would be called a moderate drinker, but drank daily; a very robust man mentally and physically; he had an acute painful illness; the physician was compelled to give opiates. I saw him in consultation at the end of twenty days, and was astonished at the large amount of opium he had been taking. The physician in attendance told me that he recognized that opiates were not now needed, but that the patient demanded and would have it.

We had a patient, an opium habitué produced in thirty days, who had to be treated for same. He recovered and had his physician pledge him never to give him another grain. This gentleman's family of six children had an intense fondness for the effects of opiates. Several of them told me so great was their fear, knowing their fondness for opium, that they never wished me, or any other physician, to prescribe it, no matter how much pain they might be suffering.

In conclusion, I desire to enter my protest against the unnecessary use of the hypodermic syringe in giving opiates, because of their being more seductive in that form than when given by the mouth.

Dr. Warren B. Hill, Milwaukee—Too much importance can not be placed on the views entertained by the reader of the paper. There is a theory in regard to the action of narcotics, which has not been demonstrated, but which is so reasonable that one can believe it. It is that by the action on the human body a tolerance is brought about, just as immunity from infection, through the formation of certain toxins, owing to the stimulation of the cells. In this way patients become gradually able to take very large doses of the drug, owing to the protection of the system by the development of their toxins, the presence of which prevents the usual effects from being produced. Therefore, when we constantly give increasing doses of morphin, its antitoxin is formed and a tolerance is established but if the morphin be suddenly stopped, the antitoxin in the system causes irritation and disturbances of the nervous system and demands a continuance of the drug for its relief. Another point; if we could only find out just how much opium the patient actually needs to overcome the condition for which we prescribe it, we could in many cases avoid the dangers of overdoses, and prevent the formation of a habit, but we can not do this and consequently frequently give an overdose, and this tends to create a demand for it in the system. This is more likely to occur with children; therefore, as the lecturer has shown, there is greater danger from opium in children than in adults. There is another and very important consideration—it is that if a man acquires an immunity against any drug he runs the risk of transferring the immunity to his descendants. Therefore, when we give opium, especially to children, there is a danger of forming this condition, which is capable of being transmitted to descendants of the patient.

Dr. T. B. Greenley, Meadow Lawn, Ky.—I wish to call attention to the fact that family medicines often given to children owe their power chiefly to opium. Some persons are also fond of giving paregoric to young children. It quiets them and relieves their pain and the nurse will increase the dose from time to time. No doubt the foundation is often laid in this way for the formation of the opium habit in afterlife.

Dr. Jos. T. Smith, Baltimore—We all acknowledge the great relief that is afforded by opium in many of the evils and annoyances of life. It would appear that one of the reasons why there are not more cases of opium addiction than there are why we do not all become opium habitués, is the fact of the existence of an internal resistance, which most of us possess. This prevents us from yielding to the seductive attractions of the drug. There are some individuals who do not possess this normal internal resistance and when they experience the relief from pain and the pleasant effects from the use of narcotics, they will on the slightest provocation rush to the use of some means of relief. Many resort to alcohol, others to cocain, and others again to opium, finding excuses for repeatedly returning to the drug, whatever it may be; following along the line of least resistance. This is one of the causes of the condition referred to by Dr. Crothers. The patient who first takes a dose of opium, for instance, for chronic diarrhea, as in one of the cases mentioned, is gratefully surprised with its pleasant effects and resorts to it again and again until he becomes addicted to its use. The most of us resist evils as long as possible, but such cases yield without resistance and demand the influence of a drug. They live on the sense plane and can not rise above it, as the majority of persons in the world have learned to do.

W. W. Tompkins, Charleston, W. Va.—I wish to mention a case of a man 53 years of age, suffering from stone in the kidney. He had been under observation for several years. He consulted several specialists, who advised removal of the kidney. He would not consent; a few months later he passed the stone and had complete relief. During these months, however, it had been necessary, from time to time, to give him morphin amounting to six grains daily. He afterward showed no tendency to opium addiction, and never took another dose after passing the stone. He had used whisky for thirty-five years and used it simultaneously with the morphia during his illness. After passage of the stone his desire for liquor left and he had no craving for morphia, the mere mention of it producing nausea. I think the above case interesting in two particulars: 1, the fact that after using morphin for so long the habit was not formed; 2, the discontinuance of alcoholics after such a long period and no substitute taking their place.

Dr. A. B. Lyons—In connection with this subject, it should be remembered that there are certain persons, whose temperament leads them to fall in love with drugs at first sight. There are some individuals who, when they make the first acquaintance with the effects of a narcotic, become slaves to it. Whether acquired or hereditary, the temperament is the immediate cause, as in the case of chloroform addiction, in which a single delightful experience may create a desire for further indulgence and require a great effort to prevent the formation of the habit.

Dr, J. N. Upshur—In listening to the paper it strikes me that the point from which the correction of this evil should start is in the teaching of the colleges. The dangers of the reckless use of opium in prescribing should be impressed upon students in their college days. The teachers of clinical medicine are too apt to recommend a resort to opium or morphin for the relief of pain and suffering. The students leave college with the idea that opium is the sheet anchor against all cases of suffering and they consequently are led to resort to it too frequently. I fear that there are some physicians who are willing to put their patient to sleep merely that they may sleep themselves. This is a most important subject and it rests with teachers of medicine to impress upon the minds of their students the great responsibility involved in prescribing these drugs, and the great damage that may follow their use.

Dr. Frank Woodbury—I would like to know whether we should not draw a distinction at the present day between opium addiction and the morphin habit, both as to the liability to form the habit and the consequences. The hypodermic syringe makes it easy to form the morphin habit, and individuals who have established this habit can rarely be made to change the method of administration by the mouth. Moreover, we know that morphin does not fully represent the drug, opium, which contains other constituents which are exciting and tetanizing, and therefore antagonistic to morphin. The results might therefore be expected to be different. The old-fashioned form of opium addiction by the use of the tincture, I believe to be not only safer and more physiologic, but also more easily treated in case the patient desires to discontinue its use, and I would like to have the benefit of Dr. Crothers' experience on this point.

Dr. T. D. Crothers, closing the discussion.—This paper has been brought before the section to call renewed attention to the evils from routine use of narcotics in practice. Notwithstanding all that has been written, many physicians continue to use opium as freely as if there was no possible danger or possible after-effects from its use. This is a mistake which is becoming more and more apparent from any careful examination of the history of obscure cases. Morphia is probably the most prompt and efficacious of any form of opium in common use. The tincture of opium is the common form and differs from morphia in being less prompt, but its effects last longer. No matter in what form the opium may be given there may be present a special predisposition to continue its use, and in that way a psychosis established which will permanently impair the brain and nervous system. One central fact should never be forgotten, that the use of opium in the parents or given in early childhood is likely to produce a predisposition which will develop into an addiction from the slightest exciting cause in after years.

SECONDARY GLAUCOMA.

A CLINICAL AND PATHOLOGIC REPORT OF THREE CASES, REPRESENTING DIFFERENT TYPES OF THE DISEASE.*

WM. CAMPBELL POSEY, M.D.
AND
EDWARD A. SHUMWAY, M.D.
PHILADELPHIA.

Secondary glaucoma may be defined as being that variety of glaucoma which occurs as a result of some preexisting disease of the eye which has caused an increase in the intraocular tension by obstructing the angle of the anterior chamber. It is not the purpose of the writers to enumerate the conditions which may effect this closure, but merely to give a detailed report of three cases which occurred in their practice, in all of which such an occlusion was found, and in addition, to call especial attention to conditions which existed in two of the eyes.

Case 1.—J. E. G., male, aged 39 years, first consulted Dr. Posey about his eyes three years ago. His primary ocular affection dated back four years, and was said by the patient to be characterized by pain, redness and dimness of vision in both eyes, though he thought that the inflammation was more severe in the right eye. He was treated for this attack over a period of some months by the late Dr. Keyser, and recovered with good vision in each eye. Shortly after the inflammation in the eyes had subsided, however, transient attacks of redness in his right eye occurred, which were associated with pain that was most severe in the temple, but sometimes radiated into the nose; vision also began to deteriorate. The left eye occasioned him no trouble. Instead of consulting an ophthalmologist, he applied domestic remedies of different kinds to the affected eye, and continued them for several years, as he found that he succeeded in reducing the acute symptoms by these measures fairly well.

As he noticed several months prior to consultation that the attacks of inflammation recurred more often, and that the remedies which he employed were no longer so successful in causing their subsidence, and as his vision had become much reduced, and the pain was at times almost unbearable, he decided to seek proper surgical aid.

At the time of the first examination it was ascertained that the right globe was in an advanced stage of secondary glaucoma; there was intense ciliary injection, with engorgement of the peri-corneal veins; the cornea was hazy and presented a needle-stuck appearance; the anterior chamber was almost obliterated; the iris was discolored and thickened; the pupil was 3 mm. in size and was immobile to light. Tension was +2. No view could be had of the fundus by the direct method of ophthalmoscopic examination on account of the corneal haze, but with the indirect method a deep glaucomatous excavation with dilatation of the retinal veins could be clearly seen. Vision equaled 3/50. The left eye was quiet, though a faint annular stippling of pigment upon the anterior capsule of the lens evidenced a previous iritis in that eye also. The fundus was plainly seen, and showed no gross pathologic change other than a diffuse perivasculitis of the retinal vessels, which was most pronounced in the large arterial streams. The field of vision was reduced to a small triangle, the apex of which corresponded to the fixation point, and the base to a segment in the temporal field about twenty degrees broad. Central and peripheral vision in the left eye was normal.

As the patient admitted having had a primary sore some eighteen months previously, he was at once placed on a dram of mercurial inunction twice daily. Two drops of salicylate of eserin—gr. 1/8 to the ounce—and five drops of muriate of cocain—gr. 4 to the ounce—were ordered to be instilled into the eye five or six times daily, and his bowels were freely opened by salts in the mornings. After two weeks of this active treatment, the eye had improved to such an extent that the vision now equaled 5/15, the cornea was practically clear and all the details of the fundus could be seen with the direct method, the head of the nerve being found to be excavated both above and below and to the nasal side though but slightly to the temporal side. Two weeks later, one month after the installation of the inunctions, vision was brought to normal by +1.5 Sph.+3 cyl. ax. 20°; the field of vision, however, remained as before.

About one week later the patient returned acknowledging that he had relaxed some of the details of the treatment, and complained of intense pain and poor vision in the affected eye. The ciliary injection, which had entirely subsided, had recurred with great intensity, and the cornea was now exceedingly hazy. The iris was congested, and, at a point to the nasal side corresponding to the minor circle of the iris, there was a small yellow spot with marked engorgement of the vessels in this position. A small hypopion had also formed at the bottom of the anterior chamber. The patient was at once admitted to the Howard Hospital, his temple leeched, and ice compresses applied to the eye almost constantly, and cocain—gr. 4 to the ounce—instilled every two hours, the eserin being withdrawn. The bowels were freely opened by rochelle salts and the mercury continued. After a few days of this treatment the eye again whitened, and at the end of two weeks he was discharged from the hospital, corrected vision equaling 5/6.

For several months after this the eye did uniformly well, although the patient was compelled to be extremely cautious regarding his manner of living, and most assiduous in the care which he gave to his eyes. After an interval of several weeks' absence from the office, and following some indiscretions in his manner of living, another glaucomatous attack supervened; light perception was abolished, and the eye was so painful that enucleation was advised and willingly consented to. The patient was re-admitted to the Howard Hospital, and the globe removed under ether narcosis. The socket healed rapidly after the operation and an artificial eye was inserted several weeks later. The patient was seen after the lapse of a year, and found to be using his remaining eye without any discomfort. Vision equaled 5/5 with the proper lenses and the eye was entirely free from inflammation.

The eyeball was placed in Mueller's solution at the time of operation, and was subsequently frozen in a mixture of ice and salt, and cut into halves by a horizontal section passing through the optic nerve and the center of the cornea. One-half was mounted in glycerin jelly for macroscopic demonstration while the other was carefully dehydrated in alcohol and embedded in celloidin. The sections obtained for the celloidin-mounts varied in thickness from 1.15 to 1.25 mm., and were stained in hematoxylin-eosin, Van Gieson, and by Weigert's nerve-sheath method. The other two eyeballs were treated in the same manner.

---

*Read before the Ophthalmological Section of the College of Physicians of Philadelphia, April 17, 1900.

Pathologic Findings.—Macroscopically, the globe measured 22 mm. in the antero-posterior diameter, and 23.5 mm. in the horizontal diameter. Retina was in place; anterior chamber shallow at the periphery; nerve atrophic and nerve-head pathologically excavated.

Microscopically, the cornea is normal, except for distension of the vessels at the limbus. The base of the iris is adherent for a short distance anterior to the canal of Schlemm, and the distance between the iris and cornea anteriorly is very much reduced. The iris shows changes due to low-grade chronic inflammation, as indicated by an increase of the cellular elements, moderate condensation of tissue, decided thickening of the vessel-walls, and some heaping of pigment, especially in the region of the sphincter. There is one small posterior synechia above, inside the pupilary area. The lens shows nothing abnormal. The nerve is reduced in volume and the connective-tissue septa are hypertrophied. The excavation in the nerve-head is .75 mm. deep, with very steep edges, especially on the nasal side; it involves the entire papilla, and is partially filled with a mass of loose-meshed connective tissue—neuroglia fibers—but the nerve fibers are pressed to one side. The fibers of the lamina cribrosa bend backward in a sharp curve. On the temporal side of the nerve, beginning at the level of the excavation, and extending backward a distance of 2 mm. from the bottom of the excavation, there is a cyst-like space, reaching from the external sheath of the nerve, almost to the central vessels. (Plate I.) At this position there is a marked atrophy of the connective-tissue bundles; the fibers being reduced in size and widely separated, leaving gaps in the tissue. Except at the margin of this cavity, where a few of the nerve-fibers retain the Weigert stain, the nerve bundles have not only become atrophic but have absolutely disappeared, but little trace remaining of the neuroglia cells and investing pial sheath. Elsewhere there is complete atrophy of the entire nerve except for a few peripheral fibers on both nasal and temporal sides. There is, however, no disappearance of the investing sheaths as in the cavity described above. The intervaginal space is widely distended. The retina was artificially detached in hardening, but the layer of rods and cones and the nuclear layers all seem to be well preserved, while the ganglion cells appear to be much reduced in number and their nuclei stain poorly, but as the specimen was hardened in Mueller's fluid the Nissl stain was refused and their exact condition can not be determined. The pigment layer is normal, there being no proliferation of the cells, or pigmentation of the retina. The choroidal vessels are distended but otherwise this tunic and the sclera are entirely normal.

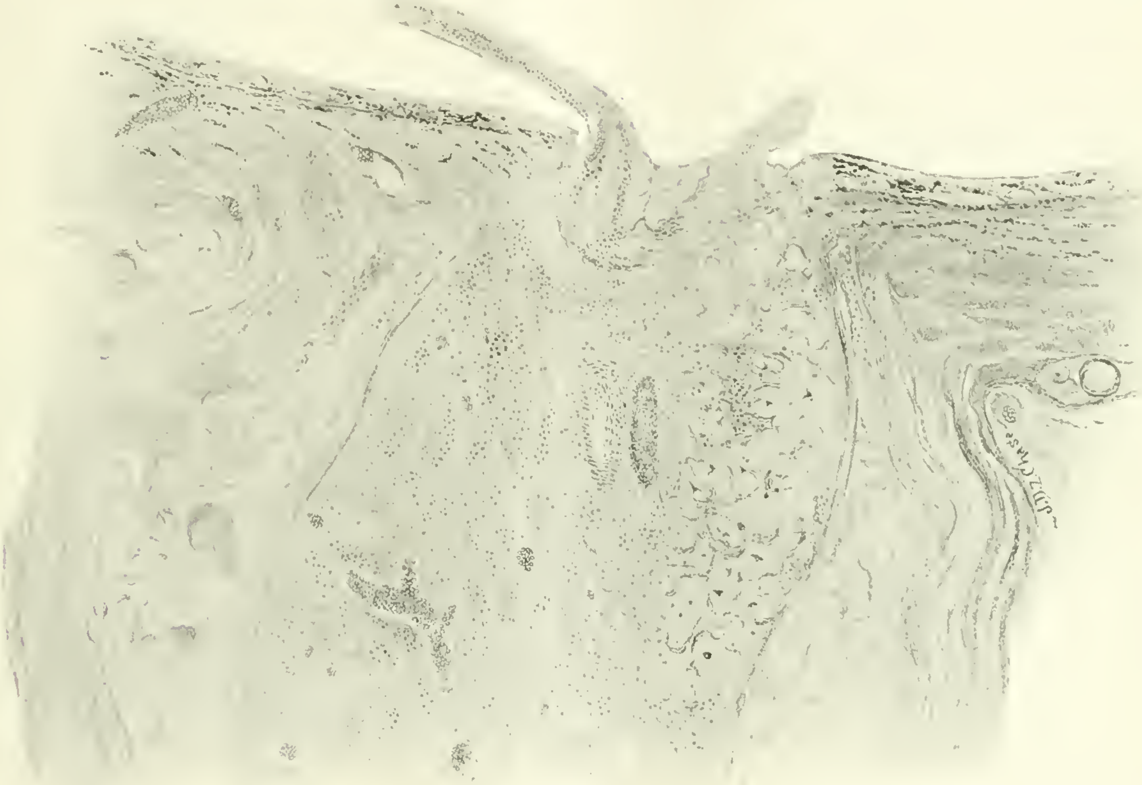


Plate I.—Sketch of optic nerve entrance, showing area of rarefaction.

Diagnosis.—Chronic iritis, blocking of anterior chamber; secondary glaucoma, with excavation of nerve-head, and nearly complete atrophy of the nerve. Complete disappearance of the nerve-fibers and investing tissue in one portion of the nerve. Beginning atrophy of the retina.

Case 2.—B. McK., female, aged 30 years, presented herself at the ophthalmologic clinic of the Howard Hospital eighteen months ago with a history of having sustained a fall on the ice five years previously, as a result of which she had received a severe blow in the right temple. The eyelids of this side of the head were swollen to such a degree that leeching was necessitated. After the swelling in the temporal region had subsided, she noticed that the right eye, which had always been near-sighted, was now almost blind. She made no effort however, to have the vision in the eye improved, nor to obtain relief from transient attacks of pain and redness, which manifested themselves in the eye at frequent intervals for several years after the accident. Finally, however, the pain became so acute that she decided to seek professional advice, although she now despaired of anything being done to restore the sight, as the eye had been quite blind for five months.

At the first examination, the tarsal and ciliary injection in the right eye were seen to be intense; the anterior chamber was shallowed at the periphery, though the iris was bombé and its pupilary edge in-drawn, especially below. The lens was densely cataractous and emitted a yellowish reflex. Tension could not be determined, on account of the intense degree of ciliary tenderness. The left eye was quiet, and presented no changes other than are usual in a myopic eye of 16 D. Vision in the right eye was reduced to perception of light excentrically to the temporal side; vision in the left eye equaled 5/20.

Enucleation was advised and successfully accomplished by Dr. Shumway a few days later under ether narcosis.

Pathologic Findings.—Macroscopically, the globe measures 24.5 mm. in the antero-posterior diameter, and 24 mm. in the horizontal diameter. On the temporal side there is a shallow posterior staphyloma, the sclera being moderately thinned in this position. The retina is totally detached, and the subretinal space filled with a homogeneous exudate. The anterior chamber is shallow at the periphery, but quite deep at the center, and the lens and iris are imbedded in a mass of exudate.

Microscopically, the cornea shows a moderate infiltration with round cells at the periphery and the vessels at the limbus are distended with blood. Descemet's membrane is normal at the center, but on each side has been ruptured, and remains adherent to the anterior surface of the iris, to which it is attached by a layer of partially organized exudate, showing that during life the iris was pressed against the cornea. The filtration angle is blocked and on the nasal side the canal of Schlemm is surrounded by infiltrated cells containing pigment, evidently derived from the iris and ciliary body. The iris shows evidence of chronic inflammation, being covered anteriorly with an exudate containing but few cells. The stroma is much condensed, having been converted into dense connective tissue; the vessel-walls are thickened and their lumen is nearly obliterated in places, but everywhere filled with blood. The pigment is deposited in irregular clumps and in certain areas is much proliferated. It is attached to the lens capsule in several places by an organized exudate, and the lens capsule is covered with a similar though thinner membrane in the pupilary area. All communication between anterior and posterior chambers is thus abolished. On the nasal side, the attachment between the iris and lens is nearly complete, and where this has occurred the lens shows several small capsular cataractous formations between the capsule and its lining epithelium. The lens is imbedded in an exudate which contains but few cells on the temporal side, but which is organized on the nasal side where it is connected with the dense adhesions between the iris and the lens capsule. Here the ciliary processes are drawn inward, and the pigment epithelium on their inner surface is very markedly proliferated. The ciliary processes are becoming atrophic, and there is beginning detachment of the entire ciliary body, the fibers being pulled apart and the interstices filled with fluid. The lens, in addition to the capsular cataracts noted above, shows a splitting up of the fibers, and their conversion into irregularly round masses, especially at the posterior pole, and at the equator. No laceration of the capsule can be seen. The choroid is thin and atrophic, the fibers composing the stroma being widely separated, probably by the shrinking of the subretinal exudate during the artificial hardening of the globe. The retina is totally detached, and extends as a folded and twisted membrane from the nerve entrance almost to the lens, and then turns abruptly to its attachment at the ora serrata. It is partially disorganized; the rods and cones have entirely disappeared; the molecular layers are fairly regular, but the nerve-fiber layer is very much thickened, being converted into dense connective tissue, and the ganglion cells have disappeared. The nerve shows an increase in the cellular elements. On superficial examination, the fibers appear to retain the Weigert stain remarkably well, but under high power the myelin sheaths are seen to be broken down in places into fine drops. The degeneration is probably acute and does not involve the majority of the fibers. The nerve entrance is oblique, and there is a moderate distension of the supra-vaginal space, but no marked pulling of the nerve toward the temporal side. The sclera is normal, and at the position of the shallow staphyloma on the temporal side, shows a thickness of .55 mm. in contradistinction to a thickness of .95 mm. at the corresponding point on the nasal side of the nerve.

Diagnosis.—Detachment and secondary fibroid degeneration of retina; plastic iritis with posterior and anterior synechiæ; occlusion of pupil; anterior capsular and posterior cortical cataracts; blocking of angle of anterior chamber, and secondary glaucoma in myopic eye.

Case 3.—L. W., aged 61 years, said that her left eye had become blind ten years previously from an ulcer for which she had been treated at another hospital. No history of traumatism could be elicited, and as she was in apparent good health, the cause of the ulceration had been attributed to "catching cold." Although the eye had remained quiet for a time after the primary inflammaton had been combated, she had suffered repeatedly from attacks of pain and redness in the eye, from which she obtained only partial relief by the persistent use of drops which she obtained from various clinics.

At the time of the first consultation at the Howard Hospital, both tarsal and ciliary congestion of extreme degree were noted as occurring in the left eye. The cornea was hazy throughout its entire structure, but at its center there was an irregular denser area of scar tissue. There were two similar narrow bands to the nasal side. The anterior chamber appeared to be very deep, the plane of the iris being drawn backward. A yellow reflex was obtained from the pupil, but no red glare could be detected. Tension was elevated, but it was impossible to ascertain to what degree on account of the extreme sensitiveness of the eye. The right eye was slightly hypermetropic, but presented no other changes, its vision equaling 5/9. Sight in the left eye was totally obliterated.

Enucleation was advised and successfully performed by Dr. Shumway under ether narcosis.

Pathologic Findings.—Macroscopically, the eye measures in the antero-posterior diameter 20 mm. and 20.5 mm. in the horizontal diameter. The anterior chamber is very deep, and the cornea is conical, 8 mm. in diameter, the periphery being drawn inward and backward. On the nasal side, just posterior to the ora serrata, the sclera is also drawn inward. No portion of the nerve appears. The retina is detached and degenerate, the vitreous cavity being filled with a mass of exudate and blood.

Microscopically, the corneal epithelium is thickened and everywhere separated from Bowman's membrane by a round-cell infiltration, and by minute blood-vessels. This round-cell infiltration is densest at the limbus, where the epithelium is widely separated from the cornea. In the substantia propria there is a moderate extension of round cells between the deeper layers. At the central part of the cornea Bowman's membrane is interrupted, and directly beneath this the laminæ are replaced by dense scar tissue. The cornea is thinned in this area, and Descemet's membrane absent, a sharp notch appearing in the posterior surface of the cornea, which is partly filled with degenerate cells partially pigmented and with pigment clumps. This apparently indicates the point of perforation of the cornea, with attachment of the iris. Descemet's membrane is intact elsewhere.

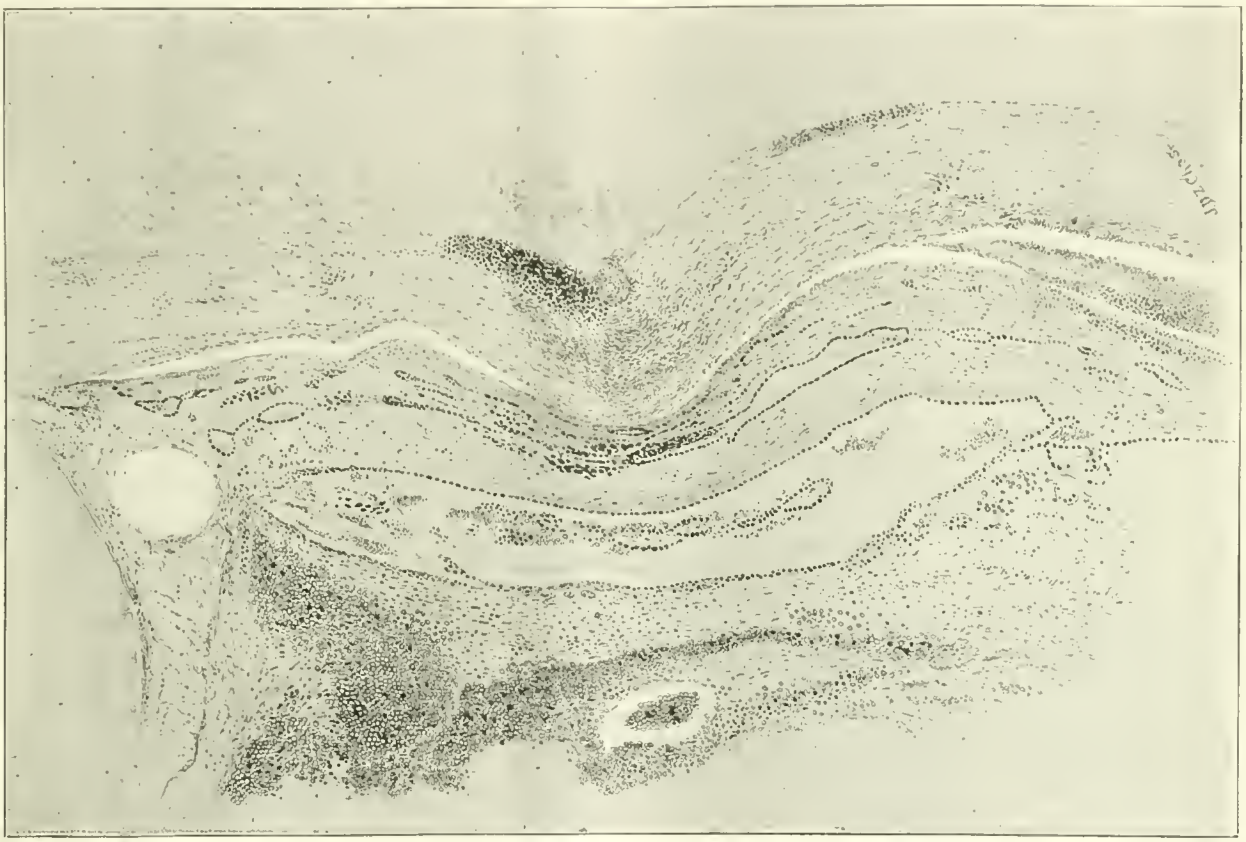


Plate 2.—Exudate on choroid, showing cavities lined with pigment epithelium.

The iris is firmly attached to the posterior surface of the cornea, at the periphery, and is completely atrophic, being reduced to a thin connective-tissue layer. There is a beginning intercalary staphyloma. The anterior chamber is partially filled with blood and a homogeneous exudate. The lens is surrounded by a mass of exudate which is firmly organized anteriorly, forming a dense membrane extending between the margins of the iris, and completely occluding the pupil. This exudate is less firmly organized posteriorly, and fills up the remnants of the vitreous cavity between the ciliary processes, lens, and detached retina as a layer of loose connective tissue, with numerous round cells, and minute capillaries, which spring from the retina at the ora serrata. The ciliary muscle is atrophic, infiltrated, and the processes drawn inward and forward by the exudate. Its pigment layer is markedly proliferated. The retina anterior to the ora serrata is cystic, the supporting fibers being drawn inward by the shrinking exudate, and the cavities thus formed are filled with a homogeneous fluid. Just posterior to the ora serrata, the retina is detached and bends sharply forward and merges into the mass of exudation posterior to the lens, becoming completely degenerated. All of its elements have disappeared, and its situation can be recognized best macroscopically by an indistinct bluish line, extending backward from the lens, which under higher power is seen to be composed of a mass of granular debris, red blood-cells, and a few partially staining nuclei imbedded in a fine-meshed reticulum. The pigment epithelium of the retina in places is fairly regular, but in others it has disappeared. The choroid is thickened to several times its normal size, and shows numerous irregularly circular masses of fresh round-celled infiltration. The meshes of the choroidal stroma are widely separated. The surface of the choroid is covered with a firmly organized layer of exudate which on the temporal side is over one mm. in thickness, into which the proliferated pigment epithelium extends. This exudate shows wide spaces anteriorly lined with flat pigmented cells and partially composed of red corpuscles and leucocytes. The exudate is chiefly composed of spindle cells and fine fibrillary tissue, and contains a large amount of light-colored pigment in clumps, probably of hematic origin, numerous round cells and freshly extravasated red blood-corpuscles. The space between it and the detached retina is filled with a mixture of fresh blood and of a homogeneous exudate, staining pink with the eosin. Near the nerve entrance on the temporal side there is an area of calcification in the exudate.

The sclera and episcleral tissue in the ciliary region are infiltrated with round cells on the nasal side. Just posterior to the ora, the sclera is drawn sharply inward and at this point shows an increase in the cellular infiltration. At a corresponding point in the choroid, there are a series of circular areas of complete cell-necrosis, containing a fine granular debris measuring about one mm. in diameter. There is, however no proliferation process surrounding them, and they probably represent previously deposited masses of round cells. The lens is cataractous and shows several areas of calcification. Unfortunately, the nerve was not included in the sections. It would certainly have shown complete atrophy.

Diagnosis.—Irido-choroiditis following perforation of the cornea. Secondary cataract. Occlusion of filtration angle of anterior chamber, secondary hemorrhagic glaucoma. Detachment and complete degeneration of the retina. Beginning atrophy of the globe.

It is of interest to note, in connection with these cases, that all exhibited a greater or less degree of blocking of the angle of the anterior chamber, and that it was, as a consequence of the impediment which was offered to the escape of the intraocular fluid through the lymph-channels in this position, that the glaucomatous symptoms supervened. In Cases 2 and 3 there was in addition, occlusion of the pupil and interference with the communication between the anterior and posterior chambers. Coinciding with the relapses which were manifested clinically all three eyes showed changes, the result of different stages of inflammatory action.

Case 1 is of peculiar interest from the fact that despite the very severe clinical manifestations in the anterior segment of the eye, the microscopic changes in the iris ciliary body are remarkably slight. The writers wish to call especial attention, however, to the peculiar cavity in the optic nerve of this eye, as a careful search through the ophthalmologic literature has failed to discover any similar condition. No less an authority on nervous tissue than Dr. William G. Spiller, to whom the sections were shown, states also that so far as he is aware, such a condition has not been described in the central nervous system. When the cavity is subjected to the close scrutiny of the highest power of the microscope, fine fibers which have the appearance of typical neuroglia fibers are seen to cross it. The few cells present are of this latter type also, but much larger than normal, showing numerous branching processes proceeding from a central area of protoplasm which includes the deeply stained nucleus. The nerve-fibers themselves are seen to have not only become atrophic, but to have absolutely disappeared, whereas in other parts of the nerve they can still be traced between the fibrous septa. Although the anatomic structure of the cavity is evident, its explanation is extremely difficult. Both Dr. Spiller and the writers, however, concur that it is probable that the area involved is one of rarefaction of tissue, in which for some unknown reason the atrophic process was not accompanied by the usual sclerosis of the connective-tissue fibers, whether of pial or neurogliar origin, and that, perhaps, to some extent the separation of the fibers, with the open spaces between, was increased by the process of hardeing and imbedding the eye. It is possible that the interfering process was a local edema, although the cavity does not present the appearance of a cyst. There are no traces of any previously existing exudate or hemorrhage to account for it, and the writers can only present the specimen as a unique condition without attempting further explanation.

In the second case, the absence of decided atrophy of the nerve, in conjunction with such extensive changes in the retina, is rather remarkable, but doubtless indicates that the detachment of this membrane was of recent origin

In the third case, the point of greatest interest is the formation, in the old exudate, on the surface of the choroid, of the large cavities, which are lined with a single layer of cells. (Plate II.) These cavities vary greatly in size, the largest being 2 and 3 mm. long, and 1 mm. wide. On casual examination, they appear like enlarged lymph-spaces, lined with endothelium. More careful study, however, shows that these lining cells are pigmented, and that the pigment granules are in the form of the minute rods which are typical of the retinal pigment cells. Such cavities have been previously described and discussed by Krueckmann[1] in his article on pigment changes following ligation of the choroidal vessels. He thinks that they are due to the union of two separate processes of the proliferating pigment epithelium. The writers, however, believe that the method of their formation was different in this case. By studying a series of sections, it is possible to follow the process, from its inception to the formation of the largest cavities. As in every case of exudation on the surface of the choroid there has been a marked proliferation of the retinal pigment cells. These can be traced as single and double lines of cells, extending through the newly formed tissue. In places, the cells composing the double lines are separated by a narrow space containing a few blood-cells. Between these small spaces and the large cavities there are cavities of intermediate size, all of which are lined with pigment cells, while many contain loosely coagulated fluid, with a few red corpuscles and the leucocytes. From the subsequent shrinking of the tissue the process may be outlined as follows: Proliferation of the pigment cells, at first in a single layer, later in double layers. As a consequence of the subsequent shrinking of the exudate, these layers are pulled apart and interstices are formed in which fluid collects, and as the contraction of the exudate advances, and more fluid is forced into the laminæ, the latter become more and more distended and form the cavities which have been described. In their complete form, it is possible that they may act as true lymph-spaces, although lined with epithelium instead of endothelium.

THE THERAPEUTIC PROPERTIES OF THE SUPRARENAL CAPSULE.*

W. H. BATES, M.D.

NEW YORK CITY.

The curative action of the suprarenal extract, dealing with all inflammations of the body and with those diseases which are affected by changes in blood-pressure, covers a wide area of therapeutic application. If we are to use this drug, which is so rapid that its maximum effect is reached in less than one minute, and so potent that some obstinate cases of chronic keratitis have been cured in one treatment, it is imperative that we should know what effect the suprarenal extract, absorbed from its local use in the eye or ear, will have on other organs, since the patient may also have serious lesions of the heart, kidneys or other tissue. To obtain this necessary knowledge, I had at my command my own clinical observations, my laboratory experiments, and the experiences of physicians whose work lies in other fields. The conclusion drawn from these data is that no condition of organic disease contraindicates the use of suprarenal, non-septic solutions being absolutely harmless. Its constitutional action may be briefly described as a muscle tonic, restoring the power of contractility to all muscle fibers, especially those of the arteries and heart. The fact that the suprarenal is a muscle tonic, supplying what is one of the necessary components of muscle tissue, may also explain why it is not a poison. . In dealing with a drug a small dose of which produces a powerful effect, we naturally expect a large dose to be an active poison, but the suprarenal is unique in that while one-tenth grain has produced the maximum physiologic effect, two ounces caused no further effect. It has been shown by physiologic experiments that the excess of the suprarenal supplied for muscle tissue is stored for future use. It is important also to remember that no result will follow the administration of it unless its use is indicated, and when indicated the benefit follows immediately.

---

[1] Archiv. f. Ophthal. xlviii. 2.

*Read before the New County Medical Association, May 21, 1900.

The suprarenal being a muscle tonic explains also its action in apparently opposite lesions of heart disease. The laboring heart, due to stenosis of the valves, is relieved by the suprarenal, as well as when it is due to insufficiency; and a dilated heart is benefited as much as a small one. When the pulse is of high tension, it becomes softer, and when the pulse is weak it is strengthened. Again, when the pulse is too rapid and weak, the suprarenal will retard and strengthen it, while a slow, weak pulse will approach the normal, and one irregular in force or frequency or intermittent will become regular. On the other hand, the strong pulse of a normal or diseased heart is not affected by the suprarenal.

When the peripheral vessels are contracted and the extremities are pale, the circulation is improved after the internal administration of the suprarenal, and in the opposite direction, when the peripheral vessels are dilated, with the extremities congested, the suprarenal is beneficial, giving tone to the heart and blood-vessels. It has a selective action for congested tissues; for example, the inflamed mucous membrane of the nose in acute rhinitis will be whitened after the internal administration of the drug, while the normal conjunctiva of the eye will remain unaffected.

When the aqueous solution of the extract is applied to mucous membrane, the parts are whitened in one minute, and a secondary dilatation of the vessels does not follow.

Dreyer[1] found that the secretion of the adrenals could be increased by electrical stimulation of the splanchnic nerves. I have observed, clinically, that the physiologic effects of the internal administration of the dried glands can be obtained in acute rhinitis by the use of electricity or counter-irritation over the dorsal and lumbar region, which suggests the possibility of an increase of the internal secretion of the adrenals.

Preparation and Preservation of the Aqueous Solution.—It should be mixed in a test-tube, taking one part of the dried powdered suprarenal to ten parts of a saturated solution of boracic acid, and held over a flame until it boils; then it should be filtered and the filtrate boiled in its permanent receptacle. A solution of the aqueous extract prepared by this method will retain its properties for months, and the whole process requires only about three minutes.

The solution is more active when prepared without the boracic acid, but I use the latter, boiling it daily to prevent decomposition.

Cautions in its Administration.—It is necessary to use freshly prepared solutions to obtain the best local effects, and if the drug is used in the form of a powder or emulsion, the excess should be removed to prevent infection. In severe nasal hemorrhage, it is difficult to reach the bleeding surface with the extract if applied by a spray or by cotton on a probe. In some cases, I syringe a 10 per cent. emulsion with force into the nares before the bleeding ceases. Tampons, wet with the extract solution, should not be left in the nose, because infection occurs in a few hours, with vascular disturbance and secondary hemorrhage. This warning should be emphasized, for I have seen one case with a temperature of 101 F., general pains and great prostration for three days from the use of a putrid solution of the suprarenal. When administered by the stomach, the active principle may be destroyed by alkaline fluids, so more constant results are obtained by placing the dry powder on the tongue and directing the patient to swallow it slowly when it becomes moist. The greatest care should be employed to obtain an aseptic solution when it is used hypodermically.

Eye and Ear Diseases.—The following are a few facts which I have noted in the treatment of the eye and ear: 1. The temporary effects of the suprarenal in inflammations may be made permanent by the use of other treatment. In some cases of acute infectious conjunctivitis, I have been able to cure the disease in one treatment by thoroughly cleansing the eyelashes and exterior of the eyelids with a 2 per cent. solution of carbolic acid, after the eye had been blanched by the instillation of suprarenal. 2. Excellent results follow a similar treatment of gonorrheal ophthalmia. 3. Cases of deafness which are not improved by the usual methods of treatment have been cured by the suprarenal in addition to other treatment.

Nose and Throat.—1. The suprarenal is invaluable in controlling hemorrhage after nasal operations, and I now perform major operations on the nose with very little hemorrhage. 2. By lessening congestion, so that other treatment will be efficient, the suprarenal is useful. I have cured acute rhinitis by the local use of the suprarenal, followed by a mild antiseptic. Quoting Dr. E. Mayer: "For these cases, the extract does wonderful things, and if it never had any other value it would have its mission in this alone." Dr. J. J. Griffiths cured four cases of acute influenza of the nose in one treatment. He used the dried powder locally, with a powder-blower. One case was infected, but recovery followed in six hours. 3. Chronic rhinitis is temporarily improved by suprarenal, and permanent results are obtained from the use of other treatment, the suprarenal being a valuable adjuvant. 4. The internal use of the suprarenal powder, gr. v., t. i. d., is beneficial in diseases of the nose and throat. 5. Dr. H. Holbrook Curtis has found the suprarenal of great value in laryngeal phthisis. Its local use relieves dysphagia better than cocain. He has also obtained benefit from its use in the acute laryngitis of singers, when the vocal chords were relaxed or congested.

Hay-Fever.—The suprarenal is a specific for this disease, being used locally and internally. Many patients who have suffered for twenty years with yearly attacks of hay-fever have been temporarily relieved of all their symptoms in five minutes by this remedy. Dr. Beaman Douglas[2] has recently written a very valuable paper on this subject. Dr. O. D. Pomeroy had such good results in treating ulcers of the cornea with it that he was led to use it in ulcers of the tongue and mouth with success.

Edema of the Glottis.—I am indebted to Dr. H. Boeker for the history of the following case of edema of the glottis, in which the suprarenal gave immediate relief: this is the third case on record, the first being published by Dr. S. S. Cohen: M. J. P., aged 30 years, during an attack of erysipelas of the face and neck, developed alarming symptoms in the throat. Late at night the doctor was hurriedly summoned to the patient, who could hardly breathe from the swelling of the throat. Six grains of the suprarenal were placed on the patient's tongue and he was directed to let them slowly dissolve in the saliva of the mouth. Five minutes later a decided amelioration of the threatening symptoms was noted, and an uninterrupted recovery followed.

---

[1] American Journal of Physiology, 1899.

[2] N. Y. Medical Journal, May 12, 1900.

A fourth case was successfully treated with the suprarenal by Dr. H. Holbrook Curtis, who believed that tracheotomy would have been necessary without it.

Hemostatic Properties.—If the suprarenal did not have any other striking properties, it would be remarkable for its hemostatic power alone. Bloodless operations on the skin have been done by means of the suprarenal used hypodermically. In cases of hemophilia, when other remedies failed, it controlled at once nasal and urethral hemorrhage. Secondary hemorrhage is not increased by its use. Hemorrhage may be controlled by its internal administration. In one case of intraocular bleeding, the extract controlled it and saved the vision. In a like manner, a case of severe uterine hemorrhage was controlled, and it was used with success in one case of severe hemorrhage in ulcer of the stomach.

Exophthalmic Goiter.—The cases improved immediately after the first dose; the circulatory disturbances, the tremor and thyroid enlargements became less.

Asthma.—Dr. S. S. Cohen[3] found the suprarenal of value in twelve cases.

Urethra.—Drs. Otto, Alexander and J. A. Moore find the hemostatic property of the suprarenal valuable in internal urethrotomy and in the treatment of urethritis.

Rachitis.—Stoeltzner[4] is the first to publish beneficial results from the suprarenal in rachitis.

Kidneys.—Dr. J. M. Otto reports two cases of interstitial nephritis very much improved by the suprarenal.

Heart Disease.—Physiologic experiments on dogs by Oliver and Schäfer have shown that the suprarenal is a most powerful heart stimulant. With .01 gm. of the fresh suprarenal the blood-pressure of a dog was raised more than twice its original height, while with .22 gm. of digitalis leaves no appreciable effect was obtained. They also obtained negative results with ergot.

Cleghorn, experimenting on the isolated dog's heart, found that the apical contractions were doubled by the suprarenal.

Exact knowledge of the properties of a drug can be obtained by laboratory experiment, and is usually more reliable than clinical observation. When both agree we are close to the truth.

Drs. R. W. Wilcox and C. J. Mooney noted the action of the suprarenal in the following:

M. S., aged 38 years, had general arteriosclerosis, with lesions of all the heart valves. The patient has been on exhibition in New York and other cities before classes of students in general medicine. His heart and circulatory phenomena are very interesting. The pulse was 90, of high tension and irregular in force and frequency. The patient was given gr. v of the suprarenal powder on the tongue, and ten minutes later the pulse was softer and more regular. The effect continued more than eighty minutes.

Dr. S. Floersheim treated 15 cases of heart disease with a mitral regurgitant murmur, with the extract, in which he noted: 1, a weak pulse became stronger; 2, a high-tension pulse became softer; 3, an intermittent pulse, or one irregular in force and frequency, became regular; 4, a dilated heart was contracted; 5, the normal heart-sounds were more distinct, while the initial regurgitant murmur became less audible. He is the first to call attention to this phenomenon; 6, the suprarenal produced no apparent effect when the pulse was strong in the normal heart or in organic heart disease.

Reports of cases confirming these observations have been sent to me by Drs. J. M. Otto, G. W. Kelly, A. A. Wolfe, E. C. Bennett, G. A. Rogers, J. J. Griffiths, C. D. Jones, John Clark, P. W. Barber and George B. Fowler. These observers have also found that the suprarenal has stimulated the heart after other well-known remedies had failed.

The suprarenal has proved to be my most valuable remedy in the treatment of the eye and ear. I find indications for its use in the majority of my cases; and with increasing experience, I am extending its therapeutic application. My results have been confirmed, and in other hands its usefulness extended, even beyond my very sanguine expectations. This is noteworthy when we remember the unusual properties of the active principle: 1, we have found no element or compound which may be added to it in solution without impairing its activity; 2, decomposition occurs in a solution which has not been sterilized, and the administration of an infected solution is very dangerous.

When we remember the difficulty of impressing on commercial chemists and practicing physicians new methods of procedure, it is remarkable that so few have been disappointed in the results of their use of the suprarenal extract.

50 East 64th Street.

SCROFULOUS KERATITIS.

OBSERVATIONS ON ITS ETIOLOGY, AND ITS TREATMENT, ESPECIALLY BY SALICYLATE OF SODIUM.*

H. GRADLE, M.D.
CHICAGO.

Under the head of scrofulous or lymphatic keratitis, or kerato-conjunctivitis, many writers include several forms of disease besides typical phlyctenules and the infiltrates into which they may change. These are the various forms of superficial vascular, marginal keratitis, known as phlyctenular pannus and fascicular keratitis, as well as some plastic or papular vascular tumefactions at the corneo-scleral margin. It is characteristic of these different types that they occur only in children, or if in adults, only in those who have had more or less continuous attacks of corneal disease since childhood. It is less commonly known that in the earlier attacks of this form of disease the phlyctenular type prevails, and that the various vascular and plastic lesions are only seen at later periods.

The term scrofulous was applied by the earlier observers, because these diseases are mostly seen in typically scrofulous children. This fact has been less emphasized in recent literature, perhaps because the diagnosis of this latter condition scrofula has lost much of its former scope, and is now in a transition period. Many of the attributes and symptoms formerly referred to it we know now to be coincidences of secondary importance. The eye disease itself, formerly ranged as evidence of scrofula, does not occur in every scrofulous child. Suppurative otitis, once considered a classical symptom, we now know to be an accidental pyogenic infection. The nasal symptoms and their consequences, for instance, the thick lips, are the results of enlargement of the pharyngeal tonsil, which is common but not constant in scrofula, and which, too, can occur without any other sign of scrofulosis. Even the eczema, so typical of it, is not always present and occurs as well in non-scrofulous individuals.

---

[3] The Journal, May 12, 1900.

[4] Jabr. f. Kinderheilk., 1900, No. 1.

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

What is left, then, of the clinical conception of scrofula? The only practically constant lesion is the presence of enlarged lymph-glands, usually cervical, and with it a more or less evident degree of malnutrition, whence the liability to the aforesaid complications.

Clinical observations, and more especially autopsies, show that the most common lesion of the enlarged lymphatic glands in childhood is tuberculosis. In fact, this seems to be the invariable condition whenever the clinical diagnosis of scrofula can be made. Even if the tangible cervical glands are not involved, tuberculosis is found in the deeper parts of the lymphatic system, as the bronchial glands. The identity of scrofula with tuberculosis of the lymph-glands has been even more fully established on a large scale by the results of diagnostic injections of tuberculin, as reported from the Berlin Institute of Infectious Diseases by Petruschky and by Beck, and in this country by Otis.

It is well known that the phlyctenular and allied types of corneal disease occur mainly in distinctly scrofulous individuals. It can also be readily observed that the more severe and rebellious forms of keratitis coincide with the most pronounced general manifestations of scrofula. The question, therefore, occurs whether these forms of eye disease are not by themselves evidence of the existence of a tubercular focus somewhere in the lymphatic system. I do not mean that they are tubercular lesions due to the presence of the tubercle bacillus. But the conclusion seems to me well founded that these types of keratitis occur only in individuals under the influence of poisons produced by the tubercle bacillus in one or more lymph-glands. The occasional rare observation of the eye disease in apparently non-scrofulous subjects is more logically explained by the existence of a small hidden tubercular focus than by assuming them to be exceptions to an etiological relationship so well established by clinical experience.

The accuracy of this view could be proved by a continuous series of tuberculin injections. Personally, I have only been able to make this trial four times—always with positive febrile reaction, two of these being apparently non-scrofulous children. This number is, of course, altogether insufficient for generalization.

The direct exciting cause of phlyctenules is not known. The search for bacteria by Gifford, Bach, Axenfeld and others has given negative or inconstant results. Regarding the direct etiology of the other scrofulous manifestations on the cornea we know even less. Clinically, however, it can be observed that there are a variety of lesions adjoining the eye which often precede the corneal, or conjunctival, disease, while in other cases their presence seems responsible for relapses or protracted persistence of the eye lesion. The hypothesis of their apparent influence is mainly based on therapeutic results. While these are often more or less ambiguous, still, a sufficiently extensive observation shows that in many of the more rebellious instances of the eye disease the cure is favored and the liability to relapses diminished by the elimination of these concomitant lesions. Although this connection is discussed in some of the text-books, especially fully by Fuchs, it is ignored in others, and often, too, in practice. These unfavorable concomitant lesions are the following:

Catarrhal conjunctivitis of the eyelid—itself always a secondary complication—may protract the corneal lesion until it is cured by nitrate of silver. More serious even than diffuse catarrhal conjunctivitis is the hypertrophy of the upper retrotarsal fold, the "Schwellungs-katarrh" of German writers. This is not always accompanied by catarrhal secretion. In this form I have often used strictly localized applications of 10 to 25 per cent. solutions of nitrate of silver with benefit, when weaker solutions failed. Ulcerative blepharitis—not a rare complication, may help to maintain the corneal disease until checked by the nitrate of silver stick. Eczema of the eyelids or face has been noted by Continental writers as such a frequent complication that the term eczematous kerato-conjunctivitis has been largely accepted. In observations in this country this coincidence is not so common, although sufficiently frequent. That eczema exerts an unfavorable influence upon the duration of the eye disease and increases the chances of relapse can be definitely inferred by comparing the history in long-standing cases before and after the successful cure of the skin disease. It has likewise been noted that the presence of lice in the hair may exercise a similar prejudicial influence.

Relapsing phlyctenular eruptions are in some few instances preceded every time by a sudden, but subacute, nasal catarrh, so that the latter may be properly suspected as the direct starting-point of the eye disease. This definite relationship has not been a frequent one in my observation. Much more common is the secondary occurrence of the typical form of scrofulous nasal catarrh—a subacute rhinitis with characteristically thin seropurulent secretion, causing erosions and eczema at the entrance to the nose. I am not positively assured by my therapeutic experience how much influence this nasal disease has upon the ocular lesion. It is a very frequent coincidence, and its treatment has sometimes seemed of decided benefit to the eye; but in other instances no such influence was observed. Regarding another very common nasal coincidence, viz., enlargement of the pharyngeal tonsil, I can say positively that its removal lessens the liability to ocular relapses, but that it has not seemed to benefit the existing ocular lesion in any very striking manner.

In judging the etiologic relationship of the aforesaid complications to the eye disease on the strength of therapeutic results, it is, of course, essential to know what the local ocular treatment would have accomplished by itself. In fact, my most positive conclusions were obtained in those cases in which proper local treatment has previously been exclusively relied upon by some other surgeon.

Regarding the efficacy of local treatment, I believe I can add an item to the mooted question as to the advisability of atropin. In all forms of corneal disease in which the ciliary injection is strictly localized to the quadrant of the lesion the use of atropin is irrelevant and unnecessary. Its subjective and objective influence is generally apparent, however, whenever the ciliary injection is diffuse, especially in the case of deep lesions. The more superficial the process the less the beneficial effect produced by atropin. The influence of atropin upon the disease can also be judged by the reaction of the pupil. Prompt dilatation shows that nothing will be gained by continuing its use, while resistance to dilatation may be stated as a definite indication for its further use.

In spite of appropriate local treatment and attention to existing complications a small number of cases of scrofulous keratitis prove very refractory. I do not refer, of course, to typical phlyctenules, as these are always transient lesions, although they may be followed by very persistent localized infiltrates. Apart from these infiltrates it is essentially the more extensive lesions of later attacks which may continue and extend, notwithstanding proper care. It is for this class of cases that I can recommend salicylate of sodium internally. I have only used it when all other treatment had failed to influence the disease after a trial of reasonable duration—altogether in about twenty instances. Of these one-fourth were not influenced perceptibly, in three the results were either transient or a mere coincidence, while in more than one-half of the cases an unmistakable improvement in the subjective and objective condition was obtained within forty-eight hours. Large doses are required, one to one and one-third grams every two to three hours for an adult; two-thirds of a gram at a dose for a three-year old child, perhaps four times per day. Ringing in the ears or depression may enforce a temporary interruption. Small doses are useless. The remedy is best tolerated in the form of tablets—five grains. If no influence is perceived after the steady use during two days, it is useless to continue it. In favorable cases it may be omitted on trial after a few days. Sometimes the recovery will continue at the same rate, in others it is best to resume the drug. In a few instances in which prompt effects were obtained at first the remedy seemed to lose its influence after a while. There is hence nothing specific in its action. Its influence was most pronounced in the cases accompanied by much suffering. The form of the disease over which it had the least control was the circumscribed post-phlyctenular infiltrate.

DISCUSSION.

Dr. J. L. Thompson, Indianapolis—I have met with a great many of these cases, but they did not all occur in scrofulous patients by any means. In our section of the country I should think we have about ninety-nine out of one hundred of these cases occurring in hot weather, very frequently in the early spring, but if we have intelligent patients whose parents are able to take them to a cooler region for a short time they are usually all right after a few days. The parents will often write in a short while that Johnnie or Mary is well and ask if they can be brought home. I tell them to stay in the north. They must also be careful of the diet, for if they take excessive quantities of cakes and candies they may expect to have the trouble for a long time. Fresh air is, however, most important. These cases may appear first as herpes or eczema, and if kept in close, hot quarters all the treatment on earth will not relieve them. I have had cases of this kind occur in adults, and many people after an attack of migraine immediately have one of these phlyctenules of the cornea.

Dr. Robert Sattler, Cincinnati—I would like to ask Dr. Gradle whether he supplements the internal treatment with sodium salicylate by the use of any local measures, such as curettement, etc.?

Dr. S. D. Risley, Philadelphia—I would like to recall once more the history of a case that I related to this section several years ago, of a child that had been tormented by attacks of phlyctenular keratitis in successive summers, each attack being very persistent. They finally ceased to recur, and many years later this child was brought back to me at the University Hospital clinic with a hunched back, interstitial keratitis and Hutchinson's teeth. The early attacks presented all the characteristics of phlyctenular keratitis, but they evidently had a basis of inherited syphilis, which had sapped the vitality of the child.

Dr. A. W. Calhoun, Atlanta, Ga.—The speaker did not mention the use of protargol, or any of the astringents. In the abundant experience in the section I come from, where this disease is common among colored people, the parents are found to be of tuberculous habit very largely. During the last winter I have experimented with protargol with very satisfactory results. The ordinary treatment would have very little benefit, but in a number of instances I have used this remedy in 1 per cent. solution with good results, applying it directly to the ulcerated surfaces. I can bear testimony to the use of sodium salicylate internally at the same time.

Dr. A. R. Baker, Cleveland, Ohio—For many years I have looked upon phlyctenular ulcers of the cornea as being due largely to digestive disturbance, and I found that as long as I treat the eye alone I do not succeed in curing my cases. In fact, I think I got the idea from seeing many cases that had failed under treatment by some oculist go back to their family physician and get well after he had treated their digestion. So I have for a long time commenced the treatment with a few doses of calomel and soda, and followed that with iron, arsenic and strychnia, and in addition to that given almost exclusively milk diet. Many of these children would not get well at home, because their parents indulged them, but would recover rapidly in the children's hospital, and whenever we can regulate the diet and send them to the country, perhaps to some of the country homes for children, they get well and remain so. I have come to look upon these cases, then, as largely cases of disturbed digestion, and pay very little attention to the local treatment of the eye itself.

Dr. A. D. McConachie, Baltimore—I rise to endorse the last speaker's statement. My experience has been much the same, and I believe it has come to be a standing joke, among my confrères who listen to me in the Presbyterian Dispensary work, that I lay very little stress on the local treatment. You must be emphatic with the parents in speaking of the dietetic treatment. In fact, I think it would be well if we could make out printed instructions to apply to these cases. Just a few days before I left home the father of one of these sick children said to me: "I guess it will not hurt the child to eat bananas?" I asked how many he ate a day, and the father replied, thirteen; the child was only 3 years old. I would be a little afraid of the action of sodium salicylate on these children, whose stomachs are already disturbed. I believe 99 per cent. of these cases will get well without local treatment, but in some cases I have used ichthyol in conjunction with the usual collyria, with very great satisfaction. The removal of adenoids, when present, is most essential. Many of these cases are accompanied by nasal catarrh, which should receive appropriate treatment.

Dr. John S. Kirkendall, Ithaca, N. Y.—I quite agree with all these gentlemen as to the influence of the treatment that they have described. But there is one very important factor in most all these cases, especially the obstinate ones, which they have overlooked, or omitted, and that is the presence of nasal growths, adenoids, etc. I believe that these phlyctenular cases are infectious, and that the nasal secretions are the causative factors. I have found this true in almost every case, and by the removal of the tonsils and adenoid growths, and by the use of the spray, and all possible means to prevent this nasal secretion from coming in contact with the eyes, I have not failed in any case to prevent the corneal scars which are the result of prolonged attacks of this trouble.

Dr. G. A. Aschman, Wheeling, W. Va.—Even fifteen or twenty years ago it was acknowledged that there were different etiologic factors in this disease and we must consider it in selecting the proper treatment. It is true, I believe, that the majority of these cases come from digestive disturbances, but undoubtedly in those cases where nasal conditions are the cause, there is some influence on the fifth pair of nerves, as there is in the cases that take on the herpetic form. I should imagine that in those cases the sodium salicylate would be of benefit. I think, however, it is absolutely necessary to consider the etiology in every case.

Dr. John Chase, Denver—For a number of years, in talking with students, I have summarized the subject by suggesting to them that they have to deal with an unhealthy animal, and that success or failure will follow according as they realize this. The lack of good red blood-corpuscles is frequently the cause of the condition. If possible I have these patients sent to the country and beg or cajole them into the use of proper diet.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.—I want to say a word about the use of sodium salicylate in these cases. For a time I thought it very efficient as a constitutional remedy in phlyctenular keratitis, but I used it as an adjunct to dietetic and hygienic measures. I soon found, however, that my cases improved just as well without the salicylate treatment, and in many cases a great deal better; the salicylate only aggravating the stomach derangement, which is almost invariably present. I want to endorse what has been said regarding the cause of the disease being essentially one of bad dietetic and hygienic conditions. Good, but plain food, regularly administered, and an abundance of fresh air, are as essential as medication in the treatment of phlyctenular keratitis.

Dr. L. J. Lautenbach, Philadelphia—Since a year or two ago, by using a very simple method for removing adenoid growths I feel more ready to go into the pharynx and work, and I rarely see a case of this kind in which I do not examine the throat. In a large proportion, probably 40 or 45 per cent. of these cases, I find a growth present, and I believe that these are not all cases of indigestion, but rather of specific affection, or some deep systemic disorder of which these manifestations are but symptoms. These may be readily separated, however, from the ordinary phlyctenular cases, although I will not here give you the exact lines of demarcation. I believe in hygienic treatment in these cases, of course, but as a rule in the cases I have received the general practitioner has already looked after that part of the work. It is sometimes wonderful to note the effect of removing the adenoids. In this special class of cases I frequently use cod-liver oil. It seems to be almost a specific. I think that these phlyctenulæ represent two or three separate and distinct diseases, and it is for us to distinguish each from the other, make the diagnosis accurate, and treat them accordingly.

Dr. H. V. Würdemann, Milwaukee—In my experience, phlyctenular keratitis is simply a symptom of some one of many diseases. It is rarely a symptom of local infection. It may be a symptom of a disease within the air-passages of the nose and pharynx, or much more commonly, an evidence of systemic dyscrasia. Each case is a special study, and, besides the general treatment, we must search out the local cause, as it is only by a combination that we succeed in a cure of this very common affection.

Dr. Leartus Connor, Detroit—There are a vast number of children who have indigestion, and of this number relatively few have the disease we are now discussing. There are a vast number of children who have diseases of the nose and adenoid tissue of the nasopharynx, and of that number, as my observation goes, but relatively few have this disease, and so I think it is rather illogical to say that either one or the other of those conditions produces phlyctenular keratitis. I suspect myself that the truth will be that these conditions we have been alluding to are supplemented by some sort of a local irritation or infection. I have myself observed it come on in persons thus reduced by exposure to a strong wind or to dust, infected air, and other local causes. While it is true that it is necessary to make the child a healthy animal by the use of outdoor exercise, attention to the diet, etc., the local treatment is extremely useful, and I rise to say that as the result of observations made during the last year, I have found that after the general conditions are made right the use of protargol solution, even in larger doses than Dr. Calhoun uses, has been very satisfactory. I do not neglect the use of atropin, which I regard as essential. I use protargol in strength as great as 30 and even 60 grs. to the ounce.

Dr. Frank Allport, Chicago—Amongst the other causes of phlyctenular keratitis I desire to remind the section of the process of teething. I have recently seen a baby who had a phlyctenule every time a tooth appeared, and I soon learned that the first thing to do was to lance the gum, which usually quickly relieved the eye trouble. There is one point in regard to the treatment that I am surprised no one has mentioned, and that is the cauterization of the ulcer. I find great satisfaction in cauterizing each one of the little phlyctenules as they appear, with a 95 per cent. solution of carbolic acid, applied on a small probe, protected with cotton. I commence the treatment of all my cases with this and follow it with the local and constitutional treatment already described by so many.

Dr. Higgins—I want to inquire of the writer of the paper if he has not noticed, among all these causes, eye strain as a cause? I have paid some attention to this, and whenever I have one of these little patients come in, and they are generally of that age where they are just beginning to use their eyes, I request the parents to bring them back when the eyes are well enough to test the refraction, and I have usually found some refractive error.

Dr. R. L. Randolph, Baltimore—I would like to ask Dr. Gradle if he has succeeded in getting any good results in ulcers of the cornea without the use of atropin, and I would also ask what strength of protargol solution he uses? It has always seemed essential to me to use atropin.

Dr. A. W. Calhoun, Atlanta—The strength of protargol solution I have used ranged from 1 to 5 per cent.

Dr. Leartus Connor, Detroit— I have used it in from 20 to 60 grains to the ounce.

Dr. Gradle—The object of my paper was, in the first place, to raise the question whether every instance of phlyctenular keratitis or the other allied varieties of keratitis depended upon a tuberculous diathesis. It seems I did not express myself very clearly, for the discussion has wandered off from that subject. The question itself, I am not in a position to answer absolutely. We can do that only by making a continuous series of tuberculin injections in a number of unselected cases. A great many other data, however, point strongly to the idea that a tuberculosis of some lymph-glands is the indispensable condition. At the time of the Denver meeting I was assured by several of the local oculists that this form of trouble was comparatively rare in Colorado, just as tuberculosis is.

I also mentioned a number of accessory conditions, which could not, however, be called causes. I fully agree with Dr. Lautenbach on the importance of treating adenoids, which are present in a large majority of cases, but these are in themselves suspicious of the existence of tuberculosis in the body; just as these forms of keratitis, though not due to the presence of the tubercle bacillus in the eye, depend in my judgment on the existence of some focus in the body for the elaboration of the poison. As to the question of disturbed digestion, I did not touch on that because I did not intend to discuss all the phases of the treatment. I am of the opinion that the deranged digestion is often but an expression of the hidden tuberculous diathesis.

As regards treatment, Dr. Randolph's question about the use of atropin is answered in my paper. I do use it in phlyctenular and scrofulous troubles, provided the injection is not strictly localized, but diffuse, and provided the lesion is deeply situated in the cornea, and I do not continue it if the reaction of the pupil to atropin is very prompt. I did not refer to ulcers at all, and do not feel called upon to answer any of the discussion regarding them. The ulcer is a secondary occurrence, probably due to secondary infection, and is not specific. I was asked if I used local treatment. I have been in the habit of following out all the treatment laid down in the text-books, sometimes with good, sometimes with indifferent results. I used the sodium salicylate in the cases not amenable to local treatment and hygienic care. When we get a papular tumefaction at the corneoscleral margin it may last weeks and months, and it requires every effort on the part of the oculist to combat the suffering of the patient and to end the disease as quickly as possible, and for this purpose I recommend sodium salicylate. I would not think of using it in transient cases, nor until the local treatment had been fully tested. Phlyctenules will usually take care of themselves in a few days without any treatment.

Voluntary notification of phthisis to the health authorities of Plymouth, Eng., is rewarded by a fee to the medical practitioner of a half-crown in case of private patients, and one shilling in case of parish or dispensary patients.

FRACTURE AND DISLOCATION OF THE SPINE.

WITH REPORT OF CASE OF GUNSHOT WOUND OF THE SPINE.*

S. P. KRAMER, M.D.
Professor of Pathology and Clinical Surgery at Cincinnati College of Medicine and Surgery; late Major and Brigade Surgeon, U. S. V.
CINCINNATI, OHIO.

Gunshot wounds of the spine in which the bullet entered from the abdominal surface are of sufficient rarity and the results attending their operative treatment are of sufficient interest to justify the report of the following case:

"Mrs. X., seen on March 13, 1896, presented a pistol wound 2, 1896. On February 26, 1896, the patient was shot in the abdomen with a 38-caliber Smith & Wesson revolver, fired at close range. Immediately after the injury the patient sank to the ground, vomited blood, but did not lose consciousness. It was very soon noticed that she had lost both sensation and motion in the lower extremities and that there was retention of urine and feces. At the time of the injury the patient was six months pregnant. She aborted next day and did not menstruate after that. Dr. Cartledge, of Louisville, who saw the patient about two weeks after the injury, has kindly furnished me with the following data:

"Mrs. X., seen on March 13, 1896, presented a pistol wound in the epigastric region, about two inches below the ensiform cartilage, and three-quarters of an inch to the left of the median line. There was a history of a vomiting of blood within a short time after the injury, also immediate and total paralysis below a point corresponding posteriorly to the shot wound on the anterior surface. The general condition was fairly good. The abdominal wound displayed nothing more than the signs of a slight localized peritonitis of traumatic origin."

In a short time extensive bed-sores had developed at the points of pressure, and great pain was experienced in the upper half of the body, radiating toward the shoulders. Morphia was administered to relieve this pain, in such increasing doses as to beget the habit, so that at the time of entrance, the patient was taking twenty grains hypodermatically per diem. On July 5, 1896, I saw her for the first time, in consultation with Dr. J. T. Whittaker. I found the patient an exceedingly delicate, nervous woman, greatly emaciated, with a drawn expression of countenance. The urine was being drawn with a catheter, was strongly decomposed, and there was undoubtedly a severe mucopurulent cystitis present. She had no evacuations of the bowels except such as were produced by glycerin enemata. On the anterior surface of the abdomen, two inches below the tip of the ensiform cartilage, and three fourths of an inch to the left of the median line, was found a cicatrix marking the point of entrance of the ball. Powder-marks were about the scar showing the short range at which the pistol was fired. At all points of pressure, over the sacrum, the trochanters, the inner surface of the knees and ankles, extensive bed-sores had developed. In some places the bone was denuded. The edges were livid, the discharge was copious, and there was no sign of healthy granulation. There was complete motor paralysis of both lower extremities, spastic contracture of the flexors of the leg and adductors of the thighs. Sensory paralysis extended to the level of the ninth dorsal vertebra posteriorly on the right side and to the eighth dorsal on the left side; anteriorly to free border of the ribs. There was no response to the faradic current on the part of the muscles of the leg. Patellar tendon reflexes were absent. The patient was evidently becoming septicemic. She had had chills during the past week and the temperature ranged from 99 in the morning to 102 in the afternoon. With this history there could be no doubt that the bullet had pierced both walls of the stomach, had passed into the spinal column, and had either divided the cord or was interfering with its function by pressure. Three attempts were made to exactly locate the ball with the Roentgen rays. On July 20, a negative was obtained which showed a dark spot in the spinal column on the left side, and on a level with the ninth dorsal vertebra. This was evidently not the bullet, since this would have made a slight shadow on the negative, but taken in conjunction with the extent of the paralysis, the point of entrance of the ball, and the fact that the stomach had been pierced, I felt that this dark spot was due to the destruction of bone at this point. The question that presented itself was the advisability of operating. The sudden and complete paraplegia, the absence of reaction to the faradic current and the extensive trophic changes seemed to indicate irreparable damage to the cord. Yet all of these might be caused by pressure, the relief of which would perhaps result in restoration of function. The patient was rapidly succumbing to septicemia, the case was otherwise hopeless, and at the earnest solicitation of the patient and her family, I decided to operate. She had developed on the anterior surface of the chest and abdomen a dermatitis from the effect of the X-rays. On July 21, 1896, the patient was anesthetized and laminectomy performed. I removed the vertebral arches of the eighth, ninth and tenth dorsal vertebræ. The dura was found to be uninjured; the cord felt soft to the touch. The dura was opened and the cord examined. The vessels of the pia were dilated, the cord soft and seemingly atrophic. There were no signs of a scar. The dura was then temporarily closed with forceps, loosened from its attachments to the canal, and the theca and cord drawn to one side. On passing the finger up and down along the anterior wall of the spinal canal, the conical point of the bullet could be felt projecting into the canal about one-third of its length, the other two-thirds being imbedded in the body of the ninth dorsal vertebra, a little to the left of the median line. On either side of the bullet was a spicule of bone projecting into the canal. The anterior surface of the theca was seemingly uninjured. The dura and cord were held aside, the bullet dislodged and extracted, and the displaced pieces of bone also removed. The theca was not sutured, the muscles and skin were drawn together by silkworm sutures and a strand of silkworm gut placed in the wound for drainage. The first dressing was removed on the seventh day. Primary union with the exception of two stitch-hole abscesses was found; union was complete at the end of eighteen days. On July 31, six days after the operation, the skin reflexes were marked, the knee-jerks still absent. The constipation was much relieved, the fever had disappeared. The sensory and motor paralysis and the retention of urine were as before. The pain was much diminished and the daily dose of morphia had been reduced to three grains. On August 22, the operation wound having completely healed and the bed-sores remaining unchanged, the patient was placed in a permanent bath. It was hoped that thus by relieving all pressure and by the continual cleansing of the sores they might heal. Fever was absent. September 10 the patient was still in the bath; the bed-sores were healing nicely. The X-ray dermatitis, which had resisted other treatment, had subsided. Patellar tendon reflexes were present on both sides. The skin reflexes were marked. This condition continued until October 6, and the patient was removed from the bath. The bed-sores had filled up and some of them were covered with epidermis. October 10 she had a chill, and the temperature in the evening went to 102. The cystitis was increasing in severity. October 20 the right leg was edematous, probably due to thrombosis of the vein. The sepsis was increasing. November 24 death resulted, probably from pyemia. An autopsy was not obtained.

There are several points of interest in the case, the discussion of which may be of some benefit. In the first place, the recovery of the gunshot wound of the stomach speaks much for conservative treatment in such cases. The recovery was probably largely due to the fact that the organ was empty at the time of the injury.

There is no injury which the surgeon is called upon to treat that is a source of so much solicitude and difficulty, both to himself and the attendants, as a fracture or dislocation of the spine accompanied by injury to the cord. We have all of us seen the picture of a once strong man dying by inches of sepsis from a paralyzed and infected bladder and from suppurating bed-sores that laid bare the bones of the pelvis. He lies there on his bed of suffering, a helpless and hopeless paralytic, a burden to himself, his loved ones, and his physician.

---

*Read before the Cincinnati Academy of Medicine.

The difficulties begin at the very inception. A careless movement in carrying the patient to his home may produce a very disastrous laceration of the cord. He must be moved with the very greatest care. For the same reason, all diagnostic manipulation must be interdicted. The diagnosis can usually be made from the history, inspection and the extent of the paralysis. The very greatest care is rarely successful in preventing extensive bed-sores. The most scrupulously aseptic catheterization will rarely prevent a disastrous cystitis.

But all of these complications are only symptoms. The grand question that presents itself is: Can not something to be done to restore the function of the cord, destroyed or interrupted by the injury? The surgical measures for the relief of this condition are of two kinds. The one, non-operative, consists of extension and contraextension, with the hope of reducing the deformity and relieving pressure on the cord. The other is an operative procedure, which has for its object the removal of the spinal arches at the site of the lesion, the inspection of the contents of the spinal canal, and the removal of any pieces of bone, foreign body, or blood-clot, which may be impinging upon the cord.

Much can not be said in favor of the non-operative procedure. Extension can do very little good, and may do a great deal of harm. A piece of bone that is not impinging may, by the movements of extension, be driven into the spinal marrow. On the other hand, it is purely a matter of accident whether or not a fragment that is causing compression may be drawn out of the way. One can never tell whether good or harm will be done by extension. Further, the extension can not be maintained, because the pressure of any apparatus or jacket upon the paralyzed parts is attended with destructive decubitus. It is very probable that the results that have been ascribed to extension would have also been obtained in those cases by rest in bed.

To my mind, extension is attended with too great risk to be recommended as a routine practice. On the other hand, the operative treatment is also a debatable procedure, and in taking up this question it is wise at the outset to consider the various lesions of the cord that may be brought about by these spinal injuries. One of three conditions may be present.

1. The spinal cord may have been completely divided; or it may have been crushed in such a manner that while there has been no actual division, a portion of the cord has been transformed into a disorganized pulp. In many of these cases, after producing this damage, the displaced bones return to nearly their normal position, so that there is little, if any, appreciable narrowing of the spinal canal.

2. The cord may be compressed by displaced fragments of bone or foreign body, the destructive lesion being of minor importance.

3. Pressure on the cord may be due to hemorrhage.

Where the condition is largely due to pressure, either by bone, foreign body or blood, the results following the early relief of this pressure will probably be very favorable. The mass of evidence goes to show that cord tissue once destroyed is never regenerated. But it is very difficult to determine beforehand in a given case how much tissue has been destroyed and how much of the functional disturbance may be relieved by the removal of pressure. Immediate and continuous paralysis has been held to indicate, as a rule, irreparable injury to the cord, either by severance or pulpification. Yet there are a few fortunate exceptions to this rule reported which still leave sufficient justification for operative procedure in these cases. Schede[1] reported a fracture of the fifth and sixth dorsal vertebræ followed by complete sensory and motor paralysis of both lower extremities, with absence of patellar reflex on both sides and the development of bed-sores the next day. Sixteen hours after the injury he operated, and found the dura uninjured and the cord soft and pulpy to the touch. He removed the fragments of bone found pressing on the cord and left the theca unopened. Two days after the operation the patient's condition had improved. The patellar and superficial reflexes had returned, and there was no ankle-clonus on the right side. At the time of the report the bladder and rectum were normal, the paralysis had disappeared and the patient walked without support.

Hammond and Phelps[2] report a similar case of fracture of the twelfth dorsal vertebra, with paraplegia, absence of patellar and plantar reflexes on both sides and of the cremasteric reflex on the left side. The operation was performed nearly two years after the injury, and two months later the patient walked without the aid of crutches.

While there is no evidence which proves that regeneration of the nervous elements of the cord occurs after total destruction, it must be borne in mind that every trauma produces areas of different degrees of injury to the parts involved. In addition to the elements that have been totally destroyed there must be such as have been injured, but not beyond repair. Such partial injury will result in complete death if the offending body be not removed, or perhaps in recovery if the relief from pressure restore the normal circulation, and if the further injury be prevented by the removal of the body in question. I believe this to be a very important consideration, and one that has for its logical sequence, not only the operative procedure, but also that this be done as soon after the injury as possible. If the offending piece of bone, bullet or blood-clot be allowed to remain, very grave secondary conditions may occur in portions of the cord that at the time of the injury may not have been irreparably damaged. These secondary changes, that are known under the term of compression myelitis, may set in very rapidly. They have been recognized as early as the fourth day. They lead to further destruction of the nervous elements of the cord, which are replaced by connective tissue. When this has occurred, restoration is, of course, impossible. There is no tissue that is so susceptible to circulatory disturbances as the spinal cord.

In recent years clinical evidence has been accumulating which goes to prove that operative procedure for injury to the spinal cord should be undertaken as early as possible. The old expectant plan of treatment holds out but little hope. In some cases pressure symptoms have subsided after a few weeks in bed, and the patient's condition had been somewhat improved.

And yet we can not say that even these patients would have been injured by an operation. The improvement might have been accelerated and increased thereby. The operation, per se, with the modern aseptic methods is not a dangerous one, while the advantages following the early removal of compression are manifest. I sincerely believe that unless considerable and continuous improvement sets in very soon after the injury, the greatest hope for the patient lies in an early operation.

In the following case very gratifying results followed the operation for relief of pressure.

---

[1] Annals of Surgery, vol. xvi, p. 221.

[2] Journal of Nervous and Mental Diseases, 1893, p. 478.

C. A. F., male, aged 35, admitted to Military Hospital, No. 2, Havana, Cuba, April 13, 1899 at 12 m. About two hours before admission he had fallen down a shaft a distance of about twenty feet. He did not recall exactly how he alighted. Immediately after the accident he was unable to stand, and complained of pain in the back and abdomen, especially when moved.

Examination revealed minor bruises about the body, motor paralysis of both the lower extremities. The power of internal rotation of the thighs was retained; he had control of the abdominal muscles.

Patellar, plantar and cremasteric reflexes were absent on both sides. The abdominal reflexes were present but apparently diminished. The bladder and rectum were paralyzed; there was retention of both urine and feces.

Analgesia of the legs and feet extended up to the knee. In this area, however, he had still the sense of pressure, but a loss of the sensation of heat and cold.

The next day the conditions were unchanged, and in addition he complained of considerable pain, girdle in character, in the back and lower abdomen.

On April 16 I was able to test the muscles of the leg with a faradic current and obtained some reaction. Galvanic tests were impossible. There had been no movement of the bowels since admission and no voluntary evacuation of the bladder. At 3 p.m., April 16, about seventy-seven hours after the injury, the operation of laminectomy was performed. The arches of the twelfth dorsal and first lumbar vertebræ were removed. The arch of the twelfth dorsal vertebra was found pressure upon the cord. There had evidently been a dislocation of the twelfth dorsal forward, with perhaps a fracture of the first lumbar, so that the cord was pressed between the body of the first lumbar and the arch of the twelfth dorsal vertebra.

The dura mater was not opened. There was no apparent hemorrhage, the cord being quite firm to the touch, with no perceptible injury. Six days after the operation he passed his urine voluntarily, and had a voluntary movement of the bowels. Three bed-sores about the size of a silver dollar had developed over the sacrum and tuberosities. On the 26th a considerable increase in muscular power was noticed; he could flex the thighs on the abdomen, and the leg on the thigh. The wound had healed by primary union. From this time on his condition constantly improved, the motor control of his lower extremities gradually increasing in extent and power. The extent of the analgesia had markedly diminished. On May 6, 1899, the patient was discharged from the hospital and took passage on board the steamer to return to Lancaster, Pa. His condition on the date of discharge was as folows:

Evacuation of the bowels was regular and under full control; micturition was voluntary, and under control; there was a slight cystitis present. There was analgesia extending over both feet and ankles and reaching half-way to the knee.

He had flexion, extension, adduction and abduction of the thighs, flexion and extension of both knees, and some slight extension of both toes on the right side, otherwise the muscles below the knee were paralyzed. There was no voluntary motion of the ankle-joint.

The knee-jerks were present, as well as the cremasteric and abdominal reflexes. There was no ankle-clonus. The three bed-sores had very much diminished in size and were covered with healthy granulation.

On Nov. 5, 1899, I received a letter from him, from Lancaster, Pa., in which he stated that his condition was very good. His bed-sores had entirely healed, the cystitis had almost disappeared, and, by means of two canes, he was able to get about. For the past three months he had been able to suport himself and his family, as a cigar-maker. He had full control of his bladder and rectum. He can flex and extend the knees and the toes.

Sick and Wounded in China.—Most complete arrangements have been made for the care of the sick and wounded in the Chinese campaign. Abundant medical stores, supplies, hospital tents and stoves have been provided. As, on account of the nature of the situation, a general hospital would be impracticable, a suitable field hospital will be established close to the field of active operations. Major-Surgeon John Van R. Hoff, U. S. A., will be placed in charge of this hospital. He is now on his way from Porto Rico to his new post of duty.

ANGINA PECTORIS.*

AUGUSTUS A. ESHNER, M.D.
Professor of Clinical Medicine in the Philadelphia Polyclinic, Etc.
PHILADELPHIA.

While the use of the Greek prefix "pseudo," or its English equivalent "false" in medical nomenclature is at times a matter of convenience, it may become a source of confusion or misunderstanding. This is exemplified in the use of the term "pseudo-angina pectoris."

Although the question of the pathology of angina pectoris is not definitely settled, it seems not unreasonable to attribute the symptoms of the affection to derangement in the function of the cardiac plexus of nerves, usually induced through interference with the circulation in the coronary arteries, or through disease of the myocardium.

In addition, however, to cases in which such vascular or myocardial disease is present, there are other cases in which similar symptoms arise, in the absence of appreciable organic disease referable to the heart. To this latter condition, the designation "pseudo-angina pectoris" has been applied, and among the etiologic factors, toxic and neurotic states have especially been mentioned. It seems more logical, however, to include both sets of cases in the same group, even though they differ in intensity, clinically, as well as pathologically, and it were, perhaps, better to distinguish them rather as mild and severe, than as false and true.

We have here an illustration of the difficulty of attempting a distinction between organic and so-called functional disease. It is difficult to conceive of derangement of function without alteration in structure. Functional activity must itself be looked upon as an expression of metabolic activity, and aberration of the former would accordingly bespeak deviation of the latter from the normal. Disorder of function may, therefore, be referred to influences varying in degree from impalpable nutritional disturbance to gross organic lesion. Between these extremes there may be all gradations. It can further be understood that long-continued or frequently repeated nutritional disturbance may lead to structural and ultimately to organic disease.

Of the several explanations that have been proposed for the occurrence of the symptoms of angina pectoris, viz.: That these are due to neuralgia of the cardiac nerves, spasm of the heart-muscle, stretching of the ventricular wall, and anemia of the myocardium, it is not impossible that each or even all have some share in their causation. In this way the paroxysm may be induced by organic disease, or by spasm of the coronary arteries, or of the muscular wall of the heart, acute dilatation and toxic states, singly or in association.

The essential features of angina pectoris are its paroxysmal occurrence, the presence of intense precordial pain and a sense of anguish and impending dissolution. Those who undertake to maintain a distinction between true and false angina pectoris, consider a fatal issue an additional feature; but in this connection it is worthy of mention that there may be grave disease of the coronary arteries and myocardium, even terminating fatally, without symptoms of angina pectoris, and, conversely, it does not seem extravagant to believe that angina pectoris may exist in the absence of gross or appreciable changes in the vessels or the heart-muscle. The element of death further, would hardly be a safe criterion, inasmuch as it can scarcely be attributed to the attack of angina pectoris itself, but is rather to be ascribed to the fundamental disease of the vessels or the heart-muscle, and it would occur only when this is present.

---

*Read before the Section on General Medicine of the College of Physicians of Philadelphia, May 14, 1900.

True, or severe, angina pectoris is said to occur principally after the fiftieth year of life. Of forty cases referred to by Osler in his admirable monograph, only four were under forty (one at thirty and one at thirty-two), the average age being fifty-three. He adds that cases are reported in young individuals, even in children; but then almost invariably in association with chronic valvular disease or adherent pericardium. The cases of mild, or so-called false, angina pectoris, it is admitted, may occur at any age, and even in early life.

Osler in his text-book tabulates as follows the points of differentiation between true angina and pseudo-angina.

TRUE ANGINA.	PSEUDO-ANGINA.
Most common between the ages of 40 and 50 years.	At every age, even 6 years.
Most common in men.	Most common in women.
Attacks brought on by exertion.	Attacks spontaneous.
Attacks rarely periodic or nocturnal.	Often periodic and nocturnal.
Not associated with other symptoms.	Associated with nervous symptoms.
Vasomotor form rare.	Vasomotor form common.
Agonizing pain and sensation of compression by a vise.	Pain less severe; sensation of distension.
Pain of short duration.	Pain lasts one or two hours.
Attitude: silence, immobility.	Agitation and activity.
Lesions: sclerosis of coronary artery.	Neuralgia of nerves and cardiac plexus.
Prognosis grave, often fatal.	Never fatal.
Arterial medication.	Antineuralgic medication.

These differences depend largely upon the character of the respective underlying pathologic processes, but herein does not seem to reside sufficient reason for separating the two groups of cases entirely. Neuralgia may be purely a neurosis, or it may result from nerve-lesions, traumatic and inflammatory, neoplastic, etc. A similar conception appears not inapplicable also to angina pectoris.

I beg to report a case that I believe to be one of true or severe angina pectoris occurring in a young man 30 years of age and unattended with organic disease of the heart or vessels.

G. G., aged 30, a nurse, was received into the Polyclinic Hospital on September 12, 1899, suffering from sharp, knife-like pain, extending from the heart to the left shoulder, and down the left arm. The attack had set in while the patient was riding in a street-car after a day of hard work. No physical abnormity whatever was detected, and pulse, respiration and temperature exhibited no noteworthy deviation from the normal. The family history was insignificant, except that the maternal grandfather had died from an apoplectic seizure. The patient himself had had scarlet fever, measles, and mumps, and was rather delicate as a child. I believe he was not addicted to the excessive use of tea, coffee, tobacco or alcohol. He had suffered from rheumatic pains and swelling in the knees and ankles for several successive springs. Two years previously, following an attack of rheumatism, he was seized with the first of a series of paroxysms like the present. The second attack occurred seven months later; and others had taken place at intervals of six months. Each attack had begun with a severe paroxysm, and was attended for twelve hours afterward with a number of lesser severity, followed by a period of collapse for about a week. The attacks usually came on after over-work or excitement. This history was essentially repeated while the patient was under observation in the hospital, several paroxysms occurring, though none so severe as the first. The treatment consisted in the administration of amyl nitrate in pearls by inhalation, hypodermic injection of morphin, the administration of nitroglycerin internally, and applications of heat and counter-irritation to the precordium. Subsequently strychnin and atropin were also given, and the patient was discharged after the lapse of ten days, quite restored to his usual condition.

As already stated, I have little doubt that this case is one of true angina pectoris, although no evidence of organic disease of the heart or the vessels could be made out. It is, however, not impossible that, as a result of the earlier attacks of rheumatism, insidious changes had been set up in the myocardium or the coronary arteries, to which the conditions present are to be attributed.

Therapeutics.

Treatment of Hay-Fever.

In his article on Hay-Fever, in the "Twentieth Century Practice of Medicine," Dr. E. F. Ingals speaks of the importance of observing the following things in the management and treatment: 1. The condition of the constitution predisposing to the attack, such as a rheumatic or gouty diathesis or disturbance of the stomach or bowels. 2. The neurotic tendency. 3. The hyperesthetic mucous membrane.

The constitutional treatment especially should precede the usual time of the attack at least one month or six weeks.

The following prescriptions are based on the outline given above:

℞.	Liquoris potassii arsenitis	ʒi	4
	Tinct. nucis vomicæ	ʒii	8
	Tinct. gentianæ compositæ, q. s. ad	℥iii	96

M. Sig. One teaspoonful after each meal in water.

℞.	Sodii arsenatis	gr. i	06
	Ext. nucis vomicæ	gr. viiss	5
	Ferri sulphatis	gr. xlv	3
	Sodii carbonatis	gr. xlv	3

M. Ft. capsulæ No. xxx. Sig. One capsule after each meal three times a day.

℞.	Quininæ hydrobromatis	gr. xxx	2
	Sparteinæ sulphatis	gr. viiss	5
	Ext. hyoscyami	gr. x	66
	Pulv. camphoræ	gr. xxx	2

M. Ft. capsulæ No. xxx. Sig. One capsule every four hours.

℞.	Liquoris sodii arsenatis	℥i	32
	Tinct. belladonnæ	ʒi	4

M. Sig. Five drops in water after meals, as a prophylactic measure.

R.	Zinci valerianatis	gr. iii	18
	Asafœtidæ	ʒiss	6

M. Ft. capsulæ No. xxiv. Sig. One capsule after each meal.

℞.	Syrupi acidi hydriodici	℥iii	96

Sig. One teaspoonful after each meal three times a day.

This preparation is beneficial when there is a history of a rheumatic diathesis. If necessary this could be given alternately with some one of the above prescriptions.

℞.	Liquoris potassii arsenitis	ʒi	4
	Potassii iodidi	ʒiss	6
	Vini pepsini, q. s. ad	℥iii	96

M. Sig. One teaspoonful in water three times a day.

This combination is of value as a prophylactic measure and during the attack in rheumatic patients.

℞.	Brucinæ phosphatis	gr. iii	18
	Ext. hyoscyami	gr. xv	1
	Quininæ valerianatis	ʒi	4
	Camphoræ	gr. xxx	2

M. Ft. capsulæ No. xxx. Sig. One capsule four times a day.

Dr. E. Fletcher Ingals recommends the above prescription, which in his experience has seemed the most beneficial in warding off the attacks. He also states that this combination is not only advantageous in delaying or preventing an attack, but it seems to be of much value in mitigating the patient's suffering during its progress.

Brucin, as is well known, is one of the alkaloids of nux vomica and, as compared with strychnin, is less bitter, slower in its action and twelve times weaker.

℞.	Ext. nucis vomicæ	gr. viiss	50
	Ext. hyoscyami	gr. x	66
	Salopheni	ʒii	8

M. Ft. capsulæ No. xxx. Sig. One capsule four times a day.

Salophen is used a great deal as a substitute for salol in order to avoid the direct liberation of phenol in the intestinal tract, as salophen is split up in the intestine into salicylic acid and acetyl-p-amidophenol. It can be substituted for salol in cases with a rheumatic diathesis.

FOR RELIEF OF SUBJECTIVE SYMPTOMS.

The following prescriptions are for the purpose of relieving the subjective symptoms:

℞. Antipyrini	ʒiii	12	
Syrupi aurantii corticis	℥i	32	
Aquæ destil., q. s. ad	℥iii	96	

M. Sig. One teaspoonful three times a day during the attack early in the disease.

℞. Pulveris morphinæ compositi	ʒi	4	

Ft. capsulæ No. vi. Sig. One capsule as required for the relief of the dyspnea.

This powder contains morphin sulphate, 1 part, camphor, 19 parts, and licorice and calcium carbonate, 20 parts each, consequently ten grains of the powder contains 1/6 grain of morphin, hence the necessary precautions in its administration.

℞. Chloralis hydratis	ʒii	8	
Elixiris ammonii valerianatis	℥iii	96	

M. Sig. One teaspoonful in water every four or five hours to relieve the attacks of dyspnea.

℞. Acidi boracici	gr. xv	1	
Aquæ camphoræ, q. s. ad	℥i	32	

M. Sig. To relieve the itching of the conjunctivæ, by local application.

Or,

℞. Sodii biboratis	gr. viiss		5
Aquæ camphoræ	℥i	32	

M. Sig. Bathe the eyes as often as necessary and drop one or two drops in the eye every three hours.

℞. Acidi boracici			
Sodii bicarbonatis, āā	ʒii	8	
Acidi carbolici	gr. xxiv	1	5
Aquæ destil	Oi	512	

M. Sig. Use as a spray locally, to thoroughly cleanse the mucous membranes of the nose and pharynx.

The necessity of keeping these membranes clean is the one point dwelt upon by those who have written at length on the treatment of this disease; preventing, as it does, the foreign irritants from coming in contact with the membranes.

℞. Quininæ muriatis	gr. viiss		5
Aquæ destil	℥i	32	

M. Sig. Apply to the nares with a swab, three or four times a day.

℞. Adrenals (desiccated)	ʒi	4	
Acidi borici	gr. xvi	1	
Aquæ cinnamomi	ʒiv	16	
Aquæ camphoræ (hot)	℥i	32	
Aquæ destil. (hot), q. s. ad	℥ii	64	

M. Macerate for four hours, then filter. Sig. Use as a spray in the nares.

The value of this preparation has already been dwelt upon in a previous number of The Journal, but we find it necessary to speak of it again in this connection as being invaluable in treatment of hay-fever. When locally applied it produces marked and prompt contraction of the arterioles of the mucous surfaces.

℞. Tablets pulv. adrenals (desiccated) āā..gr. v |33

No. xxiv. Sig. One tablet four times a day, allowing it to dissolve in the mouth.

Solis-Cohen, a sufferer from hay-fever for twenty years, found great relief during an attack by taking the preparation in this way. It not only contracts the arterioles but acts as a tonic to the heart.

℞. Cocainæ hydrochloratis			
Thymol, āā	gr. iii		18
Bismuthi subcarbonatis	℥ii	64	
Vaselini	℥i	32	

M. Sig. Apply locally to the nares once or twice a day with an applicator.

℞. Menthol	gr. vi		36
Bismuthi salicylatis			
Sacchari lactis, āā	gr. lxv	4	30

M. Sig. A small quantity to be insufflated into the nares two or three times a day.

℞. Thymol	gr. 1/4		015
Ol. caryophylli	m.ii		12
Cocainæ hydrochloratis	gr. iii		18
Liquid albolene	℥i	32	

M. Sig. To be used as a spray five or six times a day.

This prescription must not be repeated by the druggist nor placed in the hands of the patient to be refilled at will.

℞. Acidi boracici	gr. xxx	2	
Sodii salicyl	gr. xxxviii	2	5
Cocainæ muriatis	gr. iss		09

M. Sig. To be insufflated into the nostrils.

This powder will generally give relief to the patient during the height of the attack, but it should be made up under the supervision of the physician, and it is especially important that no prescription be given to the patient for it. Not more than one-fourth of this powder should be used daily, and this should not be long continued. Powders are most conveniently applied by the patient himself, with a small glass tube about four inches in length and 1/8-inch in caliber, one end of which has been slightly flattened, the other end being attached to a rubber tube about ten inches long. Placing the required amount of powder in the round end, pass the rubber tube over it, insert the flat end in the nares and blow quickly through the tube.

℞. Orthoformi	ʒiv	16	

Sig. To be used by insufflation three or four times a day.

Litchwitz reports good results from the use of this preparation.

Orthoform is a white tasteless powder, non-toxic, and is antiseptic and anesthetic when locally applied.

℞. Codeinæ	gr. ss		03
Potassii bromidi	gr. x		66
Chloralis hydratis	gr x		66
Syrupi grindeliæ robustæ	ʒii	8	

M. Sig. At one dose. to be repeated in one hour unless relief is sooner obtained. —*Ingals.*

℞. Hydrozone	℥i	32	
Aquæ destil	℥xii	384	

M. Sig. Four times daily as a nasal douche, beginning two weeks previous to the usual time of the attack.

℞. Resorcini	gr. x		66
Aquæ destil., q. s. ad	℥ii	64	

M. Sig. Use as a spray two or three times a day. —*Hare.*

Resorcin is obtained by fusing many resins with potash. It is a phenol and closely allied to carbolic acid, but is odorless, more soluble and non-irritant. It is said to be equally as powerful as carbolic acid as an antiseptic. It is neutral in action, and is generally prescribed in solutions of 2 per cent. strength when locally applied or in the form of a spray.

℞. Menthol	gr. i		06
Acidi carbolici	m.i		06
Ol. gaultheriæ	m.i		06
Liq. albolene, q. s. ad	℥i	32	

M. Sig. Use as a spray three or four times a day.

In this prescription the ingredients can be used in somewhat greater strength if necessary. But in the use of sprays excessive irritation should be avoided, and if the mucous membranes smart for more than two or three minutes the strength of the oily sprays should be reduced, or in some cases entirely substituted by sprays of aqueous solutions.

Roe, of Rochester, reports remarkable success in curing hay-fever by cauterizing the hyperesthetic areas at different times.

Dietetic Treatment of Diabetes Mellitus.

In the treatment of diabetes mellitus Külz recommends the administration of a sufficient diet composed of albuminous and fatty food, and then to add to this, after trial in each case, such articles of carbohydrate food, in definite amounts, as the patient shows himself able to assimilate. The following is an example of the strict diet:

Breakfast at 8 a.m.—2 cups of coffee, yolk of egg, 2 tablespoonfuls of cream, 2 eggs, 150 grams (5 ounces) of ham, 50 grams of cheese, 10 grams of butter.

Second Breakfast—1 cup of bouillon, 2 yolks of eggs, 200 grams of roast beef, 30 grams of cheese, 10 grams of butter.

Dinner—1 cup of bouillon with yolk of egg, 100 grams of salmon, 15 grams of butter, 200 grams of sirloin, with 20 grams of butter sauce, spinach-salad with oil, 30 grams of curds with butter, 1 cup of coffee, 2 tablespoonfuls of cream, 1 cup of tea, 2 eggs.

To this 1 liter of wine and 30 grams of cognac are to be added.

Cacodylates in Chorea.

Garand has found rectal injections of sodium cacodylate extremely effective in rebellious cases of chorea. The dose was 5 c.c. of a .5 per 200 solution daily for five days, then twice in five days, and then three times, suspending for five days and recommencing. By the end of the month all the children were cured. There were no after-effects nor intolerance in the three cases. Luigi recommends salicylic medication by the skin in cases with rheumatic antecedents, supplementary to internal medication.

Medicolegal.

Experiments as Evidence.—The Supreme Court of Utah holds, in the case of Konold vs. the Rio Grande Western Railway Company, that experiments are not competent as evidence unless the conditions under which they are made are the same, or approximately the same, as those which attended the event in regard to which the experiments are made. And, the admissibility of such evidence being discretionary with the trial judge, his decision, it says, will not be reviewed, except in case of a palpable abuse of such discretion.

Board of Health Can Not Authorize Nuisance.—The third appellate division of the Supreme Court of New York says, in the case of Mann vs. Willey, that it can find no statute, nor rule of law, which confers upon a board of health the right to authorize one citizen to create and maintain a nuisance to the injury of another. Here the defendant was seeking to justify the discharging of the sewage of a summer hotel into a stream by reason of an order of the board of health of the town in which the hotel was situated. Such board, the court says, may have had authority to prevent him from maintaining cesspools, but it could not have compelled him to sewer into the stream.

Worry as a Ground for Damages.—The rule is well established, says the second appellate division of the Supreme Court of New York, that when the injury to an intelligent being, caused either by wilfulness or by negligence, produces mental as well as bodily anguish and suffering, independently of any extraneous consideration or cause, it is imposible to exclude the mental suffering in estimating the extent of the personal injury for which compensation is to be awarded. And worry being an element of mental suffering, it holds, in the case of Webb vs. the Yonkers Railroad Company, that it is competent to show the worry over an injury where the mental suffering resulting therefrom is a proper element of damage.

Not Evidence of Injury to Married Woman.—In order to prove the internal injuries which she alleged that she had suffered through the defendant's negligence, the plaintiff, in the case of Sweeny vs. the Union Railway Company of New York City, called as a witness a physician who testified as to her physical condition on a date more than two years after the accident. In the meantime she had given birth to two children. The physician who had attended her found no internal injuries whatever. The one here called as a witness testified as to certain injuries to the genital organs, which were wholly unconnected, so far as the evidence showed, with the accident two years before, but which might naturally have resulted from one or the other of the two intervening confinements. Such evidence, the appellate term of the Supreme Court of New York holds, had no place in the case, and it was error to admit it over the defendant's objection.

Validity of Release of Claims for Injuries.—The Supreme Court of Kansas holds that if a passenger who is negligently injured in a railroad wreck is at once treated by a physician of the railroad company, and hours after the injury, and while nervous, weak and sick, is again visited by the physician and the claim agent of the company, and, by false and fraudulent representations of the physician that his injuries are slight and temporary, is induced to execute a release of all claims for damages for a trifling amount, he will not be bound by such release. On the other hand, if the release is fairly obtained and understandingly executed, it will, the court holds, in Missouri Pacific Railway Company vs. Goodholm, constitute an effectual bar to a recovery for the injuries. To sustain a claim that the execution of such a release was induced by false and fraudulent representations, it must appear that the party who executed it relied and acted upon such representations.

Selection of Members of Boards of Health.—From an examination of the history of the legislation in the state of New York in relation to appointments of boards of health in cities, the special term of the Supreme Court of New York, Albany County, says, in re City of Rensselaer, that it seems clear that the legislature still intended by its latest statute to make the selection of the members of the boards of health the joint action of the mayor and the common council; the mayor to nominate, and the common council, in its discretion, to appoint or confirm his nomination. If the common council does not confirm or appoint the men nominated by the mayor, it goes on to say, it would seem to be the mayor's duty, in his discretion, to send in other names, and to continue sending such names until an appointee is named who will be appointed by the common council. Hence, it here denies a peremptory writ of mandamus to compel the common council and aldermen of the above city to convene and forthwith appoint the mayor's nominees as commissioners of health of said city.

Cuts Down Allowance for Injury to Knees.—A school teacher, 39 years of age, was thrown from her seat and quite severely injured by the sudden stopping of a street car on which she was a passenger; the injury sustained being a dislocation of the internal semilunar cartilage of each knee, with other injuries to her body. Commenting on her case, there is no question, says the first appellate division of the Supreme Court of New York, that her injuries were severe, and that she suffered much pain; that the effect of the injury continued over more than eighteen months up to the time of the trial, and to some extent interfered with her work, and was a constant annoyance to her; that she will never entirely recover from the injury, and will always experience more or less weakness of the knees, and difficulty in walking. But an award of $15,000 for such injuries, it holds, Kraemer vs. Metropolitan Street Railway Company, is certainly quite excessive. It maintains that $7000, in addition to the actual outlay or liability incurred by the plaintiff, would be full compensation for the injuries sustained; wherefore, it has ordered a new trial, unless the plaintiff stipulates to reduce the judgment accordingly, which would make the total amount thereof $8,836.30, instead of $15,000.

Constitutionality of Pure-Food Laws.—The Supreme Court of Ohio holds, in State vs. Capital City Dairy Company, that it is within the scope of the police power of the state to regulate the manufacture and sale of articles of food, even though the right to manufacture and sell such articles is a natural right guaranteed by the constitution. Especially does it here hold that the police power of the state is properly exercised in the prevention of deception in the sale of dairy products, holding valid a number of Ohio statutes passed for that purpose and to preserve the public health, as it is stated. And, in this connection, it particularly affirms that where the article sought to be regulated may easily be manufactured so as to be harmful, and thus result in fraud upon and injury to the public, the police power is properly exercised in the regulation of the manufacture and sale of such article by such requirements as will tend to insure the public against fraud and injury. Nor does it consider that there is any question whatever in regard to the power of the state to compel a sample for analysis of any article of food. Besides all of which, it is of practical interest, in this day of corporations, to note that it is here further held that the mere fact that the criminal laws of the state provide for the punishment, by fine, of those who offend against these pure-food laws is not a bar to a proceeding to oust a corporation engaged in violating them from the exercise of its right to be a corporation.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, AUG. 11, 1900

FATAL OIL EMBOLISM FROM SUBCUTANEOUS INJECTION OF OLIVE-OIL—LEUBE'S METHOD.

It is known that a moderate degree of fat embolism takes place commonly after various injuries, especially fractures, and also in connection with such diseases as puerperal eclampsia. In the majority of cases this form of fat embolism is of no special significance, the fat being removed by phagocytes and absorbed in case life is present. Occasionally, however, severe injuries accompanied with much contusion and fractures give rise to such a degree of fat embolism that it becomes a direct cause of death. Experimentally, it has been found that subcutaneous injections of olive-oil may lead to fat emboli in the lungs, either by way of the lymph-vessels and the thoracic duct or perhaps on account of the puncture of a small vein. Möller has reported severe pulmonary symptoms after subcutaneous injection of mercury rubbed up with oil, and caused by perivascular pneumonic areas about minute emboli of mercury. On account of the small quantity injected—1 to 3 or 4 grams—the oil, even when inserted intravenously, probably would produce only small hemorrhagic infarcts without recognizable symptoms.

In Leube's method of subcutaneous nourishment with daily injections of olive-oil, as much as 50 to 200 c.c. are introduced at one time. Though used extensively and with good results by several authors, no evil effects from oil embolism appear to have been observed until the recent report by Fibiger[1] of death from the accidental intravenous introduction of olive-oil during its subcutaneous injection in a patient with stricture of the esophagus. Attempts at nourishing the man through the mouth and by enemas failed completely, and death from inanition seemed imminent. Daily subcutaneous injection of sterile olive-oil in doses of 150 c.c. produced marked and progressive improvement; after 19 days, when 2325 c.c. oil had been injected, a gain in weight of 4600 grams had taken place. On the twentieth day the injection was followed by the violent cerebral and respiratory symptoms characteristic of fat embolism, and death took place on the third day. There was observed a transitory, left, incomplete hemiplegia.

The post-mortem showed collections of oil in the subcutaneous tissue; the puncture from the last injection ended in a hemorrhagic infiltration about a small vein. Emboli of oil were found in practically all organs, most numerously in the lungs and in the brain. The left hemiplegia was produced by a large number of emboli in the right, cortical, motor centers. Small areas of bronchopneumonia and a serohemorrhagic exudate were found in the lungs, presumably to some extent caused by the streptococci present. In the kidney the oil had accumulated in the glomeruli. There were numerous oil droplets in the cells and in the lumens of the convoluted tubules of the second order; the urine contained fat. This fat is regarded as the result of fatty changes in the epithelial cells of the tubules, due to the anemia from the plugging of the glomerular capillaries.

Leube's subcutaneous nutritive oil injection, while a very efficacious method, consequently brings with it the danger of fatal oil embolism from the accidental puncture of small veins.

NON-DIABETIC GLYCOSURIA.

Although the exact mechanism of the development of glycosuria is not known, it has become perfectly well recognized that the manifestation is merely a symptom that may be associated with any one of a number of conditions. It has perhaps been longest and best known as one of the phenomena of diabetes mellitus, and too commonly the two have been considered identical. Whether or not there may be a grave diabetes without glycosuria, as there may be a marked glycosuria without diabetes, is a question for future investigation to decide. Perhaps, too, there is a more intimate relation between diabetes mellitus and diabetes insipidus than is generally acknowledged Sugar is not found in the urine with great frequency under ordinary conditions, either in disease or in health, although in some persons it may readily appear upon excessive indulgence in saccharine or amylaceous articles of food. Saundby[1] recently in a lecture considered several varieties of non-diabetic glycosuria, and cited illustrative cases. He pointed out that even in health the urine contains traces of sugar, but in amounts so small as to be beyond detection with ordinary tests. The most available test for glucose is Fehling's solution, the use of which is attended, however, with the liability of error from the presence of other copper-reducing substances, but these can be removed by repeated filtration through animal charcoal. No reaction should be considered positive unless the reduced copper appears as an orange-red precipitate. Even in health there is a limit to the power of the organism to assimilate sugar. This will naturally vary in different individuals, but for the present it has been placed at 100 or 150 grams of glucose—Saundby makes it between 300 and 500 grams of syrup of glucose. Glycosuria resulting from the ingestion of glucose in excess of the amounts indicated has been designated alimentary or physiologic, and is not considered of itself to be of evil prognostic omen, or as likely to terminate in diabetes. Saundby, however, records cases in which glucose appeared in the urine for long periods of time after the ingestion of ordinary amounts of carbohydrates, although other symptoms of diabetes were not present.

---

[1] Nordiskt Medicinskt Arkiv, 1900, xi, Häft 1.

1. British Med. Jour., April 14, 1900.

Alcohol may cause glycosuria, which may be intermittent or constant, in accordance with the operation of the etiologic factor. Disease of the liver in association with, or independent of, alcoholism, also at times gives rise to glycosuria. Diseases of the stomach may act in the same way. Saundby expresses the opinion that the last three varieties of glycosuria may have some connecting link, which, could it be discovered, might throw some light upon the true etiology of the disorder. It is thought probable that this factor consists in some derangement of one of the important organs concerned in digestion, and from the relation of the liver to sugar-production, it is not unreasonable to regard this organ as the one most likely to be at fault. It may be that, under such conditions, sudden discharges of sugar take place from the liver into the blood in quantities greater than can be used up in the body. Glycosuria occurs, further, in cases of neurasthenia, without other discoverable cause. Saundby refers, finally, to glycosuria in old persons suffering from senile decay, and unattended with other symptoms of diabetes. The appearance of sugar in the urine, under these circumstances, must be looked upon as an indication of the general tendency to break down, and the diet should not be too rigidly restricted.

In addition to the foregoing, glycosuria may result from various disturbances of the nervous system—from functional disorders to organic disease—from toxic and infectious causes, from pancreatic disease, and probably from other influences.

THE NECESSITY FOR THE ISOLATION OF CASES OF TUBERCULOSIS IN HOSPITALS.

In conformity with the guiding principles of modern hygienic requirements the two most important indications in the management of all infectious diseases are isolation and disinfection. While there is no marked dissent from this general proposition, occasionally objection is raised to its universal, and particularly its rigid, application. This is especially the case with regard to tuberculosis, in the repression of which great activity has recently been exhibited in various ways and in many places. The question as to whether isolation of tuberculous patients in hospitals is necessary is answered virtually in the negative in a recent communication by Aron[1], who points out that in justification of the demands for the erection of special hospitals and special departments for tuberculous patients attention is generally directed to the dangers to which those surrounding such individuals are exposed. Long before its cause had been discovered, tuberculosis was known to be a communicable disease, but according to those who advocate the isolation of its victims, these should be separated from other patients in the hospital who may readily become infected on account of the infectivity of the disease. This principle has, however, not been applied generally to other infectious diseases, and it is thought probably never will be rigidly applied. As from 10 to 20 per cent. of the patients in the wards of many hospitals have been tuberculous, it might be assumed that in the many years of such association the percentage of infections that could with certainty be traced to this source would be quite considerable if tuberculosis were actually as infective as has been contended by some.

As a matter of fact, the number of cases of well-authenticated house-infection reported is small. Investigation into this subject is necessarily attended with great difficulty, as the incubation-period of tuberculosis sometimes is probably exceedingly long, and the disease might develop only a long time after the patient had left the hospital. In view of the wide distribution of the disease, and the many opportunities for infection, it is not easy to decide whether a given case has originated in the hospital or elsewhere. Even in cases of apparent house-infection it is not impossible that the tuberculosis was already latent, and became excited into activity only by some other infectious disease.

Instances of hospital-infection are not so rare in physicians and nurses, but here the relations with the sick are in various ways far more intimate, and the risk of infection is naturally much greater. Even these dangers are, however, largely to be avoided by the exercise of care and cleanliness. If the tuberculous patient were so dangerous to others he would be not less so for himself, and the likelihood of recovery would be much less than there is reason to believe it to be. It is argued that if it is possible by means of suitable prophylactic measures to reduce to a minimum the risks from tuberculosis, there would be no necessity for separate establishments for such cases. Then, it is pointed out, an evil moral effect would be exerted by the association of tuberculous patients exclusively. It will thus be seen that, while there is a strong consensus, there is wanting unanimity, of opinion in favor of the segregation of tuberculous patients.

BRITISH MEDICAL SERVICE IN THE TRANSVAAL.

The ball started by Mr. Burdett-Coutts, when he charged medical mismanagement of the South African war, as might be expected, continues to roll. It is so easy to find defects, and hardships are so common in war time that philanthropic posers can readily find pretexts for airing their virtue. In this war, which is unlike recent British wars in other respects than its magnitude, there is probably also the element of the complaining volunteer whose grumblings take the form of home letters and communications to the press. There is ample material therefore for sensational indictments, and here they seem to be focused on the medical department. In the early months of the war nothing was too good to say; now it seems that there is nothing that is too bad, in some quarters at least. Accusations, not only of inefficiency and neglect, but also of actual cruelty, have been made and the British public is naturally stirred.

---

[1] Berliner Klin. Woch., 1900, No. 21, p. 463.

A civil surgeon correspondent of the *British Medical Journal* who, as he says, "holds no brief for the Army Medical Service," reviews in its issue of July 28 these charges and complaints. Of course vague generalities can not be dealt with, but specific charges can be met. He shows that the faults, so far as they are real and definitely stated, can be accounted for by necessarily improvised conditions, and to some extent, as in our late war, by the failure of non-medical officers to duly co-operate with the medical staff. In Bloemfontein there was for a time a scarcity of beds and of some supplies, but this was due to the demand exceeding the transportation resources and was not the fault of the medical staff. The same is true of the deficiencies in some of the field hospitals. The charges against the depot hospitals, so far as they were true, are met in detail and shown to be due to unavoidable conditions. Some are contradicted from his own knowledge. The fact is, as he says, that if perfect attendance of the sick and wounded, even at the base, is to be a *sine qua non,* "the British taxpayer must keep a permanently trained medical staff of at least six times the present number for a national emergency that may never occur again," and that as for perfection at the fighting front, no money and no organization will secure it.

Any one who has had any practical experience of the hurly-burly of active war will appreciate the justice of this last remark. War is not a picnic, and the sick and wounded are not in a situation to secure home comforts, at the best. Many a veteran of our civil war can tell of conditions that far exceeded anything in the Transvaal, or even in our late war with Spain, where the situation in Cuba was necessarily far worse than in the comparatively healthy South African region. So far as the British medical staff is concerned we believe that it has done all that its resources would permit.

THE CAPE NOME SITUATION.

The reports from Cape Nome, Alaska, do not indicate a very satisfactory sanitary condition at that point. The rush of 20,000 or more reckless gold-seekers into a region as little fitted probably for such an increase of population as can be found has raised some serious sanitary problems for the local officials and physicians. The country, excepting on the hill slopes, is a saturated sponge of moss wherever the frost has left, and, though pools and streams exist, good water is nevertheless scarce. It is easy to see what unsanitary conditions may arise under such circumstances; typhoid, intestinal disorders, etc., are very likely to be prevalent and serious epidemics are a possibility. As the season advances and the supply route by sea is closed, the food question becomes a factor, and dietetic disorders such as scurvy are likely to prevail. At all times the rheumatic virus, whatever it may be, is to be considered, and many who have never had such troubles will date them from their Alaskan experience. The most hopeful feature of the situation as reported is that the military authorities have taken hold actively and that there is therefore prospect of some sort of a local government. Without this, the outlook would certainly be bad, not merely for the present but also for the future.

ADVERTISING QUACKS AND MALPRACTICE SUITS.

A French author[1] calls attention to the serious results that sometimes follow self-treatment with quack-remedies advertised in the daily press. As a gynecologist he had occasion to observe several instances of this kind of malpractice. In one typical case a patient suffering from an incipient cancerous growth which had before been successfully removed objected to a new operation, on a slight recurrence, and had recourse to an advertised electric treatment. The result was rapid stimulation of the growth, which soon became a vast inoperable mass, and death. He suggests that the only remedy for such occurrences is to have suits instituted promptly against the advertisers of such nostrums and appliances when their disastrous effects have been experienced. Exemplary damages would soon teach quacks a lesson, their publicity would enlighten the public, and even if not fully successful their effects would still be beneficial. The law thus applied would be the best medicine for this social disease of advertising quackery. The trouble is, the victims would dislike to have recourse to such a remedy; it is easier for them to swallow the injury and save their pride than to admit that they have made fools of themselves. The *amour propre* of the average dupe is the salvation of the quacks.

THE INCREASED PREDISPOSITION TO CANCER.

In a recent number of the *London Polyclinic* occurs a critique on diet as a cause of cancer. It is claimed that the increase in cancer is real, in the main, and not wholly due to increased accuracy in diagnosis. In reference to the theory that the disease is the result of overeating, it is admitted that there has been during the last 50 years a great increase in the amount and variety of food consumed by civilized people, and particularly that the working-classes now get vastly more meat than formerly. But cancer prevails more extensively, relatively, in the upper classes, and the consumption of tea and tobacco has increased much faster than that of meats, so that conclusions can not be safely drawn from such figures. The marked immunity of the negro race is pointed out as very inconclusive, as all accurate observers agree that the negro is an enormous eater both in Africa and in America. The testimony from India is indecisive, some holding that there is more cancer there than in Europe, and others that there is less, but all agree that it affects alike the rice-eaters and the meat-eaters, and that too in a country where food tends always to be meager and where famine frequently prevails. The conclusion drawn from a survey of the field seems very reasonable that "increased consumption of food may possibly be a predisposing cause of cancer, in so far as it promotes survival to the cancer age, but that otherwise its relation to the increase of the disease has not yet been shown to be probable."

---

[1] Folet: L'Echo Méd., July 15.

THE EPIDEMIOLOGY OF MALARIA.

Existing evidence leaves no room for doubt that malarial fever is conveyed by mosquitoes; but it is not impossible that, in accordance with earlier conceptions, the disease may likewise be transmitted not only by air, but also by water. Demonstration of the one mode of infection does not necessarily preclude the possibility of the others. The matter is one not solely of scientific interest, but it has a most important prophylactic bearing, inasmuch as we can not hope to prevent the disease unless we appreciate all of the sources whence it may be derived, and take the necessary steps for their suppression. From a study of the sanitary reports of two army corps garrisoned in eastern provinces of Prussia, between the years 1884 and 1888, Grawitz[1] found that the largest number of cases of malaria were observed not in the late summer and autumn, as is generally believed, but in the months of May, June and July, the number rapidly increasing up to, and as rapidly declining after, the period mentioned. This period of greatest prevalence of malaria does not, however, correspond with the period of greatest activity of mosquitoes. Further, there has been a marked decline in the number of cases of malaria among the soldiers in the Prussian army in recent years, and this has been found to correspond with the regulation of drainage, proper construction of barracks, and provision of a pure water-supply. Organisms have been found in aquatic animals resembling malarial parasites, so that it seems at least not impossible that as the malarial parasite is the intermediate aerial host, so some animal living in the water may play an analogous rôle.

A MISTAKE IN OHIO.

The news comes from Ohio that the State Board of Medical Registration and Examination has taken such action recently as to practically nullify that section of the excellent new law of the State which provides a certain minimum standard of preliminary education to be attained by those desiring to enter upon the study of medicine. A high-school diploma granted after four years of study, or its equivalent, is the minimum requirement as fixed by the statute. But, in making up its list of subjects for the first examination of prospective medical students, the Board has cut out nearly two-thirds of the studies embraced in a high-school course, and has included many branches whose completion is required of those who wish to *enter* a high school. The profession of the State is stirred up over the matter, and while nothing can now be done toward changing the requirement for the autumn examinations, it is hoped that the Board in the future will either execute the law in accordance with its plainly expressed terms, or give way to another that will. It is rumored, we hope without foundation, that it was the influence of some of the weaker medical schools, which, by reason of their probably well-founded fear of loss of students, determined the Board in its illegal reduction of the educational standard. In this connection it is also to be remembered that the Ohio Board consists of seven members, only three of whom can be regular physicians, so that the hope may be permitted, in the absence of direct information, that these three were outvoted in this matter. In any event, we trust that, in the interests of the public welfare and of medical education, the Ohio Board will see the mistake it has made, and at the earliest possible moment retrace its steps to the secure foundation of enforcing the law in accordance with its explicit provisions.

A LAWYER DISBARRED.

Recently a lawyer of Chicago misappropriated—that is, appropriated to himself—twenty-seven dollars belonging to a client. For this he was sentenced to pay a fine and was "forever disbarred from practicing in the courts of Illinois." No one seems to have found fault with the verdict; the newspapers endorsed the judge, who, in rendering the verdict, said that the legal profession must be purged of those who would stoop to such dishonest and despicable acts. Neither have we any fault to find, for while it seems rather severe to take from this lawyer the right to practice his profession, his means of making a living, we can only say that he deserved the punishment. But in the newspapers which published the account of this disbarment, with approval, appeared advertisements of quack doctors. In some of these advertisements those suffering from incurable diseases are promised restoration to health; in others, old men whose eyes are growing dim with senile cataract are guaranteed perfect sight by means of internal medicines. The fears of indiscreet youths—who think they are ill but are not—are preyed on by these barnacles on the medical profession, the advertising quacks. This Chicago lawyer who was turned out of his profession for stealing twenty-seven dollars, is an angel compared to some of these. He only swindled his client out of a few paltry dollars; they not only do this but do so by preying on the afflicted, whose confidence they have obtained by false promises and by false pretences. These men write M.D. after their names; they claim to belong to a profession which certainly should be purified of its vicious adherents as much as should the legal profession. And yet, imagine the hue and cry that would be raised by the newspapers if the medical profession should attempt to purge itself of those who are using it as a cloak for dishonest acts and for swindling.

THE DIETETIC DIFFERENCES BETWEEN LIGHT AND DARK MEAT.

It has long been the custom under certain morbid conditions to exclude meat from the diet on the supposition that the products of its catabolism exert an irritating effect more particularly on the kidneys, and proscription has been made to apply especially to red meat. Among these contraindicating conditions are the uric-acid diathesis, epilepsy, and chronic nephritis. It has been thought that red meat contains more extractives and ptomaines than white meat, of which the former are especialy injurious to the kidneys. More recently, however, it has been contended that, chemically at least, there is really little difference between red meat and white meat, with the implication that, dietetically, the one is not more injurious in its effects than the other. For the purpose of removing some of the doubt in which this subject seems involved, Pabst[1] undertook a series of experimental observations upon the influence of various diets on the amount of urine eliminated and its specific gravity, the amount of albumin present, the presence of tube-casts, and on the general condition of the patient in cases of nephritis. Two patients were studied. They were permitted to have white meat for one week, a milk diet for the second week, red meat for the third week, a milk diet for the fourth week, and equal parts of light and dark meat for the fifth week. Urinary examinations were made daily. Little difference in the results was found as between light and dark meat, and likewise between these and a milk diet. These observations of themselves are, of course, too few on which to base a final opinion, but, taken together with other evidence, they go to support the view that the effects of dark meat are, perhaps, not so baneful as we have been accustomed to believe.

---

[1] Berlin. Klin. Wochenschrift, 1900, No. 24, p. 521.

SOME THEORETIC CONSIDERATIONS ON THE TREATMENT OF GONORRHEA.

Gonorrhea may be fraught with such serious danger that any suggestion looking to its more intelligent and more successful treatment should receive serious consideration. Some reflections of an interesting character in this connection are entered on by Jooss,[2] who points out that it is impossible to destroy from without gonococci that have gained entrance into the tissues, without at the same time injuring the latter. Nor can it be conceived that the remedies used will have the desired effect, as they must diffuse through the membrane in order to reach the micro-organisms. Only the uppermost layers of epithelium are not flushed by the fluids of the body, and they will, therefore, be indifferent in their reactions to chemical solutions. Active absorption from the urethral mucous membrane does not take place. Then, even if the gonococci were destroyed, it is possible that the disease might continue, in part through the actions of toxins, causing paralysis of the muscular coat of the vessels. It would seem, then, that it is against the latter that treatment should be directed. Astringents may be employed, but the results are not always permanent, the discharge often returning as soon as the injections are discontinued. This is due to the fact that the agent can act only on the surface and is unable to influence the deeper layers of the mucosa and submucosa. Experience would seem to indicate that the distending and stretching exerted by injections on the urethra, rather than the astringent or disinfecting qualities of the agent used, has an important influence in the cure of gonorrhea. Gonorrhea can be considered cured when the tissues and the circulation are restored to the normal; when distension of the urethra is not followed by turbidity of the first portion of urine passed; when the prostate gland is soft and elastic, and not enlarged, and its secretion is not yellow; when discharge has wholly disappeared and the urethra is dry, and when both portions of the urine are clear.

DIPHTHERITIC PARALYSIS AND ANTITOXIN.

The question whether diphtheritic paralysis is more frequent now than before diphtheria antitoxin came into use would be a difficult one to answer. Ransom[1], in an experimental study of the relation of antitoxin to this troublesome sequel of diphtheria, suggests that the increased rate of recovery under the antitoxin treatment might appear to increase the frequency of paralysis. Under these circumstances it even might appear that the antitoxin actually produced the paralysis, directly or indirectly. Fortunately, guinea-pigs are liable to typical post-diphtheritic paralysis, and hence Ransom was able to investigate the problem indicated in a highly satisfactory manner, at least as far as this animal is concerned. Ransom found from his carefully devised experiments that in guinea-pigs paralysis may be expected with certainty after intoxication with not less than one-fourth of the minimal fatal dose; below one-eighth of this dose no paralysis was noticed. The larger the dose the more severe the paralysis, if the animal survives long enough. "Neutralized mixtures of toxin and antitoxin, containing only about one lethal dose or less, do not appear to cause paralysis." Antitoxin injected fifteen to twenty-two hours after quantities of toxin not greater than a fatal dose "exercises in larger doses a mollifying influence on the subsequent paralysis." With smaller doses of toxin this effect is more evident, but small doses of antitoxin have no distinct preventive effect. Applying these results to human beings, it is probably correct to infer that large doses of antitoxin early in the disease would have a favorable influence upon subsequent paralysis, especially cardiac. Ransom believes, however, that severe cases are likely to be followed by some paralysis in spite of even large injections of antitoxin. At all events it is entirely unlikely that antitoxin in any way favors the production of paralysis; on the contrary, it has a decided preventive action. It must also be remembered that, as already hinted, antitoxin prevents a fatal termination in many cases which might otherwise result in death, and it is in this class that paralysis is also likely to appear. In these we would have paralysis resulting oftener since antitoxin came into use, for the reason that more cases recovered from diphtheria.

ETHICS OF PROFESSIONAL SECRETS.

In a recent address the president of one of the branches of the British Medical Association[2] discusses the question of medical secrecy, with special reference to the duty of the physician. In some countries, notably in France, and in some of our states, all facts learned professionally are legally incommunicable. This certainly simplifies the legal point of view, but it does not improve the situation in some of its moral aspects. The author of the address referred to prefers the uncertainties of the English law, the judge settling each case according to its merits, leaving the law of slander or libel to deal with cases where actual wrong has been done. This may have its inconveniences, it is true, as a jury may be carried away by its sympathies or misled by clever advocates, but it certainly does leave a larger margin for conduct where questions of moral right are concerned. According to the French and the New York laws, the physician can reveal no confidences of his patients even to protect individuals or the public; he must even see an innocent man hanged without opening his mouth when his testimony might save him. That the courts would enforce the law to this extent in every case is perhaps doubtful, but it is in their power apparently so to do. The theory that a man's disease is in all cases a secret belonging to himself is wholly opposed to public policy, and if carried out to its legal sequence would make life insecure. The law directly opposes it in the case of certain contagious diseases that the physician is compelled to make public, and there are others that he might well think it equally his moral duty to report under special circumstances. With modern knowledge and theories regarding venereal disease, silence would be, under certain circumstances easily imagined, an unpardonable sin, and yet the French courts have awarded heavy damages for revelations under such conditions. If such is to be the law, that one can not warn even those nearest and dearest to him against contagion of the most loathsome and dangerous kind, then it ought to be made the duty of the medical profession to excite universal suspicion of such contagion, so that parents would demand that a thorough physical and other examination be made and the results reported before the marriage of their daughter is allowed. The marriage of a syphilitic, or a gonorrhea-infected man, to an innocent woman is a crime—in Michigan it is a statutory one—and medical secrecy ought not to stand in the way of its prevention any more than of any other criminal act. We would not let down the bars of medical ethics in this matter in the slightest, but we ought not to have our liberty to act according to the higher dictates of morals restricted by law. The French law in this respect and also that of New York appear to have gone too far in their comprehensive proscription of all medical revelations of facts professionally obtained.

---

[1] Berlin. Klin. Wochenschrift. 1900, No. 25, p. 547.

[2] Centralblatt f. die Krankheiten der Harn- und Sexual-organe. B. xi. H. 6, S. 287

[1] Journal of Path. and Bact., 1900, vi. 397.

[2] Charles R. Stratton, F.R.C.S.: The Ethics of Secrecy in the Learned Professions, British Medical Journal, July 2, p. 140.

Medical News.

William B. Berry, M.D., Speaker of the House of Assembly of the Cape of Good Hope, has been created a Knight of Great Britain and Ireland.

Naval medical supplies and dressings have been sent on the water-ship *Arethusa* to the American ships at Taku, China, by Surgeon-General Van Reypen of the navy.

Dr. A. M. Ruffer, president of the Sanitary Maritime and Quarantine Board of Egypt, has received from the Sultan of Turkey the Order and Insignia of the Medjidieh of the second class.

A lupus institute, modeled on Finsen's Phototherapeutic Institute in Denmark, has been founded at St. Petersburg. Dr. Sarapin, who has been studying under Finsen, has been placed in charge.

The degree of Doctor of Laws has been conferred by the University of Michigan and Dickinson College upon Dr. Lewis Stephen Pilcher, of the Methodist Episcopal Hospital, of Brooklyn, and editor of *The Annals of Surgery.*

The English-Egyptian government has commissioned Professor Kolle, of the Berlin Institute of Infectious Diseases, to study the cattle plague and suggest appropriate measures against it, in a three months' trip to the Soudan.

The retirement of Professor Potain of Paris, which is anounced, is of more than local interest, as his friends and well-wishers encircle the globe. In France the age limit for a hospital surgeon is 62; for a hospital physician, 65, except in case of professors of clinics, when the limit is extended to 70, and in case of a member of the Institute to 75, which is Potain's present age. His last lecture was on his favorite subject, the heart and lungs, and emphasized the remarkable harmony between the results of radiography and stethoscopy.

There is Money in It.—It is stated that there are twice as many persons in the so-called schools of mental healing, faith-cure, "christian science," and the like, as there in all of the medical schools of the country. This is certainly encouraging.

Dr. Albert Edward Guelph.—The Prince of Wales has just been elected an honorary member of the British Medical Association. As he has received two medical degrees during the last year or two, and now is a member of the largest medical association in the world he is certainly to be congratulated.

Plague in London.—A cablegram received from Passed-Assistant Surgeon A. R. Thomas, who is detailed for duty at the United States Consulate-General London, England, reports under date of August 3, four cases and two deaths from plague at London. Diagnosis was confirmed by bacteriologic examination. The cases were on the steamship *Rome.*

PENNSYLVANIA.

About three weeks ago diphtheria attacked a family by the name of Anstine, living in York, and out of the four persons affected three have died from the disease. The only survivor is a child 3 years of age.

The Williamsport Hospital will at an early date be adequately equipped with a comfortable nurses' home, the gift of Mrs. Ida McCormick. The building will be three stories in height and 70 feet in length.

The National Guard of Pennsylvania has gone into camp at Mount Gretna, where it will remain for some time. The medical department has recently been fitted out with surgical instruments and medical chests prepared by order of Surgeon-General Shoemaker. Troops to the number of 10,500 will be in attendance.

REPORT OF MEDICAL EXAMINATION.

The State Medical Examining Board announces that there were 330 applicants who took the recent examination in Pennsylvania, and of this number 42 failed to pass, or 13 per cent. One applicant was expelled for attempted fraud. The highest attained, 92.36 per cent., was that of Dr. William Scaeffer Bertolet, of Philadelphia.

Dr. Wallace W. Dill, of Norristown, assumed, on August 1, the duties of resident physician at the Pottsdown Hospital. He succeeds Dr. J. A. Blackford.

Philadelphia.

Dr. E. J. Haines has been appointed resident physician at the Samaritan Hospital, in place of Dr. Ernest B. Mongel, resigned.

The number of deaths which occurred in the city for the week ended August 4, was 439, a decrease of 75 from the preceding week. The principal causes of death were: tuberculosis, 43; nervous diseases, 29; nephritis, 27; and heart diseases, 25.

During the past week 303 inquests were held by the coroner of this city. Of this number 35 were victims of the heat. Suicide follows next, with 21 deaths attributed to that cause. Drownings furnished 20 deaths; fireworks 20 deaths. The sum of $141.75 was paid out during this period for witness fees.

Dr. Robert G. LeConte has been elected surgeon to the Pennsylvania Hospital to succeed Dr. John Ashhurst, Jr., recently deceased. Dr. LeConte served as resident physician to the hospital from 1888 till 1890, and is also surgeon to the Children's and Bryn Mawr Hospital. He is now on his way to attend the International Medical Congress in Paris.

Dr. Benjamin Shoemaker, president of the Board of Managers of the Pennsylvania Hospital, has received a letter from Dr. Joseph Leidy, who is now attending the International Medical Congress in Paris, stating that the international jury at Paris has conferred a gold medal upon the management of the Pennsylvania Hospital for the services it has rendered humanity during the past century. The jury consisted of a representative each from Germany, Russia, Italy, Switzerland, Belgium, Spain, Hungary, England, France, and the United States.

A few days ago one of the daily papers called attention to one of the worst sources of pollution of the Schuylkill River yet discovered. The site was located at the Hunter farm below the city of Reading. An inspection was immediately ordered by the secretary of the Board of Health, Dr. Benjamin Lee, who found the report true and promptly ordered the nuisance (cesspool) abated. Out of the $6000 set aside annually for the use of the Board of Health only a small portion goes toward the abatement of nuisances of this kind.

MARYLAND.

Dr. C. P. Carrico, the physician at the Maryland House of Correction, has found forty-seven cases of scurvy there, resulting from improper diet. The cases are improving under an increased supply of vegetables.

Baltimore.

The Johns Hopkins Chemical Laboratory Building has been completed, and it only remains to install in it the apparatus. The building was destroyed by fire last December.

Since January 1, the city has collected on account of insane patients treated at various institutions $2964.72. By the end of the year the amount is expected to reach $5000.

Dr. Llewellyn Elliott, of the Washington (D. C.) Health Department, was in Baltimore, August 3, studying the health department's method of treating smallpox and varioloid outbreaks.

Dr. William B. Burch has resigned his position as one of the police surgeons, the salary of which is $1000. The reason assigned is that he is dissatisfied with the rule established by the board of police examiners requiring the physical examination of candidates to precede the mental examination.

"Dr. C. A. von Ahlefeldt," who represented himself as a surgeon in the German navy, and left Baltimore after imposing upon the Johns Hopkins Hospital staff, and running up a bill at the Stafford Hotel, was arrested at Cumberland, July 30, and brought back and locked up in the central police station. The arrest took place at the Queen City Hotel, where he had registered as "Dr. W. A. Edwards, of Detroit." He had shaved off his red mustache. He entertained the members of the profession in Cumberland as lavishly as he did the Baltimore physicians. He had no money when arrested, but had on his bureau a picture of Baltimore surgeons with himself as the center of the group. He claims to be from Vienna, and to have been traveling in the United States for two and one-half months. On his return to Baltimore he was committed for court in default of $1000 bail, on a charge of defrauding the Stafford Hotel. He seemed considerably worried, but had little to say. After his measurements had been taken according to the Bertillon method, and his photograph had been secured for the rogue's gallery, he was consigned to jail. "They don't do all this in the old country," he said.

ILLINOIS.

Dr. Walter Garrey, Aurora, a graduate of Rush Medical College, 1900, has been appointed professor of physiology in Cooper Medical College in San Francisco.

Chicago.

Dr. Henry Hooper is spending a few weeks at Marquette.

Dr. A. D. Bevan is spending his vacation at Manchester-by-the-Sea, Mass.

Col. A. Hartsuff, medical director of the department of Missouri, left a few days ago, to inspect the posts in the Department of the Lakes.

The city health officers think that the terrible infant mortality of summer is largely due to uncleanliness in the house and its surroundings. "Wholesome food for the young can not be furnished from an unclean, sour-smelling kitchen."

Dr. Reynolds, commissioner of health, hunted up and condemned 75,000 pounds of poultry on August 6. It had been through a fire in St. Paul, and was hence damaged. This is one of the largest condemnations ever made by the health department.

The city mortality for the week ended August 4, was 484, compared with 438 of last week, and 465 for the week ended Aug. 5, 1899. For the first time in any week since that ended Dec. 28, 1898, there was no death from scarlet fever. Scarlet fever appears to be "losing its evil significance for the sanitarian and health authorities." Acute intestinal diseases head the list with 136 deaths. This increase is due probably to high temperature rather than to impure water, as is shown by the increased number of deaths of infants. Consumption carried off 42, but usually heads the list in winter; next come heart and nervous diseases, each with 32 deaths; pneumonia, 19; sunstroke, 2.

NEW YORK.

Dr. George Chanton, Kings Park, has been appointed first-assistant physician in the Long Island State Hospital.

The second annual meeting of the "Physicians of the Lake Keuka Region" will be held at Grove Springs, Lake Keuka, on August 14 and 15. An interesting program has been prepared.

SYRACUSE UNIVERSITY COLLEGE OF MEDICINE.

No changes for the coming year have been made in the full professorships, but a number are announced in the staff of instructors and lecturers. Dr. C. E. Coon has been made director of the anatomical laboratory; Dr. William J. Wallace has been promoted from instructor to lecturer in anatomy; Dr. Eugene Belknap, in addition to being instructor in medicine, has been made director in clinical obstetrics; Dr. Frank Knowlton has been promoted from instructor in physiology to lecturer on that subject; Dr. Robert Pierson has been made assistant in clinical obstetrics in addition to being instructor in histology; Dr. Albert Hotaling has been elected assistant in clinical obstetrics; Dr. A. E. Larkin, instructor in clinic medicine, and Dr. A. J. Abeel, demonstrator in anatomy.

INDIANA.

Physicians of New Albany have discovered several cases in which children were suffering from formaldehyde, used in milk.

The Elkhart physicians are wisely forming an organization looking to their protection against those who are negligent in settling their "doctor' bills.

Dr. M. A. Boor, the official smallpox physician of Terre Haute, has been dismissed, as there are no more patients. The first case occurred January 17, and since then there have been fifty-four others. About $5000 has been expended in exterminating the epidemic.

The attending physician at the Indianapolis Orphans' Home filed death returns for three infant inmates of the institution, giving the cause of death as inanition, but on a marginal note, expressed his belief that formaldehyde used in the milk furnished to the institution was responsible for the deaths.

MICHIGAN.

Dr. Fred Sovereign, of Three Oaks, has been nominated for senator on the Republican ticket.

Dr. Minta P. Kemp has been appointed on the staff of the Northern Michigan Asylum for Insane, at Traverse City.

Including reports by regular observers and others, consumption was reported present in Michigan during the month of July, 1900, at 175 places; measles at 123 places; scarlet fever at 100 places; typhoid fever at 83 places; diphtheria at 37 places; whooping-cough at 37 places; smallpox at 9 places, and cerebrospinal meningitis at 8 places.

WISCONSIN.

A new isolation hospital has been completed at West Superior.

Dr. J. M. Allen, of Milwaukee, was relieved, August 6, by P. A. Surgeon Herbert Blue, who came recently from Genoa, Italy. Hitherto all lake sailors and marines have been sent to Chicago for treatment. Milwaukee's rating in the United States Marine-Hospital Service has been changed from third to second class.

OHIO.

In Columbus, the district physicians, under the readjustment of affairs of the health department, must live or have their offices in the wards in which they expect to serve the city.

It is stated that twenty or more physicians of Columbus have decided to form a protective association, and henceforth unless patients pay their bills they will refuse to attend them. They say that they have accounts on their books against people who are abundantly able to pay.

DISTRICT OF COLUMBIA.

Dr. William C. Woodward has been reappointed health officer of the District, which office he has filled for the past six years.

Dr. John G. Cecil has been elected professor of materia medica and therapeutics in the University of Louisville, vice Dr. William Bailey, resigned.

UTAH.

Dr. B. W. Mather, house surgeon of St. Mark's Hospital, Salt Lake City, has resigned and Dr. H. C. Deane, formerly house physician, will take his place. Dr. Carol Landenberger, of Philadelphia, will be house physician.

MAINE.

Dr. Freeman H. Chase, Bangor, is spending his vacation at Northport.

Dr. John F. Hill, Augusta, has been nominated by the Republican party for governor.

KENTUCKY.

Dr. J. N. McCormack, secretary of the State Board of Health, on August 1, gave a lecture on hygiene, to the physicians of McLean County, and also organized a local medical society.

WASHINGTON.

Dr. W. C. Cox, Everett, has been appointed a member of the State Board of Medical Examiners to take the place of Dr. Van Zandt, whose term has expired.

MASSACHUSETTS.

Dr. William W. Hartwell has been appointed house physician at the Malden Hospital.

NEW JERSEY.

Governor Vorhees, on July 31, appointed Dr. H. W Elmer, of Trenton, a member of the State Board of Health, to succeed Dr. Franklin D. Gaump, deceased.

SOUTH CAROLINA.

The Medical Society of South Carolina has placed "its stamp of approval" on the water of the Edisto River, for supplying the city of Charleston.

VIRGINIA.

Dr. Cunion G. Williams, Richmond, has been elected professor of histology, pathology and bacteriology in the medical college of Virginia.

IOWA.

Dr. Peter Bassoe, of the Mount Pleasant Insane Hospital staff, has resigned, and intends visiting Europe.

CALIFORNIA.

Dr. E. J. Hennessy, Napa, has been appointed as one of the board of managers of the Napa State Hospital.

RHODE ISLAND.

Dr. George W. Jenkins has been elected president of the Woonsocket Hospital corporation.

GEORGIA.

Dr. Ralston Lattimore, Savannah, has gone to Europe for a two months' trip.

MONTANA.

Dr. A. C. McClanahan, Red Lodge, has gone to Europe, to remain a year.

CANADA.

Dr. Ogilvy, Montreal, has been appointed house surgeon at the city hospital, Blackwell's Island, N. Y.

Concerning smallpox in Montreal, the last quarantine was raised on August 2, and all the cases are said to be progressing favorably.

Dr. Chestnut, superintendent of the Winnipeg General Hospital, has gone to Europe for a year's study. During his absence the affairs of the hospital will be administered by Dr. Trick.

General Manager Hays, of the Grand Trunk system of railways, has appointed Dr. J. Alexander Hutchinson, of Montreal, chief surgeon of the lines west of the Detroit and St. Clair rivers.

Dr. Laberge, medical health officer of Montreal, has gone to Paris to attend the Exposition. While there he will pay particular attention to all matters pertaining to sanitation, and to the health and well-being of great cities in particular.

One of the graduates in medicine this year at Laval University was a Syrian, Nagib Abdow. He has proceeded to Paris, where he will take a two years' course in surgery, after which time he will return to his native land to practice his profession.

The Department of Inland Revenue will make another collection of alum baking-powders in December for analytic purposes. After that manufacturers of these powders will be prosecuted if an attempt be made to continue putting them on the market.

Dr. Edgar A. Grafton, a promising young physician of Montreal, was drowned last week while bathing, four miles below the city, in the St. Lawrence. A house surgeon of the Kingston Hospital met a similar fate while canoeing amongst the Thousand Islands.

A congress of French-speaking physicians and surgeons of América is proposed by the Société Médicale de Quebec. The proposition is to have it assemble at Quebec in 1902, in honor of the semicentennial of Laval University, the first French college in the country.

Dr. James H. Richardson, emeritus professor of anatomy in Toronto University, celebrates his golden wedding this week. He received his M. B. degree in 1848 and was appointed professor of anatomy in 1850. About four years ago he resigned and was placed on the emeritus staff.

AMBULANCE DOCTORS FOR TORONTO.

Although for years past there has been some agitation for the appointment of properly qualified physicians on our ambulances, no decisive step has been taken, and the appointments are now again being proposed. There would probably be a few objections raised to these appointments from citizens, and every day their necessity seems more apparent. Since the establishment of the emergency hospital down-town, doctors are not by any means called so frequently to accidents. From all over the city the victims of these accidents are hurried to the emergency hospital, without any surgical assistance, except what a policeman trained in "first aid" can render. It is expected that the question will be discussed at an early meeting of the Board of Police Commissioners.

CANADIAN MEDICAL ASSOCIATION.

The profession in the City of Ottawa are bestirring themselves to make the coming meeting of the Association in the capital city a pronounced success. This Association was first organized in 1867 in the city of Quebec, with the Hon.—now Sir —Charles Tupper as its first president. This position he held for three consecutive years, and the following gentlemen have since succeeded him: The Hon. D. McN. Parker, Halifax; Sir James Grant, Ottawa; William Marsden, Quebec; Le Baron Botsford, St. John; Dr. Hodder, Toronto; Sir William Hingston, Montreal; Dr. Workman, London; Dr. Howard, Montreal; Dr. Canniff, Toronto; Dr. Fenwick, Montreal; Dr. Mullin, Hamilton; Dr. Sullivan, Kingston; Dr. Osler, Montreal (Baltimore); Dr. Holmes, Chatham; Dr. Graham, Toronto; Dr. Ross, Montreal; Dr. H. P. Wright, Ottawa; Dr. J. F. W. Ross, Toronto; Dr. Roddick, Montreal; Dr. Sheard, Toronto; Dr. Harrison, Selkirk; Dr. Bayard, St. John, N. B.; Dr. Thorburn, and Dr. Cameron, Toronto, and this year Dr. R. W. Powell, Ottawa. From 1870 to 1875, inclusive, the average attendance was 57; from 1876 to 1881, 68; from 1882 to 1887, 80; from 1888 to 1893, 98, and from 1894 to 1899, 134. This shows a good healthy increase, indicating that the association is continuing to prosper and grow in favor with the profession. As regards the papers for the coming meeting the general secretary states that they will be numerous and instructive. It is expected that Dominion Registration will be discussed for the last time and unanimously approved by this association.

THE SEWAGE FARM VS. SEPTIC TANK FOR TORONTO.

The city engineer is now busy preparing his report on this subject to be presented to the first meeting of council after vacation. Toronto must soon grapple with this question in municipal politics. Toronto has an unusually large consumption of water daily, the average exceeding twenty million gallons, and it is stated that the quantity of sewage to be disposed of is greater than in most cities of like population, though less offensive and perhaps easier to deal with. With a population of 225,000, Toronto has as great a quantity of sewage to deal with as Berlin, Germany, which possesses the most complete and up-to-date outfit as regards sewerage system and sewage farms. The daily press has been laying the matter pretty clearly before the people, contrasting the sewage farm and the bacteria treatment; and as the medical health officer has been urgently and persistently advising the council to proceed with this work, we may expect that the autumn will see the question grappled with in a way that will redound to the health of Toronto's citizens.

MARINE HOSPITAL NOTES.

Quarantine in the Philippines.—This station having been placed under the Marine-Hospital Service by executive order, the former Spanish quarantine station at Mariveles Bay, near Manila, has been transferred to the Service, and P. A. Surgeon Perry, now on duty at Manila, is remodeling same and equipping it as a model quarantine station.

Yellow Fever in Florida.—A telegram has been received from Surgeon White, who is on an inspecting tour in Florida, stating that the health officer of Hillsboro County, Fla., had wired the state health officer of the presence of two cases of yellow fever in Hillsboro County. Surgeon White and the state health officer started for Tampa at once. A subsequent telegram from State Health Officer Porter states that there are three cases. From the present knowledge of the situation the Surgeon-General is unable to say whether the fever will become epidemic.

Formalin Disinfection.—A bulletin has just been issued by the Hygienic Laboratory on formalin disinfection of baggage without apparatus. This work was undertaken on account of the rather widespread use of formalin for the disinfection of baggage by sprinkling it on clothing in trunks, or by pouring it on absorbent material in the corners of a trunk. Conclusions reached by experiments are that the method is not a good one, and, while sprinkling formalin on baggage in a trunk or box may be depended upon to kill non-spore-bearing organisms, such as typhoid and diphtheria, through three layers of blankets, it can not be depended upon to kill anthrax spores through one layer of blanket. However, the quarantine regulations of the United States require the use of chemical and physical agents sufficient to destroy spores.

Correspondence.

Rambling Notes of a Roving Doctor.

Paris, July, 1900.

MEDICAL MATTERS IN VIENNA AND PARIS—TUBERCULOSIS.

To the Editor:—Nothnagel gave us five lectures on the subject of tuberculosis. He discussed the disease in its different manifestations, and asserted that there were few people living who had not in some part of their economy living tuberculous germs. The old idea that phthisis pulmonalis was always a fatal malady was proved by the many autopsies that showed the existence of healed cicatrices in lung tissues that had been invaded by the specific germ. In his treatment he ignores the use of all drugs almost entirely. The hygienic management and the selection of a desirable climate are the only curative agents upon which he places any confidence. In his choice of a climate, one as free as possible from dust and germs should be selected, very little attention being paid to temperature. Medication is restricted to such agents as aid in the digestion and assimilation of food. Creosote, in some cases, if given in moderate doses, he thinks is of benefit but only in so far as it may act as a stomachic and intestinal disinfectant. To fulfill these indications, however, one prefers the carbolate of guaiacol, which he uses to correct any putrefactive changes that may be going on in the alimentary tract. Cod-liver oil, he thinks, is only applicable to those patients who can not eat and digest fatty articles of diet, and these comprise but a small percentage of phthisical subjects. The raw meat treatment of tuberculosis is at present exciting considerable interest in medical circles in France. More than thirty years ago, a physician of Montpellier presented before the Paris Académie des Sciences a paper entitled, "Sur un Nouveau Traitement de la Phthisie Pulmonaire." In it was given a report of 2000 cases of pulmonary tuberculosis treated by giving from 100 to 200 grams of pounded raw meat in the twenty-four hours. An amelioration of the symptoms followed in a large majority of these cases, and many of them were permanently cured. This treatment, however, was never even given a trial in Paris, at least not by any men of recognized authority in the profession. However, the subject has lately been brought forward in a new aspect, and is, as I before said, attracting a good deal of attention at present. Drs. Richet and Haricourt have made some experiments in which they took 328 dogs and inoculated them with Koch's bacilli. After being thus thoroughly infected the dogs were divided into two groups. One section was fed on raw meat, giving a dog of average weight 120 grams in the twenty-four hours. The other section was fed on a generous mixed diet including plenty of cooked meat. All the dogs in this last section died of acute tuberculosis within six weeks, while those that were given raw meat only, resisted the effects of the inoculation for a long time, even a year or more. The experimenters believe that the good effect of the raw meat is not on account of its nutritive qualities, but that it is a real destroyer of the germ that produces the disease. Healthy dogs fed for a year or more on raw meat were found to be nearly immune against the action of the tuberculous poison.

PLEURITIC EFFUSIONS.

I found the management of these cases to be about the same in all three of the medical clinics in Vienna. An early exploration of the chest is made with a small instrument, to determine the character of the effused fluid. If the fluid is found to be serous in character, the case is treated expectantly, that is, no interference is considered necessary unless the quantity of the fluid becomes large enough to materially interfere with the functions of the heart or lungs. The patient is put to bed, kept warmly covered, and not allowed to take any exercise. No medicines are given unless the case is supposed to have a rheumatic taint about it, in which case it is given the salicylate of soda. Nothnagel says that the cathartics, diuretics, and diaphoretics that are often prescribed with a view of hastening the absorption of the effused fluid are not only worthless, but harmful, as they lessen the vitality and resistance of the patient, and fail to produce the effect for which they are given. When it is thought necessary to draw off the fluid, great stress is put upon the fact that only a small quantity should be drawn off at once. Generally not more than one pint and never more than three should be removed at a single operation. It is claimed that to remove more than the last named quantity is dangerous, and that rmoving only one pint, you are just as likely to have all the balance absorbed, as if you remove more. In this class of cases the aspirator is used to draw off the fluid, and great care is taken to not allow the ingress of air into the pleural cavity.

Furbinger of Berlin teaches and practices a management of serous effusions into the chest walls, in direct opposition to that taught and practiced in Vienna. He taught us that all these effusions into the pleural cavity, however small, should be removed at once.

In his visits around the wards, he always carried with him his exploring syringe, and used it nearly as often as he did his stethoscope. In the pneumonia of children, he said, he had often saved the life of the little patient by drawing off only a few ounces of serum from the chest, and advised us to never treat a severe case of this disease without making a frequent exploration, to ascertain whether or not there was fluid in the pleural cavity. If the effusion is purulent in character, the general rule in such cases is followed, that is, to open up the chest walls and drain.

I find, however, that the practice of resecting a rib or two as a part of the operation, is not as universally practiced as it was some years ago. They are now operating on a good many of these cases by puncturing the chest with a large trocar and canula, allowing the pus to flow off, and then introducing through the canula a rubber drain, and allowing this to remain. I saw this instrument used several times with satisfactory results, one of its advantages being, that it leaves no large, raw surface to become infected, as is the case when the chest is opened with a knife.

PNEUMONIA.

To write on this subject is to discuss one of the most worn-out themes in the whole domain of medicine. However, when we consider that probably at least one-fourth of all persons in the United States who reach the age of 50 years in good health die of this complaint, and that upon the subject of its treatment the great mass of the profession are still entirely at sea, it certainly furnishes a sufficient reason for its frequent discussion among medical men.

The case of the great French surgeon, Péan, will illustrate how the profession look upon a bad case of pneumonia. He was taken with the initial chill, and twenty-four hours later sent for a physician to examine his chest. That physician told him that he had double pneumonia. "That," replied Péan, "seals my doom, for a man above 70 with a double pneumonia always dies." He made his will, then sent for a priest, and prepared for a death that followed only a few days later.

Two decades ago, when opening his lecture at Guy's Hospital on this subject, Dr. Reese said, "In treating of my theme I shall not be able to make a single assertion with regard to this disease, its pathology or its treatment, but some man of equal authority as myself, will give it flat contradiction." Excepting that at the present time we recognize the disease as a specific one, having for its cause a specific germ, the same remark would apply to it to-day as that made by Dr. Reese nearly a quarter of a century ago. For a period of forty years there was kept an accurate record of all the cases of this disease that occurred in the Massachusetts General Hospital, but unfortunately these records teach us only one fact of practical importance, and that is, that however varied the treatment may have been, the mortality of the disease was essentially the same.

Back in the 60s I was following the service of Dr. Bennet, at Edinburgh, in Scotland. We had in the wards several cases of pneumonia which that eminent clinician was utilizing in his bed-side teaching. Among these was one desperate case for which Professor Bennet said there was no hope, and upon whose cadaver we would probably hold an autopsy the following day.

We had a young Swedish physician in our class, who at Stockholm had seen a case of this kind treated by the application of cold to the chest, and he asked the professor if he would allow him to try this plan of treatment on this case. Consent was given and the Swede took the patient in charge. He enveloped the chest in cloths wrung out of cold water, which he changed at first every fifteen minutes, and later at longer intervals. At the end of twenty-four hours the patient was much better, and soon after was on the high road toward recovery. This case, though only a single one, produced a most profound impression upon my mind, and has influenced my practice in this class of cases from that time to the present.

The treatment is not adapted to all types of the disease, especially is it not applicable to old persons with weak hearts, but in vigorous adults and especially among children, I consider in bad cases this remedy superior to all drugs of whatever kind. I think I can say further that after using cold applications to the chest for over thirty years in the treatment of pneumonia, I have saved more lives with this remedy, and had more stubborn quarrels with meddlesome old women on account of its use, than any other agent I have used during that time.

From some cause or other, that I am not myself able to explain, pneumonia during the last decade in my practice, has been a more fatal disease than it was in former years. During my last interview with Professor Furbinger, of Berlin, I asked him if pneumonia in his practice was more fatal than it was fifteen or twenty years ago. He said it was not. When I told him I thought that with us in America it was much more so, he replied, "I am not astonished at that, for you kill your patients with your medicines." He then quoted to me the large doses of quinin recommended by Bartholow and other writers, and commented on our use of the coal-tar derivatives, and wondered why with such treatment we did not kill all our patients. The most enthusiastic man I have ever met, and the one who has the most implicit confidence in his mode of treatment of pneumonia, is Dr. Huchard, a lecturer on internal medicine at the Necker, in Paris, and editor of *Le Journal des Practiciens.*

Mild cases, with no complications, he treats expectantly, but when grave symptoms begin to manifest themselves in the way of a cyanosis of the extremities, or a weak heart, he relies on huge doses of digitalin. He uses from 20 to 30 drops hypodermically of a solution of 1 to 1000 of the drug, two or three times in the twenty-four hours, and relates successes that are something wonderful. Huchard, Like Germain Sée and other French authorities, ignores entirly the use of crude preparations of digitalis, such as the tinctures, fluid extracts and infusions, claiming that they are never reliable, on account of the different amounts of the active principle they contain. In Vienna, the treatment of pneumonia has been considerably modified during the last twenty years. Then as now, hydrotherapy was the agent principally relied upon, but I find the baths used now are of a much higher temperature than they were twenty years ago. Cases that are of a mild or ordinary type are given no medicines at all except a mixture of the yolks of eggs, a little creosote, cognac and cinnamon water to prevent tympanitis, and a drink composed of Vichy water and bicarbonate of soda, which they claim acts to liquify the secretions of the bronchial tubes, and thus prevent the spread of the disease to other parts of the lung not yet involved.

Codein or morphin is given frequently to quiet the cough. Our objection to opiates, on the ground that they dry up the secretion of the bronchial tubes, Nothnagel does not recognize as valid. He says that we let our patients die, worn out by a hacking cough, when often a little morphin given judiciously would save them. Only a couple of baths are given in the twenty-four hours if the case is one of ordinary severity. Temperature, as such, is not usually actively combated, unless such excessive heat of body is accompanied by grave symptoms of a nervous character.

Antipyretic remedies are never given. To combat the hyperpyrexia, baths are given of a temperature of about 90 F., and these baths are repeated every one to three or four hours, according to the severity of the case. On being taken out of the bath, the whole spinal column is sponged off with water of a temperature of 60 F. Great care is taken to disturb the patient as little as possible in giving these baths, and he is lifted from his bed with the sheet into the tub, and back into his bed in the same manner.

They say reserve your whip until your horse begins to tire. If, on the contrary, you begin to use your heart stimulants early, they will have spent their force before they are really needed, and when you resort to them in an emergency they will fail to act. Hypodermics of camphor dissolved in olive-oil, strychnin, digitalis and brandy are the class of stimulants that they rely upon, though the last form of stimulants they give during the whole course of the disease. In bad cyanotic cases a reservoir of oxygen gas is kept constantly by the bed-side, and is given by inhalation at intervals of from one-half to two hours according to the urgency of the symptoms.

A symptom that complicates most severe cases of pneumonia is that of tympanites, and this symptom is most actively combated by the use of the rectal tube and injections into the bowels of small quantities of hot water and turpentin. In the medical service I followed in Naples they were giving from one to two grains of nitrate of silver in the twenty-four hours, as a remedy for pneumonia. The rationale of this treatment I could not comprehend, and I attributed the faith of those who used the agent to that false delusion that associates every recovery we have in our practice with the remedy we have given, however little it may have had to do with the cure of the case.

TYPHOID FEVER.

I believe there are few diseases with regard to the treatment of which there is such a unanimity of opinion among the profession as that of typhoid fever, and this opinion has crystallized down into one of almost complete expectancy. It is true that we have a few men like Dr. Woodbridge, who believe they can materially shorten the duration, and lessen the mortality of the complaint, by an active course of medication, but this opinion is not accepted by the great mass of physicians. My observations in Vienna extend back nearly a quarter of a century, and during all that time, this disease has been treated in the main, hydropathically. The only change that I observe from year to year as I return, is that patients are bathed less and less frequently as time goes on, and the baths used are of a higher temperature. Both in pneumonia and typhoid fever, temperature itself is not regarded as such a paramount symptom and one always to be energetically combated, as it was a few years ago. When, however the temperature reaches 104 F. a bath of about 85 F. is given two or three times in the twenty-four hours during the exacerbation of the fever. In the meantime, if symptoms of a profound nervous character supervene, then these baths are repeated at short intervals until the heat of the body is brought down. To guard against a hypostatic pneumonia, the patient is turned frequently upon his sides, and the spine and posterior aspect of the chest are frequently bathed with alcohol.

The bowels are regulated by rectal injections, but if they become decidedly constipated, a calomel purge is given. Vichy water is given freely to keep up the functions of the kidneys. Milk and animal soups are given to nourish the patient, and in Nothnagel's service, no solid food is allowed until the patient has been without fever for ten days. Some form of alcoholic stimulant is given during the whole course of the complaint; at first, a mild red wine, and if a more active agent is demanded, then cognac is resorted to. Other stimulants, as camphor, strychnin and the like, are only resorted to when the pulse becomes rapid and feeble. In case of hemorrhage from the bowels, an ice-bag is applied. Hypodermic injections of ergotin and morphin are given, and if the bowels will tolerate it, a few ounces of a 5 per cent. solution of gelatin is thrown into the rectum.

By what I have written it will be seen that for the management of typhoid fever, in Vienna, there is no treatment other than that of a symptomatic character. In Vienna they tell me that no one has typhoid fever who drinks only water brought from the Semmering. Here in Paris, the conditions are different, for last year they had a wide-spread epidemic of this fever, and I have seen cases of the disease in every hospital I have visited.

At the Andral, one-fourth of all the patients in the male wards were suffering from enteric fever. If you ask a French physician how he treats typhoid fever, he shrugs his shoulders in a significant manner, which means that he does not treat it at all; and he does not, as far as medicines are concerned. Though the plan has only been adopted for a few years, the French in Paris are now treating their cases of this disease with cold baths.

FACIAL NEURALGIA.

I was much interested in Dr. Moyer's late article in The Journal on the use of castor-oil in the treatment of this trouble, and all the more so as we were having some bad cases of this complaint, at that time, in the Allgemeine Krankenhaus in Vienna. Here, Prof. Gussenbauer is given the credit of having first discovered the benefits that are often derived from the administration of cathartics in this extremely painful complaint. As far back as 1886 he had a patient upon whom he intended to operate for the relief of this form of neuralgia.

As he usually does, before any serious surgical interference, he gave the patient a thorough cathardic of castor-oil and cascara sagrada. To the Doctor's surprise the man was so much better on the following day that the operation was postponed, and the cathartic being continued, the case recovered without the use of the knife. The theory entertained here as an explanation of the beneficial effects of this mode of treating facial neuralgia is that it eliminates certain toxic agents from the alimentary tract, which, being absorbed into the circulation, produce this disease.

As an aid in the accomplishment of this result, Gussenbauer later used freely warm-water injections into the bowels, and kept during several days cold applications upon the abdomen. Dr. Breuer, Nothnagel's first assistant, says that he has not found castor-oil better generally than other cathartic agents, and that he often prescribes large doses of calomel followed by one of the salines. But whatever purgative is used, its action must be most thorough, so as to empty completely the entire alimentary tract.

In three cases of this disease that I saw treated in our medical service, it acted well in two, but the third had to be sent to the surgical section to be operated on. I saw Dr. Ricard, of the St. Louis, in Paris, operate for the relief of two cases of obstinate facial neuralgia. He first chisels into the inferior maxillary bone just forward of its angle, exposes the dental nerve and resects about one-third of an inch of the same. He then cuts down upon the facial nerve where it emerges from the bone just under the eye, lifts it up and pulling upon it strongly, resects as much of it as possible. Dr. R. claims that by operating on both nerves in this manner, he does not have to resort to the more formidable operation for the relief of this trouble.

PROLAPSUS UTERI.

Doctor, I suppose you have had many a case of an old lady come to you with a prolapsed bladder, a rectocele and a prolapsed womb. What do you do for this poor, old, suffering mortal? As far as any surgical operation to relieve her is concerned, she is usually dead set against anything of that kind. An ordinary pessary will not remain in place, owing to the relaxed condition of the parts, therefore you must resort to one of the numerous stem instruments that are held in place by being fixed to some appliance that passes around the pelvis, and this appliance is a most uncomfortable one to wear. Among eminent gynecologists the management of this class of cases is as varied as the men you meet.

Schauta, in Vienna, treats these cases by a vaginal fixation and an anterior and a posterior colorrhaphy. His vaginal fixation includes a shortening of the round ligaments. 1. The first step in the operation is to deeply denude an oval-shaped surface that extends from the meatus down to the junction of the vagina with the uterus. 2. Open up into the peritoneal cavity by cutting, not tearing, the tissues that unite the anterior walls of the vagina to the womb. 3. Stitch your severed peritoneal edges to those of the vagina. 4. Introduce a retractor and raise the vesico-vaginal tissues high enough to bring the whole anterior aspect of the womb into view. 5. Catch the round ligament and folding it upon itself, sew the two folded surfaces together. 6. Pass two or three fine silk stitches through the anterior aspect of the womb and, after raising this organ as high up as possible, pass these stitches through the vaginal walls on each side, and tie them tightly. 7. Close up now the balance of your denuded vaginal surface, and this done, you have your anterior colporrhaphy completed. You have now only to do the operation on the posterior vaginal walls, and your case is supposed to be cured.

Terrier, of the Pitié, in Paris, says that this operation is ineffectual, and treats these cases by a ventral fixation of the womb, followed a month later by an anterior and posterior colporrhaphy. I asked the doctor what influence his ventral fixation had on a future labor if the patient became pregnant. He replied by poohing at the idea that it could have any bad influence on the process of parturition. He had probably never seen the report of the discussion of this subject before the New York Academy of Medicine, where the consensus of opinion among some of the best men in America was that this operation should not be done on any woman who was liable to become pregnant.

Richelot operates on these cases by first amputating the cervix if it is much elongated, and then narrowing the anterior and posterior vaginal walls. It is, however, upon the posterior colporrhaphy that he relies, and says that if this is well and thoroughly done, any other operation is scarcely ever needed. In doing this posterior narrowing he begins by making an incision at the margin of the skin, and dissects up a wide flap as high as the junction of the cervix with the vagina. He cuts away all this flap and then closes the parts with a single row of catgut sutures. I asked him if these cases did not often relapse, and he replied that about one in ten did, but a second operation like the last always puts the patient right again.

Where to do a hysterectomy is the rage, as it is here in Paris, one often sees this operation done to relieve the old lady of her prolapsed bladder, rectum and womb. Championnière tells me, however, that in his hands, this operation, to relieve these cases, has been a failure; for after the menopause the uterus is usually so small that it plays but an insignificant rôle in this trouble, and that hence, after you have removed the womb, the walls of the vagina still fall down, which leaves your patient in as bad a condition as she was before she was operated on. W. S. Caldwell, M.D.

Typhoid Fever in Camp.

Philadelphia, July 22, 1900.

To the Editor.—Referring to the correspondence between Dr. Vaughan and Dr. F. R. Packard, in which my name occurs as an authority for the statement concerning the absence of typhoid fever from the camp of Col. Biddle Porter's regiment, I beg to add a word. I pretended at Washington, and pretend now, to no original information on the subject. I cited from memory, with a qualifying phrase as to want of exactness, and an appeal for correction to a fellow member of the Association, the record of this regiment as published by the junior surgeon —Dr. F. R. Packard. This record, as so published, and as repeated by the responsible author in his letter to The Journal, is admitted by Dr. Vaughan to be correct. In the printed report of the discussion as correctly quoted by Dr. Vaughan, my remarks appear without qualification, and in so far as they exceed the record are to be modified.

The point made by me, and for evidence of which the remarkable record of this regiment was referred to, remains unaffected. The volunteer surgeons have been charged with responsibility for the occurrence of typhoid fever in the camps of the United States Army. This charge I believed, and still believe, to be without proof. It is admitted that the sanitation of the camps generally and the control of the men were, to say the least, defective. The question is who was responsible? I affirmed at Washington, and now reaffirm, that responsibility must lie with the executive authority and not with those having only advisory function—with the colonels, therefore, and not the surgeons. In proof thereof we have this one regiment, at least, in which the colonel did as the surgeons advised, and which was practically free from typhoid. Until it can be shown that in other regiments the colonels, the captains, and other line officers—the men having power, and therefore duty—were equally careful in draining and policing the camps in strict accordanace with the advice of the medical officers, it is unjust to assume that the latter were negligent. I have no other interest in the matter than truth and the fair fame of my profession; and I am sure Dr. Vaughan also has the same interests. Yours truly,

Solomon Solis-Cohen, M.D.

A Proprietary Medicine.

Ogden, Utah, Aug. 4, 1900.

To the Editor:—The owners of a certain secret proprietary remedy—known as antikamnia—have recently scattered broadcast among the laity of this city—and probably of other cities —untold numbers of "faith pictures," on the backs of which appear the many indications and explicit directions for the use of the stuff, accompanied by a glowing apostrophe to "Dear Doctor, may your faith never grow less, etc.," which I enclose.

It has long been a mystery to me how sensible physicians could prescribe such substances. The "faith picture" seems especially appropriate in this connection, considering the "working" propensities of both. Very respectfully,

H. B. Forbes, M.D.

Association News.

Is Your Address Correct?

A list of members of the American Medical Association will be published in an early number of The Journal. It is important that this list be correct, and we would, therefore, ask each member to examine the label on his wrapper and, if not correct, notify us immediately so that the name may be correctly printed in the list. Subscribers who are eligible for membership and desire to be enrolled are requested to make application at once so that their names also may appear in the published list.

American Medical Association.

The following are a few of the comments on the last meeting of the Association:

AMERICAN MEDICAL ASSOCIATION.

The meeting held at Atlantic City, N. J., June 5-8, was simply immense—the attendance closely approaching 2500, many of the delegates being accompanied by their wives, the occasion was most enjoyable. The place of meeting, with its many attractions at this season of the year, the hotel facilities, and the arrangements, were all most admirable. The general sessions were a little marred at first by the noisy accompaniments of brass bands on the pier, as well as some other noises from other avoidable sources, which when corrected left nothing to be desired. As a matter of course we can not pretend to give anything like a full report of even the general sessions; the work done, the number and attendance of the sections, will tax to some extent the resources of the Journal of the Association. —*Southern Practitioner*, July.

THE ATLANTIC CITY MEETING.

The Atlantic City meeting of the American Medical Association, held June 5-8, was the most successful, the best on record. More than two thousand were registered as delegates, and not less than ten thousand, including relatives and friends of doctors, were present during the week. . . . The weather was ideal, and Atlantic City is an ideal place for a convention. . . . The best registration facilities on record were furnished, and this partly accounts for the large registration. The writer had delightful experiences on all sides, every prospect pleased and not a single man was vile, but he heard many complaints from delegates on account of overcharging at hotels, the impression being made upon many that they would have fared better had they taken their chances as outsiders and not engaged rooms in advance as delegates.—*Medical Mirror*, July.

THE 1900 MEETING.

The largest, most earnest and industrious, as well as the most profitable and enjoyable meeting of the American Medical Association ever held, was that which convened in Atlantic City last month. It was a grand success, from every point of view. The greatest of health resorts was seen at its best, even the elements being propitious. The local committee surpassed itself in providing entertainments for the members and the ladies accompanying them, and everything was *en fete*. With such a host of attractions and distractions, it would have been scarcely surprising if the work of the sections had been somewhat neglected, and yet in each of them nearly every one of the long list of papers whose authors attended was read to better audiences than usual, and many of the discussions were remarkably interesting. The general sessions were also well attended, and the President's Annual Address, by Dr. Keen, the Oration on Surgery, by Dr. Rodman, that on State Medicine, by Dr. Vaughan, and that on Medicine, by Dr. Witherspoon, were all model papers which were listened to with eager attention. The increasing strength, activity and influence of the Association reflect credit upon its officers, and may well rejoice the heart of every American physician.—*International Medical Magazine*, July.

THE FIFTY-FIRST ANNUAL MEETING.

The fifty-first annual meeting of the national medical organization, held this year at Atlantic City, New Jersey, was the largest and one of the most successful in the history of the Association. The place of meeting was popular, well advertised, and accessible from the large centers of population in the Eastern and Middle States, thus insuring a good attendance. Atlantic City, early enough in the season to avoid the mosquitoes, is a delightful resort, with bracing ocean breezes and nothing to distract the attention from the meeting itself. There was some little complaint that the halls for the various sections were somewhat scattered, thus requiring a good deal of foot exercise on the "board walk," but that was a good fault. A worse fault was that some of the halls were noisy. However, the meetings in the sections, as well as in the general assembly, were largely attended, and excellent work was done. We can not recall ever having known more extensive and interesting programs or heard better papers or discussions. The president's address was a model, and should be read by every doctor in the land. If that portion of it relating to the endowment of medical schools could be circulated freely among people of wealth great good might in time result. One of the features of this meeting was the pathologic exhibit, collected under the supervision of the unofficial committee on pathologic section, of which Dr. L. Hektoen was chairman.

The social instincts of the doctors and their friends had been duly provided for, and the various entertainments and receptions were well attended and enjoyed. Ohio's new medical law created considerable interest and enthusiasm.—*Cleveland Medical Gazette*, July.

AMERICAN MEDICAL ASSOCIATION.

The officers and likewise the various committees of the American Medical Association are to be highly congratulated on the very successful way in which the fifty-first annual meeting was conducted at Atlantic City, N. J., during the present month. There was nothing to in the least mar the enjoyment or profit of the occasion, the weather was perfect, and the place selected for the various sections was ideal. Atlantic City is itself an island standing out in the sea, and it has two long piers extending far out over the water. On these piers are built several long auditoriums with smaller halls attached, giving ample room for the general session and nearly all section meetings, beside a place for the exhibits. The whole water front connecting these piers, and extending several miles, is traversed by a wide board walk, over which pedestrians can overlook the beach and sea.

The general sessions, which were held each morning at 10 o'clock, were well attended, and a large amount of business was transacted, including numerous improvements in the Constitution and By-Laws. The Constitution and By-Laws were so changed as to limit the papers in any one section to thirty, thus affording more time for discussion. At this meeting, as at many others, the papers were all read very hurriedly, and many of the authors were unable to complete their reading for lack of time. Discussion was very much curtailed in many instances. With the number of papers reduced almost one-half, we should certainly have better and more exhaustive discussions. This is a movement in the right direction.—*The Medical Fortnightly*.

Book Notices.

Injuries to the Eye in Their Medico-Legal Aspect. By S. Baudry, M. D., Professor in the Faculty of Medicine, University of Lille, France. Transated from the original by Alfred James Ostheimer, Jr., M. D., Philadelphia, Pa. Revised and edited by Charles A. Oliver, A. M., M. D., attending surgeon to the Wills Eye Hospital, Ophthalmic Surgeon to the Philadelphia Hospital. With an adaptation of the medicolegal chapter to the courts of the United States of America, by Charles Sinkler, Esq., member of the Philadelphia bar. Cloth, pp. 160. Price $1.00. Philadelphia, New York, Chicago: The F. A. Davis Company. 1900.

The importance of the mediolegal aspects of injuries to the eye are brought forcibly forward by Baudry in this little book. As many injuries to the eye produce different degrees of dimness of vision even to total blindness, and as the same conditions may also be brought about by natural causes, it becomes necessary quite often that the expert witness should thoroughly appreciate the similar and dissimilar conditions as results from trauma or otherwise. While the book is one of only 160 pages, the subject is exhaustively treated and will be of value to ophthalmologists who may be called upon to give expert testimony in the class of cases referred to.

Duane's Medical Dictionary. New (third) edition. A dictionary of medicine and the allied sciences. Comprising the pronunciation, derivation and full explanation of medical, pharmaceutical, dental, and veterinary terms; together with much collateral descriptive matter, numerous tables, etc. By Alexander Duane, M. D., assistant surgeon to the New York Ophthalmic and Aural Institute; reviser of medical terms for Webster's International Dictionary. In one large square octavo volume of 656 pages, with 8 full-page colored plates. Cloth, $3.00 net; full flexible leather, $4.00 net: Lea Brothers & Co., Philadelphia and New York.

The third edition of this compact dictionary is thoroughly up to date, a quality of no mean importance in these times when new names, new products, and almost new sciences are sprung on us every week or two. The old spelling is rigorously adhered to, the diphthongs being as evident as they were in the first edition published. Modern spelling is evidently not heartily endorsed by Dr. Duane.

Clinical Studies in Epilepsy. From the Craig Colony for Epileptics at Sonyea, New York. By L. Pierce Clark, M. D. Paper, pp. 230. Reprinted from Archives of Neurology and Psychopathology.

This volume is a reprint of three long articles from the *Archives of Neurology and Psychopathology*, a publication which we hope will not be discontinued. The first paper, covering more than one-half the book, treats of exhaustion paralysis associated with epilepsy. The author's conclusions are that the theory of exhaustion paralysis is proved both by physiologic experimentation and pathologic data. It is localized to parts participating in the local spasms or confined to those parts most convulsed in the general seizures. This rule will be found to be followed in the great majority of cases. The temporary paralysis may become permanent and it is not necessary to invoke any other state than exhaustion to explain it. It is essentially the exhaustion of cerebral centers, and the severity of the convulsions is not a fair index to its extent. True exhaustion cases dependent on infantile palsy are not common. The differential diagnosis of the two states is extremely difficult but very important, because the exhaustion cases, independent of organic lesions will bridge over the wide breach existing between Jacksonian epilepsy and idiopathic epilepsy. The disorders of motility of this nature suggest some noteworthy points. The degenerative process is closely allied to that of ordinary paralytic states. It must be allowed however, that the epileptic brain is an infirm organ, and we should not charge to the cause of epilepsy more than that which may be due to previous disability of motor centers. He thinks that there is much suggestive of epileptic foci of a paralytic nature in the brain and that different anatomic and physiologic parts may be simultaneously involved. The inefficiency of passive movements, massage, etc., to shorten or prevent epileptic spasms is especially noted in conclusion. The rest of the book is given up to papers on paramyoclonus multiplex, and hypertrophic infantile cerebral palsy and phocomelus as associated with epilepsy, both of which are noteworthy contributions.

Enlargement of the Prostate. Its Treatment and Radical Cure. By C. Mansell Moullin, M. D., F. R. C. S., surgeon and lecturer on surgery at the London Hospital. Second edition. Cloth, pp. 205. Price, $1.75. Philadelphia: P. Blakiston's Son & Co. 1899.

In this second edition the author has omitted a number of operations on the prostate which were described in the previous one and were chiefly of historic interest. Those which he retains he says he knows are of practical value. The book therefore, will stand as giving his recommendation to the measures it includes. We notice that he speaks highly of orchidectomy, but sees little results from vasectomy, which has been lately favored by some prominent writers. In the main, however, the work is one that could be accepted by the profession, not merely on the authority of its author, but as a sensible, practical treatise on the subject.

A Practical Treatise of Diseases of the Skin, for the Use of Students and Practitioners. By James Nevins Hyde, A. M., M. D., professor of skin, genito-urinary, and venereal diseases, Rush Medical College, and Frank Hugh Montgomery, M. D., assistant professor of skin, genito-urinary and venereal diseases, Rush Medical College. Fifth and revised edition. Illustrated with three engravings and twenty-four plates in colors and monochrome. Cloth, pp. 863. Price, $4.50. Philadelphia and New York: Lea Brothers & Co. 1900.

As the publisher states, the history of this work is one of growing appreciation and success; the last edition has been entirely exhausted within two years. The author has added new chapters on porokeratosis and blastomycetic dermatitis, and has generally revised a portion of the work and eliminated certain portions which seemed to him of less value. Twelve full-page plates and two engravings have been added to the illustrations. There is no doubt that this revision will maintain its deserved favor with the profession.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Vol. IV. January, 1900. Edited by Andrew J. McCosh, M.D., and W. Gilman Thompson, M.D. Paper. Pp. 223. New York: Trow Directory Printing and Bookbinding Co. 1900.

This report consists of twenty-two original articles, occupyin 223 pages. The articles deal with subjects of current medical and surgical interest, and are based upon cases treated in the hospital. The report is illustrated with photographs and drawings. From the quality of the articles and the subdivisions of the medical board and of the staff of the pathologic department, it is seen that this hospital is well organized and equipped. Medical and surgical registrars are provided for, and good arrangements have been made for securing and classifying the clinical records—a fundamental requisite for proper study of the material. The pathologic department has a large staff of workers.

International Contributions to Medical Literature. "Festschrift" in Honor of Abraham Jacobi, M.D., LL.D. To commemorate the Seventieth Anniversary of His Birth. Paper. Pp. 496. New York: The Knickerbocker Press. 1900.

The nature of this book is sufficiently indicated by the title. It contains 496 pages, and there are some fifty-seven different articles by about the same number of contributors, the majority of whom are Americans; but Germany, England, France, Norway, Hungary, Russia, Brazil, are represented. The majority of the foreign contributors are Germans. Many of the articles are illustrated; the majority deal with various phases of the medical and surgical diseases of childhood; but not a few are devoted to other subjects. The list of contributors contains many names of prominence. An excellent etching of the recipient of this great honor forms a fitting frontispiece. The preface is a well-written sketch of the manifold, scientific and public-spirited activities of Dr. Jacobi. His brilliant attainments and strong personality certainly warrant this appropriate testimonial in his honor. His services in promoting the study of diseases of children have been of inestimable value to the medical profession.

Plea for a Simpler Life, and Fads of an Old Physician. By George S. Keith, M.D., LL.D., F. R. C. P. E. Price, $1.25. London: Adam and Charles Black. 1900.

Good, wholesome criticism is always a benefit to the one criticised, if the criticism is made and accepted in the right spirit. This remark applies to a profession as well as to an individual. The "Plea for a Simpler Life, and Fads of an Old Physician"—two books in one—is more than a criticism, it is an indictment of the medical profession by one who was once a member of it. And we must confess that some of the items in the "bill of particulars" are founded on good grounds, and therefore, the plea of "guilty" must be admitted. The author, a brother of the well-known surgeon, the late Thomas Keith, of Edinburgh, was associated with Sir James Y. Simpson, and at one time was proud to be a member of the medical profession. But now he neither proclaims the honor, nor acknowledges the pride. In spite of the fact that he says some harsh things of them it would be a good thing if all physicians would read his book. It is full of good common sense and practical wisdom, and, above all, much of what it contains is truth. His great plea is for plainer living, for less food, especially in sickness, and for less drugs. His protest against forced feeding should be read by every thinking physician. His fads are innocent, but nevertheless valuable ones in their places. The author is an extremist in many ways, and many of his statements are to be resented, still, in these days of high living, which is the cause of so many of the prevailing diseases, the book is well worth reading.

The Refraction of the Eye. A Manual for Students. By Gustavus Hartridge, F.R.C.S., Senior Surgeon to the Royal Westminster Ophthalmic Hospital. Tenth Edition. Illustrated. Price, $1.50, net. 12mo. Philadelphia: P. Blakiston's Son & Co. 1900.

The fact that this work has reached the tenth edition in six years tells its own tale. As its title indicates, it is concerned only with errors of ocular refraction and the fitting of glasses, ophthalmic diseases and operations being excluded. The work appears to have been thoroughly revised and additions made to keep it scientifically up to date. The metric system is used throughout.

One pleasing feature is that the chapter on retinoscopy has been divided into two parts, explaining the use of concave and plane mirrors, respectively. It thus prevents the beginner from being misled by teachings that are not intended for his particular mirror, for the reason that the movements of the shadows are reversed in the use of the two reflectors.

The Principles of Treatment and Their Application in Practical Medicine. By J. Mitchell Bruce, A.M., M.D., F. R. C. P., physician and lecturer on the principles and practice of medicine, Charing Cross Hospital. Adapted to the United States Pharmacopeia by E. Quinn Thornton, M. D., demonstrator of therapeutics, pharmacy, and materia Medica, Jefferson Medical College, Philadelphia. Cloth, pp. 614. Price, $3.75. Philadelphia and New York: Lea Brothers & Co. 1900.

We have here an English work revised and adapted to the American Pharmacopeia. The author was led to its production by observing the difficulties which most students, especially those who have received a modern education in medicine, find in adapting themselves to the practical treatment of disease. He has used here the course which he has followed in his teaching in the class-room and at the bedside, calling the attention of the students, first, to the objects of treatment, and afterward discussing the selection of medicinal and non-medicinal measures required. The first part of his book, therefore, is a general discussion of the principles of treatment, founded on etiologic, pathologic, and clinical character and the cure of the disease, the personal factor in the patient, and the proper relation of therapeutics to medicine. The two concluding chapters of this section deal with the means of treatment, food, rest, exercise, and with therapeutic procedure. In the second portion we have a number of leading diseases thus taken up and discussed. There are separate chapters for each of these, with the general symptoms and indications of the disorder, followed by outlines of practice with general directions as to the measures to be taken from the first visit, containing also formulas that will be of value. The book will find its place and use in the library of the young practitioners, and many older ones may also find it suggestive.

Horseless Vehicles, Automobiles, Motor Cycles. Operated by Steam, Hydrocarbon, Electric and Pneumatic Motors. A Practical Treatise for Automobilists, Manufacturers, Capitalists, Investors, and Everyone Interested in the Development, Use and Care of the Automobile, Including a Special Chapter on How to Build an Electric Car. With Detail Drawings. By Gardner D. Hiscox, M.E. With 316 Illustrations. Price, $3.00. New York: Norman W. Henley & Co. 1900.

If automobiles ever become practical on all kinds of roads, physicians as much as any class will be benefited. No matter what the future may develop, it can not yet be said that the horseless carriage is able to take the place of the old, reliable four-footed motor. Nevertheless in the cities, and where there are good roads, the horseless carriages are becoming quite popular, and many physicians who are favorably situated are investigating and using them. The literature on the subject is not at all voluminous as yet, and for this reason if for no other this work of Hiscox ought to have a large sale. It gives the history of the progress of the horseless vehicle from the beginning, covering steam, electricity, hydrocarbon vapor and compressed air as the motive power. It is fully illustrated, the illustrations containing full and minute details of the construction of practically all classes of motor vehicles made in this country or Europe, together with half-tones of all the most important kinds of the vehicles in use in the different countries. The detail of construction is gone into fully, almost too much so for those not versed in mechanics. But as a full understanding of all the parts and mechanism, even to the smallest details, is necessary for those who expect to run them, this is of decided advantage after all. The management of the various motors is also thoroughly explained.

Deaths and Obituaries.

Elisha Chenery, M.D., died at his home in Boston, August 1, aged 71 years. He was graduated from Harvard Medical School in 1853 and practiced in Maine until 1862, when he entered the army as a surgeon. He was soon obliged to resign on account of ill health and return to Maine. In 1866 he returned to Massachusetts and practiced in Cambridge and Boston until shortly before his death. He was a member of the local medical societies and of the American Medical Association. From 1876 till 1880 he was professor of pathology and therapeutics and dean of the faculty of the Boston Dental College, and from 1881 till 1885 professor of the principles and practice of medicine in the College of Physicians and Surgeons, Boston.

Benjamin Howard, M.D., died recently in Elberon, N. J., aged 64 years. He was graduated from the medical department of the University of New York in 1858. After serving as surgeon in the Civil War, he practiced his profession in New York City, where he was professor of surgery in the Long Island College Hospital and lecturer on the same subject in the University of New York. In 1877 he was made a member of the Royal College of Surgeons of England, and two years later a Fellow of the Royal College of Surgeons of Edinburgh.

Samuel A. H. McKim, M.D., of Washington, D. C., after an illness of two years, died July 26 at the age of 74. He was graduated from the National Medical College—Medical Department of Columbian University—in 1852, and practiced continuously in Washington until 1898, with the exception of the time of the Civil War, for which he was one of the earliest volunteers. He served for a quarter of a century as surgeon to the police department and from 1890 till 1898 he was captain and surgeon in the National Guard of the District of Columbia.

Richmond Joseph Southworth, M.D., College of Physicians and Surgeons, N. Y., 1866, died in Washington, D. C., August 2. He was a son of Mrs. E. D. E. Southworth, the well-known novelist. During the Civil War he was an acting assistant-surgeon, U. S. A., and subsequently served on the staff of the Nursery Hospital, Randall's Island, N. Y., as well as on that of St. John's Riverside Hospital, Yonkers, N. Y. He was located in Yonkers until his removal to Washington.

Buell G. Streeter, M.D., died in Glenns Falls, N. Y., July 25, aged 68 years. During the Civil War he was assistant-surgeon of the Ninth New York Cavalry, surgeon of the Fourth Cavalry, and medical director of the Army of the Shenandoah. When the army was mustered out he located in Granville, but two years later moved to Glens Falls, where he had since practiced.

Elizabeth L. Denel, M.D., died at Harper Hospital, Detroit, Mich., after a short illness, August 1, aged 55 years. She was graduated from the Medical Department of the University of Michigan in 1875, and since resided in Detroit. She was an earnest, progressive worker in her profession and was an active member of the Protective Agency for Women and Children.

Harved C. Brown, M.D., Old Town, Maine, died suddenly at Foxcroft in that state, from heart disease, July 27. He was graduated from the Medical Department of Bowdoin College in 1895, and served as surgeon to the Canadian Pacific Railway for two years, after which he located in Old Town.

William Joseph Woodruff, M.D., who had practiced in Providence, R. I., since 1896, died of heart disease in that city July 28, aged 30 years. He was graduated from Albany Medical College in 1894, winning the Vanderpool prize of the year, and an interneship at the Albany General Hospital.

Louis G. Voigt, M.D., Freeport, Ill., died from gastric ulcer on August 1, aged 59 years. He was graduated from the New York University Medical College in 1866, and at once located in Illinois. He was county physician for several years and a member of the Stephenson County Medical Society.

W. S. Matthews, M.D., Fort Madison, Iowa, was found dead July 31, aged 49 years. The verdict of the coroner's jury was "apoplexy superinduced by heart disease." He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1882.

J. A. Houtz, M.D., died at his home in Loganston, Pa., July 24, aged 54 years. He was graduated from Jefferson Medical College in 1871 and, with the exception of one year spent in Philadelphia, he had practiced his profession in Loganston.

George Edelmann, M.D., a graduate of Jefferson Medical College, died at the City Hospital, St. Louis, Mo., on July 19. He was a surgeon during the Civil War, and claimed a share in the experiments which led to the discovery of chloroform.

James McConaughy, M.D., died in York, Neb., July 18, aged 90 years. He was graduated from Jefferson Medical College in Philadelphia. He practiced medicine in Mt. Pleasant, Pa., for forty-five years, and in 1886 removed to York.

Paul M. Day, M.D., Detroit, Mich., died from overdose of aconite, August 1, aged 29 years. He was graduated from the University of Michigan in 1893 and from the medical department of the University of Pennsylvania in 1895.

John L. Howell, M.D,. died in Morristown, Tenn., on July 30, from carbuncle. He was 46 years of age, and was graduated in 1877 from Louisville, Ky., Medical School, and practiced thereafter in Morristown and Knoxville, Tenn.

Thomas J. Boyles, M.D., who had practiced in Houston, Tex., for the past twenty-seven years, died there July 22, aged 50 years. He was graduated from the Medical Department of the University of Alabama in 1871.

David A. West, M.D., Lexington, Mich., died August 1 from cancer of the liver. He was graduated from Trinity Medical College, Toronto, in 1866, and had practiced in Lexington for nearly thirty years.

Frederick W. Hulseberg, M.D., acting assistant-surgeon, U. S. A., was killed at Majajay, Luzon, P. I., August 1. He came from New Haven, Conn., and had arrived at Manila only six weeks before.

J. N. Sipe, Booneville, Ark., died on July 26. He was a graduate of the medical department of Vanderbilt University, Nashville, Tenn., of the class of 1876.

Peter C. Rundio, M.D., of Williamsport, Pa., died August 1, aged 76 years. He was graduated from Jefferson Medical College, Philadelphia, in 1852.

M. G. Curtain Englar, M.D., a graduate of the Baltimore University School of Medicine, in 1898, died in that city July 30, at the age of 27.

Raphael A. Edmonston, M.D., assistant-surgeon, U. S. A., died June 2, in the Second Reserve Hospital, Manila, P. I., from blood-poisoning.

J. M. Jeffries, M.D., who had practiced medicine for fifty years in Scottsville, Albemarle County, Va., died July 29. He was 70 years of age.

James Stoughton, M.D., passed assistant-surgeon U. S. N., was drowned at Shanghai, August 5. He was with the gunboat *Castine*.

Sanford G. Riley, M.D., of Hamilton, Ga., died August 1. He was graduated from the Atlanta Medical College, in 1879.

R. Fargus Carmichael, M.D., house surgeon at the General Hospital, Kingston, Ont., was drowned on July 28.

DEATHS ABROAD.

The death of **Dr. E. Anders**, June 23, is reported from St. Petersburg. He was the well-known Russian authority on pediatrics and orthopedics, although he had barely reached his fiftieth year.

Dr. H. Dohnberg, professor of ophthalmology at St. Petersburg, was shot and killed by a military officer to avenge a private injury, according to accounts in the lay press.

The death is also announced of the Danish professor of chemistry, **Dr. J. Kjeldahl**, whose name is familiar by his method of estimating the amount of nitrogen in the urine.

Norbert Fafard, M.D., professor of chemistry and toxicology in the University of Laval, Montreal, died recently, aged 53 years.

George S. Gregory, M.D., M.R.C.S.E., Kensington, Eng., died July 9, aged 88 years.

Progress of the Plague.—A telegram from Constantinople states that the bubonic plague is spreading rapidly at Symrna, seventeen new cases, and seventeen deaths since the last report. The *Gaz. Méd. de Paris* observes that many of the steamers in the eastern Mediterranean have no appliances for distilling water, and that the ships obtain their supplies from shore as usual, although the plague is officially announced at Aden, Suez and Port Said.

Thirteenth International Medical Congress.

Held at Paris, France, August 2 to 9, 1900.

(By Cable from our Special Correspondent.)

Paris, Aug. 3, 1900.

The Congress convened for its inaugural session at 2 o'clock, August 2, in the magnificent *Salle des Fetes* in the *Champs de Mars*. The hall, while grand, was too large, and it was difficult to hear the speakers. President Loubet, who had been expected to welcome the members of the Congress, was unable to be present on account of the assassination of the King of Italy.

Prof. Lannelongue, president of the Congress, in his address applauded the usefulness of international gatherings of physicians on account of the mutual interchange of ideas, etc. He advocated a universal classification of medical terms. This was gradually being accomplished, and no divergence from recognized language—no volapük—was required for this purpose. It was the pride of France to consider that the first International Medical Congress was held in Paris—in 1867. The results of the closing century in medical progress and research had been marvelous, and the harvest was now being gathered.

M. Monis, minister of justice, then addressed the Congress, welcoming the members on behalf of the government.

Dr. A. Chauffard, secretary-general, made a report of the work done by his department in the organization of the Congress. He announced that it had a membership of 6000, of whom 350 were Americans, and that 260 reports and 1200 communications had been received.

Addresses were then made by delegate representatives of the various nations: Von Bergmann, Germany; Albert, Austria; Sir William MacCormac, Great Britain; Kitasato, Japan; Stokvis, Holland; Jonnesco, Roumania, and Riverdin, Switzerland. No reply was made on behalf of Italy, on account of the national bereavement.

Prof. Virchow, Berlin, then delivered the first scientific address of the Congress on "Traumatism and Infection."

In the section of Dermatology and Syphilography, the first subject for discussion was "The Parasitic Origin of Eczema." Unna, of Hamburg, criticised the classification of the cocci as insufficient and artificial, and recommended one based on special methods of coloration. The etiologic rôle of the parasite should be tested by inoculations. He had found numerous micro-organisms in eczema, which, on inoculation, reproduce the disease. The work of the future should be along these lines. Eczema is a contagious disorder and is probably under certain conditions epidemic.

James Galloway, London, had found cocci in eczema, though he has not sufficient evidence to consider them positively the specific origin of a disease. The later origin is probably staphylococcus aureus, but more than one factor is at work. The first factor is the predisposition of the skin to the growth of parasites; and the second, imperfect metabolism.

L. Brocq, of Paris, concluded that the vesicular, typical, primary lesion of true eczema is amicrobic; the surface of the eczema is promptly invaded by microbes of secondary infection, capable of creating their own lesions, which are of a microbic nature, and may obscure the symptomatic picture of a condition of which they are never the primary cause.

In the Section of Neurology, Pick, of Prague, read a paper entitled, "Various Points in the Study of Aphasia." in which he considered the auditory and language centers. Ladame, of Geneva, then spoke of pure motor aphasia.

On Friday the subject for discussion in this section was "The Centers of Projection and Association in the Human Brain." Flechsig, of Leipsig, and Hitzig, of Halle, in their remarks, did not agree with, and strongly criticised the views of, Von Monakow, of Zurich.

The first discussion in the Section of Therapeutics, Pharmacology, and Materia Medica was on the "Treatment of Biliary Lithiasis." and was opened by Naunyn, of Strassburg, who considered, in his remarks, the origin and course of biliary calculi, and pointed out that many of the so-called cures were only apparent, as the disease remained latent, and was liable, later on, to give further trouble. He believes that surgery alone furnishes a complete cure, but that even this was not always certain. Medicinal treatment should be directed toward an increase of the flow of bile.

Gilbert and Fournier, of Paris, detailed the nature of the disease, the cures and pseudo-cures, and the prophylaxis. They thought that mineral water was sometimes efficacious, but agreed that in case of obstruction, the aid of surgery should be invoked. Operations for this condition had been made much less perilous by the recent improvements in technique.

Carvello then read a paper on the "Treatment of Tuberculosis," in which he gave in detail his results following the administration of trioxymethylene, chloral, terpene hydrate, and iodoform, in this disease.

Doleris, of Paris, presented a paper before the Section of Obstetrics on the "Etiology and Nature of Puerperal Infections," in which, after mentioning the heterogeneous infections, he spoke of the autogenesis of puerperal septicemia, due to the transformation of certain so-called saprophytic germs, preexisting in the secretions, and the possibility of their generalization after parturition without new external infections.

Menge and Krönino, of Leipzig, thought that autogenous infection from anaerobic vaginal bacteria was improbable, that it must be rare, and that the prognosis should be favorable. Bacteria from the external genitalia might produce trouble, but no such organisms live in the cervix, the uterine cavity, or tubes. They considered heterogeneous infection the most important, and that air-contact played only a small part. The chief danger lay in the hands of the operator, and the primary seat of infection is found in wounds of the perineum and adjacent structures.

Pestalozza, of Florence, was opposed to vaginal disinfection when the patient was healthy. Even when infection has previously occurred he advises against post-partum examinations, and against uterine and vaginal irrigations.

Paris, August 4.

In the Section of Psychiatry the first subject for discussion under the head of Mental Pathology was the "Psychoses of Puberty." The first paper was read by Marro, of Turin, who stated that hebephrenia caused gastric disturbances. Voisin, of Paris, considered this condition should be distinguished from progressive general paralysis, and Ziehen, of Jena, mentioned the frequency of insanity in youth, and the importance of regular life and habits in the treatment of this condition.

"The Nature and Causation of Tendinous Reflexes" was the first subject of the day in the Section of Neurology. Papers were read by Sherrington, of Liverpool, and Jendrassik, of Budapest, and the discussion was participated in by Van Gehuchten and Roubinovich.

In the Section of "Medicine of Infancy" (Pediatrics), artificial lactation, and, in particular, the use of sterilized milk, was the chief subject of discussion.

Dr. A. Jacobi, of New York, spoke of artificial foods, and said that the results of the analysis of human milk are never identical, and that, therefore, the demand for an exactly equivalent substitute is unjustifiable. Nature is more liberal in allowing latitude than the chemist. Heat both improves and injures milk. Boiled, pasteurized, or sterilized cow's milk is never woman's milk. The process of sterilization is indispensable because it destroys pathogenic bacteria. The artificial food of the infant should be amply diluted, because of the heterogeneous composition of cow's milk. He considers home-made foods preferable to the proprietary foods of the market.

O. Huebner, of Berlin, in considering the artificial feeding of infants, said that the intestine of the child was able to digest cow's milk, but with greater labor than was required for human milk. The greater quantity of proteids presents some difficulties, and the asepsis should be strict.

Monti, of Vienna, in discussing the scientific principles for the production of a food equivalent to human milk, pointed out the difference between the artificial and natural feeding of infants, and mentioned the modification that should be made in cow's milk. The addition of soluble albumin and alkalies, modification of fats, addition of sugar, and neutralization of germs, were among the points noted.

A. Johannessen, of Christiania, made a report on the sterilization of milk, and the way in which it should be used, which covered similar grounds.

G. Variot, of Paris, spoke of the methodic employment of sterilized milk in great cities. In his experience at the Hospital for Sick Children he found that not only healthy children take this food well, but that more than three hundred, who presented more or less marked atrophies, had used it successfully, and furthermore that out of more than eight hundred nurslings they had not a single case of Barlow's disease. Rachitis was very exceptional, but obstinate constipation and anemia were not rare. A. D'Espine, of Geneva, Marfan, of Paris, Escherich, of Graz, and Sevestre, of Paris, joined in the discussion.

On Saturday a symposium was held on "Gastrointestinal Infections and Intoxication of Early Infancy." Escherich, of Graz, described the rôle of microbes in the gastrointestinal diseases of nursing children—ectogenous infections and intoxications—and spoke of the bacteriologic work in that direction which had been done in his clinic. He distinguished between intoxication due to ectogenous decomposition, chyme infection, and infectious diseases of the intestines.

A. Baginsky, of Berlin, considered the subject from the point of view of pathologic anatomy. He classifies these affections as, 1, functional troubles, of which acute dyspepsia is the type; 2, anatomic alterations, which include catarrhal lesions, such as subacute dyspeptic catarrh, infantile cholera, chronic gastrointestinal catarrh, and intestinal atrophy, and folliculitis from the simple form to the grave infectious variety, with dysentery. He then took up the causation of gastrointestinal morbid processes from direct action of intestinal microbes, the action of toxins formed under the influence of these microbes, the action of saprophytic microbes, and from toxic substances in food.

F. Fede, of Naples, had made a particular study of the symptoms and treatment of the chronic forms of gastrointestinal affections and intoxications of nursing children. The dominant symptom is frequent diarrhea. Much may be learned from inspection and examination of the bowel movements, their consistency, odor, presence of blood, micro-organisms, etc. Marked respiratory, glandular, nervous, renal, and cutaneous phenomena attend intestinal intoxication; the clinical forms vary. Hygiene and diet are the first rules of treatment. He then sketched the medicinal treatment, which was, in the main, symptomatic.

Marfan, of Paris, made a report on the etiology and pathogenesis of infantile gastroenteritis. He recognizes four classes of this disease, viz., dyspeptic, primary infectious, primary toxic, and secondary.

In the Section on Surgery of Infancy the first symposium was on "The Treatment of Congenital Luxation of the Hip." The discussion was opened by A. Hoffa, of Würzburg, who spoke of the operative treatment of this condition, and presented the possibilities and advantages of the Hoffa-Lorenz operation.

A. Lorenz, of Vienna, followed with a paper on "The Bloodless Treatment of Congenital Dislocation" at this point, which he prefers to operative treatment, as the latter is still dangerous. Bloodless reduction, under narcosis, overcomes all difficulties which appertain to operative and apparatus treatment. It is performed without instruments, by means of horizontal or vertical extension, the latter being preferable. The anatomic result thus far has been good in about one-half of all cases, but even in the cases where the anatomic results have not been satisfactory, the functional results have been excellent and superior to those following operative interference. Should the bloodless reduction be unsuccessful, the operative reduction by means of arthrotomy can still be performed.

Kirmisson, of Bordeaux, recommends orthopedic apparatus for relief of this condition, applied at an early age. The apparatus he suggests is not based on the plan of Dupuytren's cincture, but takes in the thigh and pelvis and keeps the limbs in moderate abduction. The apparatus is the same as that employed in coxalgia. He considers that the results will demonstrate this to be the treatment of the future for congenital luxation.

Severean, of Bucharest, made a report on cocain anesthesia by injection into the vertebral column. He criticises the method severely. Tuffier gives statistics of 5 deaths in 125 operations in which this method was employed. In one case the death was due to mitral regurgitation. He considers that there may be use for the method when general narcosis is contraindicated.

Dr. Fenton B. Turck, Chicago, in the Section of General Surgery, read a paper on "Prevention of Shock and Infection During Operation," which embodied reports of a series of experiments which show that germs inoculated in animals when in shock proved pathogenic, but when not in shock they were non-pathogenic. Experiments proved that hot applications, made on animals when in shock, resuscitated and no infection resulted. Author is convinced that the application of hot-water bags in the cavity, added to the usual aseptic precautions, will prevent shock and lower mortality after operations.

Ceccherelli, of Parma, read a paper on the "Surgery of the Pancreas." We meet considerable difficulty in its complete extirpation, by reason of its anatomic relations, being deeply placed in intimate connection with other viscera, very rich in vessels and nerves, and discharging a very important digestive juice. The extirpation is not rational if it is to remove a tubercular or syphilitic process. The operation should be executed in such a manner as to leave one of the two canals. Cysts are the most common tumors. Pancreatic calculi should be removed. An affection carefully studied of late is necrosis of the pancreas; necrotic fragments should be eliminated by the surgeon. If the opening of the canal into the duodenum is stopped, a new way may be made. Hemorrhages may take place without wounds, occurring most often after gangrene. The sutures through the parenchyma are tolerated as in the kidneys, liver and spleen. The union of wounds takes place by proliferation of pre-existing cells and especially of the connective tissue. After the complete removal of the pancreas, we find a great development of the glands of Galeati—crypts of Lieberkuehn—and especially a karyokinetic increase of their epithelium, which leads us to suppose, according to experiments of Martinotti, that it can replace the extirpated viscus. The flow of the pancreatic juice into the abdominal cavity does not cause peritonitis, because its absorption is rapid; like the bile, it is harmless if healthy, harmful if contaminated. In the extirpation of the organ, care should always be taken to make ligatures preceding the incision to avoid hemorrhages and out-flow of the juice. The thermocautery and galvanocautery should not be employed, because neighboring parts may be injured by radiation of heat and by sear pressure.

Mayo Robson, Leeds, read a paper on "Pancreatic Surgery." He believes that pancreatic affections are more common than generally supposed. He dwelt on the importance of posterior drainage in acute or suppurative pancreatitis. He has seen fifty-nine cases of cancer of the pancreas, which rarely occurs under 40 years of age. He calls attention to the importance of distinguishing between cancer of the head and tail of pancreas. Hopeless prognosis should not be given till surgery has been tried. For pancreatic cyst he advocates incision and drainage, which he has done in four cases with three recoveries. Pancreatitis he divides into suppurative, hemorrhagic and gangrenous. Bacterial infection is the immediate cause, but gastroduodenal catarrh, injury, and biliary lithiasis must be considered. Chronic intestinal pancreatitis is an important disease and is often mistaken for cancer of the head of the pancreas. The author believes that the time will soon come when disease of the pancreas will be given the attention that it deserves.

Prof. Dieulafoy, Paris, in the section on Internal Pathology, read a paper on "Gastric Ulcerations," in which he notices the prominent types of gastric ulcers, the minute erosion, and the still larger mucosal abrasions—exulceratio simplex—both of which may cause hematuria and in the latter case sometimes fatal ones—the simple ulcer of Cruveilhier (ulcus simplex) with a tendency to hemorrhage and perforation. The specific ulceration of tuberculosis and syphilis may end as this form. Cancer may result from gastric ulcer. The pathogeny of these lesions is not yet fully elucidated; their treatment varies according to the case, medical, specific or surgical.

Ewald, Berlin, in consequence of the resulting perigastritis, considers that surgical interference is the only good treatment.

Cohnheim, Berlin, mentioned the use of large doses of oil in organic or functional stenosis of the pylorus and duodenum.

Mathieu, of Paris, read a paper on "Treatment of Mucomembraneous Colitis," in which he said that constipation is the rule in this disease; indeed, it may be both the cause and effect. A neurotic predisposition intensifies it. Locally, the nervous habit brings on hyperesthesia of the intestines generally and vitiates their mobility; this is especially the cause of the spasms. The disappearance of constipation is at once the sign and warrant of cure. He employs means of cure which do not augment the irritation of the secretions, the painful phenomena and the tendency to spasm. Castor-oil, lavage and belladonna are especially useful. The latter calms the pain and combats the tendency to spasms; more rarely is opium or its derivatives used.

Boas, of Berlin, read a paper on "Symptoms, Diagnosis and Clinical Course of Mucomembraneous Colitis," noticing three forms, viz., catarrhal, mucous colic, and artificial mucomembraneous colitis. The symptomatology is colic, constipation, spasmodic atony of the intestines, membraneous masses in the stool and a general nervous state. The only constant symptom is constipation, and that with the characteristic mucus is the only thing that is pathognomonic. The diagnostician must determine whether it is an idiopathic or complicating affection, and it is also of importance to find the artificial cause. Differential diagnosis is only possible between mucous colic and the other form. The clinical course is parallel to that of habitual constipation. What will correct one, cures the other.

Langenhagen, of Plombières, regards pains as absent in one-fifth of the cases.

Netter, of Paris, stated in a paper on "Acute Non-Tuberculous Meningitis," that we should not insist too strongly on the value of Kernig's sign, namely the impossibility of completely extending the legs when the patient is sitting. This sign seldom fails in non-tuberculous cases, and is observed in the majority of tuberculous cases, hence we can not rely on it as a means of establishing the nature of meningitis. Quincke's lumbar puncture furnishes for diagnosis of meningitis the best instruction. It presents no seriousness provided the withdrawal of the liquid is not made too suddenly. The diagnosis of meningitis will be evident if the liquid is turbid or purulent, or if it contains clots. Very often the liquid drawn appears at first quite clear, but it nevertheless immediately forms a fibrinous coagulum. The hot bath, introduced par Aufrecht, constitutes an excellent means of treatment. In suppurative cases repeated lumbar punctures will render service.

Küster, of Marburg, read the first paper in the symposium on "Conservative Operations in Renal Retention" in the Section of Urinary Surgery. After defining the various causes leading to retention of urine above the bladder, he detailed four groups of conservative procedures: viz., nephropexy, anastomoses, plastic operations with and without resection and partial resection of the kidney.

Fenger, of Chicago, was not present. His paper was read by Turck, of Chicago. [It will appear in an early issue of The Journal.]

Bazy, of Paris, read a paper on the same subject, in which he detailed the obstructions and the means of their removal with critical comments on the various procedures. He considered that the operative results warranted conservatism in this class of cases.

Manquet, of Nice, discussed in the Section of Therapeutics the use of sodium sulphate in dyspepsia. It is useful in constipation in small doses, but its prolonged use is attended by danger.

Blondel spoke of the use of thymus in chlorosis, exophthalmic goiter and congenital debility.

Deschamps, of Rennes, read a paper on the treatment of obesity.

A dinner was given by Pinard and Terrier at the Grand Hotel, at which 120 guests were present. Speeches were made by Zweifel, Terrier and Baldy.

Professor Lannelongue, President of the International Medical Congress, gave a reception at the Galerie des Champs Elysées Friday evening, to which some Americans with their families were invited. The entertainment provided included music and dancing by the ballet of the Opéra Comique.

Boeck, of Christiania, opened the proceedings of Saturday in the Section on Dermatology with a paper on the "Tuberculides." In opening the discussion on this new doctrine, it is necessary, he said, to distinguish facts from hypotheses. It is established that a series of cutaneous affections exists in tuberculous patients, the constancy of which has been so marked that the affections have been considered to have the same causal relation. The Koch reaction in these cases is, however, inconstant. Hallopeau has given to these the name "toxi-tuberculides." He places these tuberculides in two principal groups: 1. Varieties generally perifollicular and superficial, in a part of which the bacillus is found. This includes lichen scrofulosorum, papulo-squamous and perifollicular pustular tuberculides. 2. Varieties generally not perifollicular, as a rule localized in the skin and in which the bacillus can not invariably be found. This includes lupus erythematosus, papulo-neurotic and nodular tuberculides. There are a number of diseases which it is as yet impossible to group, although they are commonly considered tuberculous. These are acne, indurated erythema of Bazin, angiomatous tuberculides of Leredde, subacute exfoliative dermatitis, and pityriasis rubra of Hebra. He concludes that the limits between cutaneous tuberculosis and cutaneous tuberculides are not clearly defined, and that there is no theoretical or practical reason for placing cutaneous tuberculides in a group by themselves.

Campana, of Rome, believes that it is possible to distinguish clinically between a tuberculide produced by toxins and one produced by the bacillus.

Darier, of Paris, after describing the varieties, etiology, bacteriology, clinical symptoms and pathologic anatomy of the tuberculides, speculates on their pathogeny. He thinks the theory of unknown microbes has no foundation; that the toxin theory does not explain all the facts. The remaining hypothesis is that they are caused by embolisms of attenuated and slightly virulent bacilli reaching the skin by way of the blood channels and then succumbing to the bactericidal influence of their environment. The discussion was participated in by Riehl, of Leipsic, and Lang, of Vienna, who advocated the extirpation of lupus; Finsen, of Copenhagen, who spoke of the treatment by luminous rays; Dubreuilh, of Bordeaux, who mentioned the nasal origin of lupus, and J. Nevins Hyde, of Chicago, who made observations on blastomycetic infections.

Richelot, of Paris, read a report in the Section of Gynecology, on the "Surgical Treatment of Cancer of the Uterus." He believes the vaginal, the route of choice in most cases. The abdominal route has a limited utility, but when applied to invading cancers it is an imprudence, and for limited cancers an illusion. In one, we have an operation always incomplete and only by necessity palliative. By the other route all is removed.

D. de Ott, of St. Petersburg, believes that in every case of cancer, in any part of the uterus, the organ should be extirpated, preferably by the vaginal method. Morcellement is a great surgical advance in the treatment of large cancers. He prefers not to close the wound, but applies a light iodoform gauze tampon. He thinks that by this means the mortality of vaginal hysterectomy can be reduced to the minimum, and during the last six years he has obtained a radical cure in 10 per cent. of his cases.

Thomas S. Cullen, of Baltimore, read a paper on "Treatment of Carcinoma of the Uterus." He referred to the improvement in the operation for carcinoma of the uterus, commencing with amputation of cervix as practiced by Schroeder, abdominal hysterectomy, as done by Pawlik and Kelly; and the radical operation including the iliac glands. Cullen pointed out the danger of implanting carcinomatous into healthy tissue, as is very likely to occur when the radical operation is made. He described the operation in full as made by X. O. Werder, of Pittsburg, in which the chance of implanting carcinomatous tissue is reduced to a minimum. This operation is advised in all cases unless the patient is stout. In adenocarcinoma of the body of the uterus the same operation may be performed, but here the wide removal of the vaginal mucosa is not necessary. An analytic report was made of 176 cases of carcinoma of the uterus, occurring in Johns Hopkins Hospital during the past six years. The prognosis is most favorable in adenocarcinoma of the body; least favorable in adenocarcinoma of the cervix.

Paris, August 6.

Masius, of Liège, in the Section of Internal Pathology, on Monday, read a paper on "Pathogenesis of Acute Pulmonary Edema." The theories of pathogenesis are three in number: 1, the purely mechanical theory, which should be rejected: 2, the opinion of Hamburger and Heidenhain, who consider the lymph-formation a secretory act and the edema merely an exaggeration of this function: 3, the theory of Starling, Winter and Théaulon, who attribute it to modifications of osmosis between liquids in different parts of the area, and to variations in the permeability of the wall. Clinically, pulmonary edema appears in three forms: 1, inflammatory edema; 2, static edema, and 3, toxic edema.

Teissier, of Lyons, declares that a special morbid syndrome exists to which can be given the name of acute edema or serous apoplexy of the lung. It is preceded by a tickling in the throat, painful intrathoracic tension, violent dyspnea, spasmodic and continuous cough, rusty sputum, fine râles, etc. The provocative cause is still to be determined. It may be infection or previous intoxication. Acute and chronic pulmonary edema differ in pathogenesis, symptomatology and prognosis. It may be said that the gravity of an acute pulmonary edema is dependent on the functional activity of the kidneys. He concedes that bleeding is of unquestionable utility in these cases, recommends rectal administration of carbonic acid gas, and thinks that oxycarbonated nitrite of amyl may be employed with advantage. Atropin, morphin and operative procedure he believes valueless and dangerous.

Von Basch, of Vienna, asks and answers the following questions: Under what conditions may pulmonary edema be experimentally produced? What is the nature of the process which causes it? What are the secondary consecutive causes? What is the relation between pulmonary edema, dyspnea and cardiac asthma? What is the relation between pulmonary edema and muscular insufficiency of the right heart?

Huchard, of Paris, urged the value of venesection. Marklen spoke of uremia in connection with pulmonary edema, and Dieulafoy, of Paris, of acute nephritis as a complication.

Perier, of Paris, in the Section of Surgery, reported two cases of old contusion of the head with formation of abscess, in which he trephined with good results. Nanu, of Bucharest, advocated temporary craniectomy in case of abscess. Krause, of Berlin, reported twenty-four cases of intracranial excision of the trigeminus with two deaths, and with good results in the remainder.

Jonnesco, of Bucharest, had excised the cervical sympathetic in 126 cases of epilepsy, exophthalmic goiter, glaucoma, etc.

Chipault, of Paris, reported forty cases of this kind, and 147 vertebral fractures. These statistics were most interesting and indicated the value of modern operative procedure in this class of injuries.

O. Lassar, of Berlin, opened the discussion on Alopecia in the Section of Dermatology on Saturday. He remarked that alopecia has increased progressively during the last ten years. In the case of alopecia areata, there is no predisposition nor is there special resistance in individual cases. Immunity to this condition can not be acquired. Its etiology still awaits a definite explanation. The treatment of alopecia areata is still empirical, founded on a hypothesis, the trial of which has given the most favorable results. Many methods from sublimate and carbolic acid to electricity in its divers forms have been employed with success.

Norman Walker, of Edinburgh, presented the views of British dermatologists on alopecia. He acknowledged the indebtedness of the profession to Sabouraud, of Paris, for his researches on the subject. There are occasionally cases of this disease which are apparently dependent on nerve influence. Hutchinson, of London, regards alopecia areata as a sequel to ringworm; while Crocker, of London, considers that most of the cases diagnosed as alopecia areata are in reality unrecognized cases of ringworm. The infective theory has a strong clinical backing. Dr. Thin, of Scotland, made observations in this direction many years prior to the brilliant work of Sabouraud. In the essayist's observations he has not succeeded in getting the brick-red growth, but has a growth of a deep brownish-black color, apparently due to another organism.

Sabouraud, of Paris, classifies alopecia as follows: 1, infectious; 2, traumatic cicatricial; 3, cicatricial, following inflammatory lesions; 4, diffuse progressive. There are two clinical types, the ophiasic of Celsus and seborrheic of Bateman. He considers this subject one of the most obscure in dermatology, and one which, in the absence of new technical experiments is likely to remain in obscurity for a long time.

Lesser, of Berlin, opened the discussion on the "Causes of Generalized Infections in Blennorrhagia" by saying that generalized infection in blennorrhagia was often encountered in cases attended with complications. The posterior urethra is most often attacked in men. It seems to predispose to general infection, for patients who once have had a general infection are attacked by it anew at each attack of blennorrhagia.

A. H. Ward, of London, discussed the causes of the generalized infections by the gonococcus, which he said could not be separated logically from the local focus whence it originated. There is a continuous interaction, and the persistence of the local disease aggravates the general condition. After study of the process of the struggle for life between the microbe and the human organism, a plan of action for prevention and cure must be deduced. It is still *sub judice* whether the diplococcus of Neisser and its toxin is the sole cause, or whether this infection paves the way for other organisms. Gonorrhea and its associated pathological states are due to the presence of microbes and their toxic products. He had encountered generalizations in 12 out of 2000 cases, or .6 per cent. In closing, he quotes Neisser's words: "It is surely beyond a doubt that the frequency of complications depends on the method of treatment."

F. Balzer, of Paris, stated that general blennorrhagic infection is caused by the blennorrhagic virus, the gonococcus and its toxins which pass into the circulation. It is manifested by general symptoms and by new localizations of the blennorrhagia, sometimes by true pyemia analogous to those caused by pyogenic bacteria. These microbes may be found associated with or superadded to the gonococcus in generalized infection. He then considered the manifestations in which the rôle of the gonococcus was less direct, namely, nephropathies due to general blennorrhagic infection; cutaneous manifestations—erythema, purpura, cutaneous horns; and the various neuropathies. He sums up the subject by saying that the gonococcus is the pathogenic agent not only of mucous blennorrhagia, but also of the general infection. The latter results from direct penetration of the microbe into the circulation and the absorption of its toxins. Experimental research has shown that intoxication plays an important part in the genesis of the manifestations of infection, but the paucity of clinical research does not permit us clearly to differentiate between infection and intoxication. The cases are also too few for definition of the rôle of secondary infections. That rôle seems to be played more and more by the gonococcus.

Neisser, of Breslau, in the same section, advocated dilatation as the best method for examining the urethra.

B. Tarnowsky, of St. Petersburg, read a paper on "Hereditary Syphilis," and presented explanatory tables. He stated that the hereditary influence of the disease is manifested most strongly in the second generation, and that it so markedly decreases in the third generation that the manifestations can not be recognized as those of hereditary syphilis. In the fourth generation there is still further diminution, and therafter no manifestations occur.

E. Finger, of Vienna, admitted the possibility of transmission of syphilis, not only to the first generation, but also to the second, and possibly to succeeding generations. The hereditary consequences of syphilis contracted by parents are true virulent syphilis, syphilotoxic and dystrophic affections and immunity.

Jullien, of Paris, considered the statistics of fecundity of hereditary syphilitics; fetal deaths and abortions; lesions of true syphilis; manifestations derived secondarily from syphilis; dystrophic stigmata; anomalies, malformations and monstrosities. He closed his paper with some theoretical views on the subject.

L. Duncan Bulkley, of New York, in his paper on "Syphilis and Associated Infections," classifies the subject as follows: 1. Double, coincident primary infection—syphilis with a local disease such as chancroid or microbic infection, or with a general disease such as vaccinia, variola, erysipelas, measles, tuberculosis, lepra, malaria, typhoid fever or sepsis. 2. Double subsequent infection—syphilis antedating, with above diseases, seborrhoic eczema, psoriasis, lupus or epithelioma, or postdating, associated with the same diseases. The two infections may retard, accelerate or modify the normal course of either disease.

H. Hallopeau, of Paris, in his paper on the same subject, sums up as follows: Certain infections associated with syphilitic contagion may give place to various hybrids. These are the bacillus of simple chancre, the generative agent of epithelioma and rarely the tubercle bacillus. It is possible but not yet scientifically demonstrated that mixed infection by syphilitic contagion and pyogenic microbes may cause suppurative syphilides which might be called strepto-syphilides, staphylosyphilides, etc. The retention of pyogenic microbes associated with syphilitic contagion and of their toxins may modify the character of the syphilomata—ulcers, vegetations, rupia, etc.—and may create para-syphilitic affections with grave complications. The concomitance of some generalized infections may temporarily modify the course of some febrile disorders and especially of erysipelas.

The second general assembly was held on August 6. In the absence of Professor Pavlov, his address was read by Docent Dr. Lithatchef, of St. Petersburg.

Professor Baccelli did not address the Congress on account of the assassination of King Humbert.

Sir John Burdon Sanderson, of Oxford, delivered an address entitled "Certain Pathological Problems of the Day."

Dr. A. Jacobi, of New York, addressed the Congress on "Medicine and Medical Men in the United States." (Dr. Jacobi's address will appear in an early issue of The Journal.)

The success of the evening reception at the Palais du Luxembourg was marred by bad weather, so that the garden fête could not be held. The reception halls were overfilled by the enormous crowd. The reception was supplemented by a musical performance by the artists of the Opéra Comique and by a theatrical performance by the members of the Théatre Francais.

Paris, August 7.

Pinard, of Paris, in the Section on Obstetrics, read a paper on the "Puerperium;" Hagapoff, on "Regimen as a Means of Preventing Diseases of Pregnancy;" Bouffe, of Paris, on "Eclampsia Without Albuminuria, Before or After." Mangiagalli read an article on "Treatment by Veratrum. Dvorak discussed "Venesection and Saline Injections." Perret spoke of "Forceps with Parallel Branches." Calderini treated of "Hydatidiform Mole."

Arnaud read a paper on "How Progressive Paralysis Ends." Tachnisch read one on "Syphilis as Cause of Progressive Paralysis;" and Lalanne on "Spontaneous Fracture in Progressive Paralysis."

In the Section on Gynecology, de Ott, of St. Petersburg, treated of "Second Vaginal Method in Conservative Myomectomy;" Gottschalk and Delagenière of "Ligation of Arteries;" Pozzi, on "Limits of Myomectomy," and Tuffier, on "Abdominal Myomectomy."

In the Section on Internal Pathology, Villard treated of "Pneumonia and Bronchopneumonia." Widal, of Paris, had an article on the "Spleen and Its Affections." Papillon read a paper on "Bacteriology of Rheumatic Fever."

Von Bergmann, of Berlin, in the Section of Surgery, stated in a paper on "Radiography in the Study of Fractures and Luxations," that the subject of fractures had made during the last ten years two important steps: 1, the operative treatment of certain simple fractures by exact coaptation of the fragments, and 2, the diagnosis of the point of fracture and the condition of the bony lesions by means of radioscopy and radiography. Examination of recent patellar fractures shows, with the aid of the Roentgen rays, three obstacles to a complete cure: 1, the inequality of the two fragments; 2, multiple fragments; 3, the two fragments become displaced, with respect to one another, by a movement of rotation. Von Bergmann has obtained in his clinic, with the aid of the X-rays, in more than twenty-five cases of this kind, a complete bony consolidation. Fractures of the bones of tarsus and metatarsus were almost entirely unknown before the invention of radioscopy.

MAUNOURY, of Chartres, discussed the same subject as Von Bergmann. He said that the radiograph was useful in all fractures, especially those of the ankle. The formation of callus is very interesting to study by means of radiography. The duration of its formation is variable; it appears longer, the thicker the bones. In certain cases, notably in oblique fracture of the tibia, the callus may remain a long time invisible, even when the consolidation is complete. The discovery of Roentgen, though of less utility in luxations than in fractures, will often be found of service.

CHAMPIONNIÈRE, of Bordeaux, followed with a paper on "Massage and Fractures."

In the Section on Therapeutics Kleckowsky read a paper on "Ergotin in Pneumonia," and Ehlers concluded the papers for the day with one on "Treatment of Leprosy by Arsenic and Iron."

PARIS, August 8.

In the Section on General Pathology Ewald treated of "Autointoxications;" Claude and Balthazard took up the subject of "Toxicity;" Smèraglia read a paper on "Pathogenesis of Uremia," and Charrin delivered "Remarks on Eclampsia." These papers were discussed by Ewald and Leube. Lenoir read an article on "Extrabuccal Alimentation;" Herard, on "Action of Milk on Gastric Chemistry;" Delbet, on "Pathogeny of Varicose Veins;" Tuffier, on "Pulmonary Surgery;" Guilleminot, on "Technique;" Finsen, on "Phototheraphy;" de Schweinitz, Washington, on "Work on Tuberculosis in the United States."

In the Section on Internal Pathology Furster read a paper on "Raw Meat as Treatment for Consumption;" Donahue, of Syracuse, on "Milk of Tuberculous Cows the Chief Danger." The latter reported a large number of communications on the subject. Labodie, of New York, gave a "New Method of Treatment of Consumption," by direct transfusion of drugs into the tubercular spots.

In Pediatrics, Barbier read a paper on "Gravity of Acute Rheumatism in Children and Consequent Heart Affections." Brunon, of Rouen, discussed "Alcoholism Among Children of Normandy."

In Psychiatry, Korsakof, of Moscow, spoke on "Rest in Bed as Treatment of Acute Forms of Folly."

In the Section on Neurology, Ferrier, of London, and Roth, of Moscow, discussed "Diagnosis of Organic and Hysteric Hemiplegia."

Ricard started, on Wednesday, the work in the Section on General Surgery. He was followed by Sorel, of Havre, and Weir, of New York, on "Appendicitis." Ochsner, of Chicago, read a paper on "Elimination of Appendix."

"Radiography in Obstetrics" was discussed by Focher, of Lyons, Varnier, Maygrier and Bouchacourt.

TERRIER, in the Section on Gynecology reported "Two Hundred Abdominal Hysterectomies." Clarke, of Boston, read a paper on "Surgical Treatment of Inflammatory Condition of Fallopian Tubes," and A. Palmer Dudley, of New York, read an article on "Conservative Operations on Ovary."

The reception and fête announced to be given by the president of the Republic, at the Palais de l'Elysée on Thursday was not held, but a reception was tendered the members of the Congress by the Municipal Council of Paris in the Salons of the Hôtel de Ville on Saturday afternoon.

The third general session will be held on Thursday for the election of officers and the selection of the place of meeting for the Fourteenth International Medical Congress.

Miscellany.

Typhoid Fever in Paris.—An epidemic of typhoid fever holds sway in Paris. Drs. Thoinot, Martin and Miguel have been investigating the subject, and the water-supply from the River Vanne seems to be the cause. In 1899 the number of cases was 4329, of which 398 were reported in the first ten weeks. During the same period in 1900, 891 cases were reported.

Mortality in India.—The Governor of Bombay reported to the Foreign Office, July 9, that there were 10,320 deaths from cholera and 6502 fatalities in the famine district during the last week in June. The total deaths among the numbers on the relief works in the British district were 5324. The number on the relief works is increasing rapidly in consequence of the drought. The number of those applying for gratuitous relief is increasing throughout the affected districts. The total number of persons receiving relief is 6,013,000.

The Journal Has Largest Circulation.—*Printers' Ink*, otherwise known as the advertiser's "School Teacher," in its issue of August, credits THE JOURNAL with the largest circulation of any medical weekly in America. It quotes the weekly average at 14,401 for twelve months ending March 1, 1900. While these figures are correct, they hardly do THE JOURNAL justice, as our weekly issue has been gradually increasing, and for the past six weeks the average is over 17,500 copies. This week we are issuing over 17,750.

Congress of Professional Medicine.—"The struggle for existence has become so severe for physicians in all countries, and they are so constantly assailed by a crowd interested in caluminating them, that they have at last felt the need of meeting and talking things over among themselves—what they have always felt, but never dared to speak aloud before." These are the opening words of an editorial in the *Gazette Méd. de Paris*, deploring that the membership of the Congress of Professional Medicine, which convened July 23, was not representative of the majority of practitioners, owing to the systematic and inexplicable holding aloof of many French and foreign physicians. "Every time anything novel is attempted, any effort made to change the old routine, it is like throwing stones into a frog-pond. All the more credit to the men of energy who have initiated the movement and set an example for the world to imitate!"

Railway Accidents.—The official figures given out by the Interstate Commerce Commission for the year ending June 30 show that during this period there were all told the sum of 51,743 casualties resulting from railway accidents. Of this number 7123 persons were killed and 44,620 were injured. The number of trespassers killed and injured was quite large, there being 4040 killed and 4730 injured. The number of admitted passengers killed was 259, and the number injured was 3442. During the previous year there were 221 killed and 2945 wounded. The ratio of those killed to those who traveled was 1 person to every 2,189,023. Of the employees 1 out of every 420 was killed, while 1 out of every 27 was injured. Of the persons working on locomotives 1 was killed to every 165 persons. In New York State, where safety brakes have been employed, there were 260 persons killed as against 279 for 1898, and 6725 injured against 6988 for the previous year.

Presentation of Statuary.—Dr. Paul Richer, of Paris, has presented the Académie des Sciences with a bronze group of three runners, modeled on cinematograph pictures, taken at the Racing Club and elsewhere. They reproduce the three most typical attitudes, and the *Gaz. Méd.* adds that it is amazing to note how perfectly they harmonize with the Greek antiques.

Prizes Offered by Mexican National Academy of Medicine.—A prize of 500 pesos will be awarded for the best original work in Spanish, on either of the following subjects: "Nature of Remittent Fevers Observed in the Mexican Mesa," and "Diagnosis and Treatment of the Different Varieties of Intestinal Occlusion."

Paraffined Waterproof Cloth.—Cathoire announces that all fabrics and garments can be rendered absolutely waterproof by being dipped in a mixture of two parts paraffine—

melting at 52 C.—and one part vaselin dissolved in kerosene—25 gm. to the liter. The expense is about a franc for an entire uniform. He mentions in his communication to the *Revue d'Hygiene*, 1900, p. 296, that one of the most important advantages is the absence of the extra weight of wet garments. The mixture does not interfere with the evaporation from the skin, as the garments thus impregnated showed no traces of moisture on the side toward the body. Pieces of paraffined cloth were sterilized in the oven without injury.

Antimalaria Campaign in Italy.—The mowing, reaping, and plowing of the Pontine Marshes and other extensive tracts in Italy claims hundreds of victims as the laborers flock to these hotbeds of malaria. A campaign has been instituted this year against the infection, and eight ambulances have been sent out by the Red Cross Society to apply preventive and curative measures. The portable shelters for the workmen are to be protected against mosquitos, and also many of the houses of the station agents along the railroads, as the experiences in this line last year were highly instructive. The government also plans to supply the peasants in malarial districts with protections against mosquitoes.

Determination of Sex.—The conclusions of the latest German writers are that the sex is already decided in the ovary, as has been conclusively shown for bees and certain lower forms of life. The only means by which the determination of sex can be influenced is by the nutritional processes in the ovary. Disturbances in the ovary in this line, dating possibly from fetal or infant life, seem to determine a preponderance of male ova, while abundant, normal nutritional processes favor the production of females. Ploss has noted a coincidence between the higher prices of provisions and the larger number of boys born. Schenk, on the other hand, considers the female offspring the evidence of nutritional disturbances, as several mothers of boys gave birth to girls after symptoms of diabetes were first observed, which was the origin of his famous method of sex determination.

New Antituberculous Journal.—We have received the first number of *L'Oeuvre Antituberculeuse*, a quarterly that has been started with a view to arouse interest in the various public and private institutions that have been inaugurated in France in the campaign against tuberculosis. The Hauteville sanatorium is described and illustrated, among others. The three buildings face the south, southeast and east; the triangular spaces between them are filled in with a sheltered and covered piazza open only toward the front of the buildings, which thus enclose a large sheltered space. The Guelpa pocket cuspidor is supplied the patients. The communications assert that a consumptive is more cheerful when with other consumptives than when living at home or with healthy people.

Laveran's New Stain for Malarial Blood.—The new staining process used by Laveran is described in full in the *Comptes Rendus* of the *Soc. de Biologie*, June 9. It is extremely delicate, simple, easy and reliable, and stains the nuclei deep violet; the reds are pink, the protoplasm of the parasites is a pale blue, the chromatin violet red. He has been successful with preparations of dried blood several years old. Three fluids are rerequired: 1, silver oxid methylene blue, or "Borrel blue." This is prepared in a flask of 150 c.c. of distilled water. When the crystals are dissolved, the flask is filled up with a solution of soda and shaken. A black precipitate of silver oxid is deposited, which is washed to free it from traces of azotate and soda. An aqueous saturated solution of medicinal methylene blue is then poured over it and left for seven or eight days, shaking from time to time. No. 2 is an aqueous solution of eosin at 1 per thousand, and No. 3, a 5 per cent. solution of tannin. A bit of camphor in each vial will prevent mold. The specimen of blood dried in a thin layer is fixed with absolute alcohol for about twenty minutes. The stain is mixed just before using, in the proportion of 4 c.c. of the solution of eosin; 6 c. c. of distilled water and 1 c. c. of "Borrel blue." The fluids are filtered separately as they are poured into the graduated test-tube, stirred, and then transferred to a porcelain crucible. The slip holding the blood is placed on top of the fluid, so that the blood rests in the fluid as the slip floats. Five to ten minutes is sufficient to stain the chromatin of most hematozoa, especially that of malaria, but several hours are necessary for the endoglobular parasite of birds. When the stain is deep enough the preparation is rinsed and treated with the solution of tannin for a minute, then rinsed again and dried. If the stain is too intense wash with alcohol before mounting in balsam.

A New Movement for the Organization of Private Asylums.—The Association for the Study and Cure of Inebriety held a meeting June 17, at Greenwich, Conn., for the purpose of securing a thorough organization of all private asylums which treat mental diseases and drug cases. It was claimed that there are nearly a hundred asylums, homes and sanitariums in the New England and Middle states for the treatment of inebriates, mental and nervous cases, over half of them being charlatan in their boasted specific cures and advertised nostrums. Such institutions are without organization or system, and appear and disappear continually. They are without state or local license or supervision, and are managed by unknown persons, and the public is unable to discriminate between them and reputable institutions. They claim exemption from all supervision from the fact that their patients suffer from alcohol, opium, and other drug poisons, which are not recognized as other than moral disorders. There is no restraint to prevent any who desire from opening homes and sanitariums for these cases. In nearly all these states, institutions for the treatment of mental cases with drug habits are licensed and come under the supervision of the authorities, and have some reputation and standing in the community to secure patronage. A large number of representatives of different asylums were present, and the following propositions were agreed upon as representing the objects of this meeting: 1. To promote the scientific study of alcohol, and other drug neuroses, and to encourage desirable and special legislation with reference to the care and control of such cases. 2. To isolate the chronic, pauper inebriate from the insane and criminal class, and secure the erection and maintenance by the several states of institutions for the segregation and special treatment of chronic, pauper inebriates, and to incorporate farm colonies or other forms of institutional relief which shall combine medical care with occupation, control, and discipline. 3. To secure in all states the special supervision and inspection of all institutions for the care and control of inebriates and other drug neuroses. 4. To discourage and prevent all efforts to treat alcoholic inebriety or the opium and the other drug addictions with secret drugs and so-called specifics and to prohibit the sale of all nostrums which claim to be absolute cures and which contain alcohol, opium, or its alkaloids, or other pernicious and harmful drugs, or which contain substances which are inert and are fraudulent impositions on the public. 5. To encourage as an association every individual and organized effort to study scientifically and practically all the various means and methods of both cure and prevention which are found valuable in the treatment of alcohol and other drug addictions. 6. There are many institutions in this country which treat the alcoholic and other forms of drug addiction associated with mental and nervous cases. These institutions should all be organized and follow some general principles and methods of practical work. By this means public opinion could be more effectually influenced and legislation secured, resulting in a great advance in the uniform scientific treatment of these cases. 7. We urge all asylums and institutions to unite with us in an effort to raise the subject of the medical treatment of these borderland cases out of the realm of quackery into that of exact scientific work, and in this way be able to treat these obscure, diseased conditions in a rational way and along rational lines.

These propositions were unanimously indorsed and another meeting was projected in October at Hartford, Conn. The Secretary, Dr. T. D. Crothers, of Hartford, Conn., solicits correspondence from those interested.

Registration of Yellow-Fever Non-Immunes.

Under date July 3, 1900, Major Francis J. Ives, surgeon U. S. Vols., chief surgeon of the Department of Matanzas and Santa Clara, Cuba, caused the following order to be published as a precautionary measure against the spread of yellow-fever in the Department during the present summer:

The mayors of the following cities, Matanzas, Cardenas, Colon, Cienfuegos, Santa Clara, Trinidad, Sancti Spiritus, Sagua la Grande. Caibarien, Placetas and Remedios should be required at once to prepare a list of all non-immunes, exclusive of the officers and soldiers of the United States Army, but including the families of the above, and all civilian employees. In order to obtain this list a proclamation should be issued by the mayor requiring every non-immune to be registered, stating in each case the full name and address, and whether an adult or a child, all persons over 16 years being considered adults. In this proclamation the necessary measures for securing this information should be embodied. It should be clearly stated that any adult failing to comply and be registered at the end of ten days after the date of the order would be fined at one dollar for every day that he or she remains unregistered, and the parent or guardian of any child will be fined an equal amount for all children not registered, in the same manner, and amount as above.

The term *immune* should be construed to mean all natives of the Island of Cuba, all foreigners who can establish a residence of at least ten years on the island, and all others who can produce a certificate from a reliable physician that they have had yellow fever. The term *non-immune* signifies any person who is not an immune, as above described.

The proclamation should be written in both Spanish and English, and conspicuously posted on the bulletin boards in front of each alcaldia; in addition it should also be advertised in the local papers.

2. Should yellow fever appear in any of the towns in this department to an extent sufficient to create apprehension of its being exported, the chief sanitary officer of the department will notify the mayor of the affected town to permit no non-immune to leave the town without previously notifying the mayor in writing of the date of such departure, and the destination. The mayor, upon being thus notified, will at once notify by telegraph the mayor of the town to which the non-immune is going. The latter mayor will, upon the arrival of the non-immune, ascertain his address, and cause his chief sanitary officer, or one of the municipal physicians, to investigate and keep the case under observation until the period of infection has passed. Should the non-immune be an officer or soldier, the commanding officer of the garrison from which he leaves should be required to notify the commanding officer of the garrison in the town where the non-immune is going, and the military surgeons be required to take the necessary precautions. Should a non-immune of the latter class be going to a town where there is no garrison, the commanding officer will notify the mayor of such town, who will take the same measures as in the case of those not connected with the military establishment. Should any non-immune arrive from an infected town at any of the seaport towns, the quarantine officer of the port should be at once notified of that fact by the local municipal authorities, or by the military authorities in case of an officer or soldier or a member of the family of an officer or soldier.

There should likewise be a punishment for all non-immunes failing to give the proper notifications to the municipal authorities, consisting of appropriate fines or imprisonment, or both.

Societies.

Coming Meetings.

American Academy of Railway Surgeons, St. Paul, Minn., Sept. 5-6.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

American Electro-Therapeutic Association, New York, N. Y., Sept. 25-27.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

Bucks County (Penn.) Medical Society.—This Society held its midsummer meeting in Bristol, August 1.

Lehigh (Pa.) Medical Association.—The twelfth annual conversational meeting of this Association was held in Allentown on July 25. Among those present were Dr. John B. Roberts and Dr. Boardman Reed, of Philadelphia. The next meeting will be held in Reading.

Bar Harbor (Me.) Hospital Club.—The annual meeting of this Club was held on Wednesday, July 11, 1900. Dr. John B. Shober, Philadelphia, was elected president; Dr. E. J. Morrison, Bar Harbor, secretary and treasurer, and Dr. H. D. Averill, Bar Harbor, executive officer for the ensuing year.

Rock River Valley Medical Association.—This Association met in Dixon, Ill., July 25. The following officers were elected for the ensuing year: president, George Proctor, Coleta; vice-president, C. M. Cheadle, Lee Center; secretary, C. S. Murphy, Dixon. The next meeting will be held in Polo, December 26.

Southwestern Iowa Medical Association.—This Association will meet at Glenwood, August 16. Dr. J. A. Rawls will deliver the presidential address. Papers will be read by Drs. M. B. Reed, Charles E. Stevenson, F. B. Dorsey, B. F. Gillmor, J. P. Lord, C. B. Powell, B. N. Torrey, J. W. Reynolds, M. N. Voldeng, B. L. Eiker, Arnold Jolly, D. Macrea, Jr.

The Canadian Medical Association will meet in Ottawa, September 12, 13, and 14. It is announced that, in addition to Mr. Edmund Owen, of London, Eng., Dr. F. Shattuck, Professor of Clinical Medicine in Harvard, will address the meeting. It is also expected that Drs. Nicholas Senn, of Chicago; Allen McLane Hamilton, and A. G. Gerster, of New York, will be present. The address on "Gynecology" will be delivered by Dr. William Gardner, of Montreal.

Southern Minnesota Medical Association.—This Association held its annual meeting in Winona, August 1. The following officers were elected: president, E. D. Keyes, Winona; first vice-president, A. I. Baker, Byron; second vice-president, J. W. Scott, St. Charles; secretary and treasurer, W. T. Adams, Elgin. The secretary's report showed the society to be in a flourishing condition, having doubled its membership in the past two years.

San Francisco County Medical Society.

San Francisco, Cal., July 10.

President **Dr. E. E. Kelly** in the chair.

PREVENTION OF PULMONARY TUBERCULOSIS.

Dr. W. N. Sullivan presented a paper on this subject. He said that prophylaxis of tuberculosis includes the care of the individual predisposed to consumption, and embraces those general measures for the restriction of the dissemination of the bacilli among communities. The individual predisposed to the disease should be placed under auspices which will favor healthy development, such as correction of anemia, improvement of appetite and digestion, and proper hygienic treatment out of doors. Mouth-breathing should be corrected by removing obstructions in the nasopharyngeal tract. He advocated breathing exercises and the chest-weight machine as valuable measures in the development of the chest. The bicycle, by bringing the individual into the open air, has a distinctly beneficial effect. When tonics are necessary, he thinks that cod-liver oil and iron preparations would find their place in aiding the constitution to resist tuberculosis. He urged the necessity for a proper receptacle for sanitary disposition of the sputa, and recommended the use of the sanitary cuspidor constructed by Dr. Dettweiler, and modified by Dr. Knopf. All articles and utensils used by tuberculous patients in eating should receive the greatest care to prevent the infection of others. Public prophylaxis offers a field for work of the greatest usefulness. Institutions where large numbers of people are congregated, schools, prisons, insane asylums, workshops and factories, should have a close supervision with a view to limiting tuberculosis. The disinfection of rooms occupied by tuberculous patients should be made not only after their death, but should be carried out at frequent intervals during life. Much good has been done in the prevention of tuberculosis by societies formed for the purpose of distributing literature on the subject and giving lectures at intervals for the education of the masses in this respect. He thought that bovine tuberculosis is regarded as one of the chief sources for the infection of man, for the reason that milk, butter and meat constitute the most important and universally used articles of food, and considered that in the war against tuberculosis efforts should be divided equally between the bacilli that are ingested and the bacilli that are inhaled.

EARLY RECOGNITION OF TUBERCULOSIS.

Dr. Clark J. Burnham detailed the well-known signs of early tuberculosis, such as clubbed fingers, emaciation, the capricious appetite, and cog-wheel respiration, which he considers of very qualified value, for they may be due to other causes; whereas the tenderness on percussion over the apex of the lung, lessened movement of the chest wall, abnormally clear percussion-note, broncho-vesicular breathing, relative and absolute intensity of the heart-sounds over the affected apex, and accentuation of the pulmonary sounds, are signs of more value. He considered family history a very important factor in interpreting the value of these signs and symptoms, but a history of exposure to tuberculous contagion more important. Pronounced anemia, without apparent cause, early menstruation, dyspnea and pain in the thorax made worse by exercise, abnormal dwarfishness—not under weight, but a lack of symmetry and development—dyspepsia, intermittent albuminuria, and slight attacks of hemoptysis, produced by hyperemia, are apt to occur during the early stages. An early diagnosis, however, is not easily arrived at. The tubercle bacillus appears in the sputum at a comparatively late date. The general and local symptoms mentioned do not offer absolute certainty so long as no bacilli are detected, hence any additional diagnostic signs must be of considerable value if they are decisive and involve no danger to the patient. He considered the tuberculin test as one of the surest, as it gave positive reactions in 72 per cent. of more than 2000 suspected cases. There is no danger of rendering a patient tuberculous who is not already so, inasmuch as in tuberculin a bacterial toxin, and not an attenuated virus is used. The only possible risk is the aggravation of pre-existing symptoms as a result of the reaction in more advanced cases of phthisis. A sign of certain diagnostic value, he thought, was the one recently called to the attention of the profession by Dr. Thomas F. Harrington, Lowell, Mass., namely, the dilated state of the pupils. He urged the necessity of making careful and frequent examinations of the sputum, in the search for the bacillus tuberculosis.

TREATMENT OF TUBERCULOSIS.

Dr. George W. Fuller dwelt at considerable length on the prophylactic treatment. He thought that great care should be taken regarding the right kinds of food for these patients, and that specific amounts should be taken at particular intervals, care being taken not to give too large a quantity at first. When digestion is weak, he frequently orders some medicinal aid, resorting to any and all reasonable measures within his power to supply the system with nourishment. He favors the morning bath, given with warm or tepid water, the temperature being gradually decreased according to the patient's strength, until it can be taken cold. At night a light sponge-bath of tepid water and alcohol, equal parts, is often refreshing. As the patient gains strength he advocates swimming, in salt water, if possible. He thought that if there was a specific for the cure of consumption, it was fresh air, and the patient must be taught how he can best get it into his lungs, and therefore advocated breathing exercises as the most essential part in the whole treatment of pulmonary consumption. The author's experience regarding specific treatment was too limited to express an opinion for or against its efficacy. Two of the most valuable remedies for the treatment of this disease he had found to be iron and arsenic. Strychnin and quinin are also of value. Phosphorus is a remedy that is often forgotten in the treatment of tuberculosis; it stimulates the brain and circulation, the functions of the stomach, and aids digestion. He thought that chloroform stood at the head of the list of drugs for inhalation, the objection to it being the difficulty of its safe administration. It is his opinion that if, in the future, a drug or medicine will be found that will have a specific action upon pulmonary tuberculosis, that remedy will be administered by inhalation.

Second District Branch of the New York State Medical Association.

Held at Schenectady, June 28, 1900.

President, Dr. E. D. Ferguson, of Troy, in the chair.

THE PRESENT STATUS OF THE STATE ASSOCIATION.

This was the topic of the President's Address. He said that in 1884 the New York Medical Association was organized. The reason for its organization was the fact that the State Society had modified its Code of Ethics, and had placed itself outside of the pale of fellowship with The American Medical Association. The Code of Ethics is part of the organic law of the latter association, and up till 1883 was part of the organic law of the state society. At that time the alternative had presented itself of forming a new state organization or allowing the State of New York to be without representation in The American Medical Association. The result was the establishment of the New York State Medical Association. The law of The American Medical Association is that any one can become a permanent member through the subordinate state organization, but in order to retain their permanent membership they must continue their membership in the affiliated or subordinate body. Recently there had been a disposition to enforce that regulation, and consequently a good many men had been inquiring how they might become members of The American Medical Association.

Last winter the New York State Medical Association secured from the New York State Legislature a charter, and, so far as the legal representation is concerned, the New York State Medical Association stands on a par with any other similar organization either within or without this state. This charter requires a reorganization of the State Association, and this power was given to the Council of that Association. The Council had met and re-elected all of the officers of the association. The proposed plan of organization was to organize throughout the state county organizations, to be in affiliation with the State Association. Whenever there are ten members in a county in sympathy with the State Association they are to form a subordinate county association, elect their officers, and increase their membership as they deem fit. These members will be likewise members of the State Medical Association, for, membership in the one carries with it membership in the other. Already the New York County Medical Association and the Kings County Medical Association had unanimously resolved to become subordinate counties of the reorganized State Medical Association, thus bringing the membership in the State Association at one jump up to 1200 or 1400. In May last the Erie County Medical Association was organized, and last winter the Genesee County Association voted to become a county association in affiliation with the State Association. Up to July 1 of this year all who join the New York State Medical Association are charter members. The committee on by-laws is now preparing the by-laws, a copy of which would be sent to every member throughout the state for careful and deliberate consideration before action is taken thereon.

The speaker then urged those present to become members of The American Medical Association, pointing out the great value of The Journal, which, in itself, was well worth the sum paid for annual dues. A large membership, he said, in the national body was important, because of matters of importance in legislation which were constantly demanding the attention and exertions of a united medical profession, for example, the movement against vivisection, and the proposed national department of health.

Dr. George E. McDonald, in a few happy and well-chosen words, welcomed the branch association to Schenectady.

NEW INSTRUMENTS.

Dr. Ferguson then presented a new director, which he had found useful in connection with vaginal hysterectomy. The object of the instrument was to isolate the broad ligament completely and at once, on one side. After separating the peritoneum and tissues in front of the uterus, the curved director is passed around the broad ligament, and the latter is then quilted off.

Another instrument presented by him was a pair of forceps for lifting up the uterus in the operation of ventral suspension. In many stout patients, those who take the anesthetic badly, and in cases having many adhesions, the suturing of the uterus to the abdominal wall was not always easy of accomplishment. One blade of these long, slender forceps is passed behind, the other in front of, the uterus, and the blades are locked, just as is done with the obstetric forceps.

SOME REMARKS ON THE SO-CALLED WIDAL'S REACTION.

Dr. William Finder, Troy, said that Peffer had been the first to point out that serum might be introduced into animals which contained an antitoxin, and which produced immunizing effects. He pointed out that the toxin of the typhoid bacillus exists principally in the body of the bacteria, and is not demonstrable in the filtrate of a recent culture-fluid. He also pointed out that these antitoxins are very unstable. The serum of animals immunized with such a toxin contains antitoxins which possess a specific action against the typhoid bacillus, but have no such action on the colon or other bacilli. The great practical diagnostic value of the serum reaction was, however, first demonstrated by Widal. It was the part of prudence in performing this test to make sure that the typhoid bacilli of the culture-fluid are at the time in active motion, and that the dilution is at least one in ten. The test can be made with a microscope having only a magnifying power of 400 diameters, though it is much more evident when an objective giving nearly double this magnification is employed. Frankel, after an experience with two epidemics, believes the "hanging drop" the most rapid and accurate diagnostic method for use in connection with cases of typhoid fever.

The author then reviewed the literature at length. He said that Drs. H. M. Biggs and W. H. Park, of New York, had examined 200 cases. Of the 140 in which the final diagnosis was typhoid fever, the reaction was obtained in 100, and of the 57 in which the final diagnosis was other than typhoid there were 57 negative results. These observers claim that a positive diagnosis can be made from the Widal reaction in 50 per cent., and a probable diagnosis in about half of the remainder. J. M. Anders and McFarlane had reported on 250 soldiers supposed to have typhoid fever, in whom the Widal test had been made. Of this number, 219 gave a positive reaction, and 10 gave no reaction though tested repeatedly up to the time the temperature became normal. Of the 219 positive reactions, 128 were obtained before the appearance of the roseola; in 8 no reaction was obtained as late as the twenty-eighth day. In 2 the reaction was not obtained up to that time. The authors' conclusions were: 1. The agglutination is a phenomenon of infection which may be present in the very first days of the disease, and may not be demonstrable until toward the end of the first or second week of the disease, and in some very rare cases, has been absent. 2. It is a vital reaction of the microbe. 3. A negative reaction furnishes a probability that typhoid fever does not exist, but the positiveness of its non-existence should not be based on one test or on tests made a few days apart, but upon the examination of the case every other day up to the time of normal temperature. 4. A positive reaction obtained by the rules laid down should be considered a certain sign of typhoid fever.

Dr. H. C. Gordinier, Troy, said that during the past year three cases had come under his observation showing the great value of this diagnostic test. Two of the cases were acute tuberculosis, and one was a case of typhoidal pleurisy. The first case had come into the Good Samaritan Hospital in the second week of the illness, but several examinations for the Widal reaction had been negative. The whole course of the disease thereafter had been typical of acute miliary tuberculosis up to the time of death, but no autopsy had been obtained. The second case was seen in private consultation practice. This man gave a history of an undoubted typhoid fever three years before. No positive diagnosis had been made at that time. When seen about ten days later, there was great dyspnea, and a well-marked effusion on the right side of the pleural cavity. This contained an active motile bacterium, which was identified at the Bender Laboratory as the typhoid bacillus. The third case was one of acute miliary tuberculosis. He had first seen the patient with an enlarged spleen, tympanitic abdomen, and a temperature of 101 F., but no eruption. The temperature rose somewhat higher, but never excessively, and at no time did it resemble the typical range of typhoid temperature. Examination of the chest was absolutely negative. The Widal reaction was absolutely negative. Other physicians saw the patient, but no positive diagnosis had been made. After he had been ill about three months, he had developed the characteristic symptoms of an acute miliary tuberculosis. The case ended with symptoms of meningitis and death.

BLOOD EXAMINATIONS IN THE DIAGNOSIS OF TRICHINOSIS.

Dr. H. C. Gordinier made some interesting remarks on this subject, reporting illustrative cases.

Dr. William Finder said that these cases only emphasized in a very significant way the great value of blood examinations in disease in general. It was remarkable how one could differentiate between acute rheumatism and la grippe by one simple examination of the blood.

Dr. J. T. Wheeler, Chatham, said that this blood test for trichinosis was of exceptional value because before it was known the only other test available was one which could not often be applied in private practice. Comparatively few patients would consent to the removal of a piece of muscle with the harpoon.

Dr. J. C. Hannan said that while deeply interested in this new means of diagnosis, he was disappointed at not hearing of some efficient method of treating these cases.

Dr. Ferguson said that a piece of muscle could be easily secured at the present time with the aid of local anesthesia by the Schleich method, using a small quantity of a 1 per cent. solution of cocain. The harpoon method did not give a sufficiently large specimen of muscle.

Dr. Gordinier remarked that of the 21 cases reported since 1897, the diagnosis had been made in all by examination of the blood.

DEPRESSED FRACTURE OF THE LEFT FRONTAL BONE, WITH SYMPTOMS SHOWING DISSOCIATION OF MOTOR SPEECH FROM WRITING CENTER.

Dr. H. C. Gordinier made this report. He said it had been supposed by physiologists that there was a writing center. His former case had been trephined by Dr. Ferguson, but her condition had been so bad that the operation had been hastily terminated. She had died a few days later, and the autopsy showed the lesion to be at the base of the second left frontal convolution, and nowhere else. It was absolutely separated by a sulcus from the motor area of the brain. A careful histologic study of the brain had proved that it involved no other area. The only localizing symptom was loss of the power to write. Recently he had seen at the Good Samaritan Hospital a boy who had fractured the left frontal bone. Trephining had been done, and shortly afterward a considerable hematoma had formed, as shown by complete motor aphasia and paralysis of the right side of the face and slight weakness of the arm on that side. He had tested the patient, a boy of 13 years, three days after operation, and had found that his ability to write was not impaired, though he could not speak. Later on the boy had been able to say single words. This case did not prove the position of the writing center, but went far to show that such a center exists separate from the motor speech center. A photograph was presented showing the position of the fracture.

Dr. E. D. Ferguson said that the boy had been kicked by a horse just above the supraorbital ridge, extensively fracturing the bone, a portion of which was driven into the brain. He had removed the loose fragments, but from the condition of the wound he did not feel justified in closing the dura mater. Drainage was employed, and quite naturally a very large hernia cerebri had developed. Nothing had been done for the latter, and in time it had entirely receded into the cranial cavity. The boy seemed to be in very good mental condition. Dr. Ferguson said that some years ago he had seen a woman presenting the symptoms of embolism, and more or less motor disturbance, with absolute word-blindness. She could converse as well as ever, though printed words were absolutely without significance to her.

Dr. George F. Comstock, Saratoga Springs, presented a very perfect specimen of extrauterine pregnancy which he had recently successfully removed.

UTERUS BICORNIS.

Dr. E. D. Ferguson reported a case on which he had operated the day before for what had been supposed to be a chronic appendicitis and a retroversion of the uterus. After having removed the appendix he had found what appeared to be a band of adhesion running from the mesocolon across Douglas' pouch to the base of the bladder. Careful search showed that he was dealing with a U-shaped uterus bicornis. The woman had borne two children, and both uteri were retroverted.

THE RADICAL CURE OF HYDROCELE.

Dr. Crawford E. Fritts, of Hudson, presented this paper, which will be published in a future issue of The Journal.

Dr. William Finder supplemented the paper with some remarks founded on his own experience. In one case, under cocain anesthesia, he had made an incision and stitched back the tunica vaginalis, but the case had relapsed. The operation had been repeated twice since then, with the same result. He had then tried the method known as Wincklemann's. The scrotum is incised and the tunica vaginalis is separated from all adhesions. It is then opened, and the fluid evacuated. The tunica vaginalis is turned inside out, and finally the testicle and the distorted tunic are returned to the scrotum and sewed up. The wound healed by primary union, and in a week's time the man had returned to his work. There had been no relapse or other discomforts. In this case he had used a 5 per cent. solution of cocain, yet there had been no symptoms of poisoning.

Dr. Ferguson said that the bichlorid method was a novel one to him. Personally, he had always used the injection of iodin, adjusting the quantity somewhat to the capacity of the sac. So far as he knew there had been no failures. The use of the iodin he believed had not been responsible for the occasional occurrence of gangrene. One of his earliest surgical experiences had been the tapping of a hydrocele in an old man. This had been followed by gangrene and sloughing, but the man had ultimately recovered, and his hydrocele had remained cured. He believed it was not the iodin that caused the mischief, but the infection introduced by the surgeon. The results described in the paper were so exceedingly good that he felt disposed to try it. He thought it might be an advantage to dissolve the bichlorid of mercury in normal salt solution instead of in pure water. Some weeks ago he had seen a case in which a seton had been used for the radical cure of a hydrocele. The scrotum was much swollen on the affected side, and with the aspirator he had withdrawn a moderate amount of serum. He had been inclined to think that the bulkiness of the scrotum was largely owing to the presence of an omental hernia. The man had subsequently submitted to operation, and the correctness of this diagnosis had been amply verified.

Dr. George E. McDonald, Schenectady, said that he had operated a number of times by the old method, and, so far as he knew, with invariable success. In the last case he had left the fluid in and had simply injected a dram of iodin. The result in this, as in the other cases, had been a complete cure. He had treated a very large number of cases in this way.

IMPLANTATION OF URETER INTO THE BLADDER.

Dr. E. D. Ferguson spoke on the surgery of the ureters, reporting the following case: A woman had been delivered of her first child, and this had been followed by puerperal septicemia and pelvic abscess. The result had been destruction of the ureter and the formation of a uretero-vaginal fistula. After some weeks the case had come under his observation, and he had found the fistula to be located to the left side of the uterus at the line of the broad ligament fold. The ureteral sound could be passed up to the kidney and into the bladder, but it had been absolutely impossible to enter the ureteral opening on that side through the bladder. The fistula being so close to the bladder wall, he had felt justified in attempting to denude the tissues at that point. He had accordingly done a preliminary operation as for closing a vesicovaginal fistula, but the operation had failed. After an interval of two weeks he had passed a sound into the ureter, and dissected away about one inch of the ureter through the broad ligament. He had then formed a vesicovaginal fistula, and had approximated the vesical walls laterally so as to allow the ureter to lie freely in the bladder. The patient was put to bed and the implantation of the ureter was found to have been successful. It was now nearly three weeks since the operation, and the chances were that the remaining vesicovaginal fistula, being the result of operative interference, would close within a few weeks. This operation of implantation, the speaker said, was not very difficult in ordinary cases, and was an operation quite generally accepted at the present time. If the ureter could not be made to readily reach the bladder, a simple dissection would liberate the bladder anteriorly, and allow it to drop back a little, thus giving the operator an additional inch or two. The ureter could be handled quite freely with safety if no sharp instruments were used. The ureter could be conveniently seized and controlled by means of small alligator forceps, one blade of which protrudes beyond the other, and so easily enters the ureter. These forceps were invented by Dr. Kelly.

Dr. John T. Wheeler, of Chatham, was elected president, and Dr. J. E. Baynes, of Troy, secretary, for the ensuing year.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, July 28.

1. *The Pituitary Gland as a Factor in Acromegaly and Giantism. (Concluded.) Woods Hutchinson.
2 Some Observations Upon Syphilitic Manifestations in the Uveal Tract—the Iris, Ciliary Body, and Choroid. Paul Turner Vaughan.
3 Empyemas of the Nasal Accessory Cavities, with a Report of Cases Where the Antrum of Highmore was Involved. Ruflin A. Wright.
4 The Spectacle and Eyeglass Habit. Norburne B. Jenkins.
5 *Neurasthenia and Syphilis. James G. Kiernan.
6 Typhoid Fever in an Infant Eighteen Months Old. Recovery. A. Samuels.

Medical Record (N. Y.), July 28.

7 *Chorio-Epithelioma Malignum. B. S. Talmey.
8 Hypospadias Operated on Beck's Method. Ferd C. Valentine.
9 The Peritoneum-Anatomy, Physiology, and Pathology. Byron Robinson.
10 *Amenorrhea. L. H. Dunning.

Philadelphia Medical Journal, July 28.

11 *A New Method for the Clinical Determination of the Position of the Cardia. G. W. McCaskey.
12 *Cause of the Decussation of the Nerve-Fibers in the Medulla and Spinal Cord. D. T. Smith.
13 The Early Recognition of Ectopic Pregnancy. (To be concluded.) DeWitt G. Wilcox.
14 *A Method of the Graphic Study of Gastric Peristalsis. Clarence Quinan.
15 *Are Consanguineous Marriages Injurious to the Race? (Concluded.) Lawrence Irwell.

Boston Medical and Surgical Journal, July 28.

16 *Morbid Conditions Caused by Bacillus Capsulatus. Wm. H. Welch.
17 *True Function of the State Medical Examining Board. Allard Memminger.
18 Recent Progress in Neurology. (To be continued.) Philip C. Knapp.

Cincinnati Lancet-Clinic, July 28.

19 Dropsies. C. J. Funck.
20 Physical Evidences of Pulmonary Tuberculosis. Brooks F. Beebe.
21 Hemorrhage from Anus and Rectum, and Irritable Ulcer or Fissure. Geo. J. Monroe.

Medical News (N. Y.), July 28.

22 Aspiration in the Treatment of Acute Traumatic Empyema, with an Illustrative Case. Joseph D. Bryant.
23 *Headache from Eye-Strain: Its Diagnosis and Treatment. C. A. Wood.
24 *A Contribution to the Management of Face Presentations. Malcomb McLean.
25 *Acute Trional Intoxication. Warren Coleman.

St. Louis Medical Review, July 18.

26 Influenza Otitis and Treatment. C. R. Dufour.

Pediatrics (N. Y.), July 15.

27 Diagnosis and Treatment of Diphtheria. John B. White.
28 A New Brace for Cervical Spondylitis, with Remarks on Cervical Braces in General. Philip Hoffman.

Railway Surgeon (Chicago), July 24.

29 First Aid (Limited). H. L. Getz.

The Journal of Nervous and Mental Disease (N. Y.), July.

30 *Case of Wernicke's Conduction Aphasia with Autopsy. Howell T. Pershing.
31 Digest of Recent Work on Epilepsy. (Continued.) L. Pierce Clark.

The Woman's Medical Journal (Toledo, Ohio), July.

32 Timely Suggestions to the Recent Graduate. Ella B. Everitt.
33 Address to the Graduating Class of the Northwestern University Womans' Medical School. Julia C. Blackman.
34 Hysteria. G. Zada Higgins.

Journal of the Boston Society of Medical Sciences, June.

35 *Pathologic Changes Affecting the Islands of Langerhans of the Pancreas. Eugene L. Opie.
36 *On the Influence of Defibrination on the Secretion of the Kidney. Franz Pfaff and M. Vejux-Tyrode.
37 *New Method of Distinguishing Human from Other Mammalian Blood in Medicolegal Cases. Ernest L. Walker.
38 Some Laboratory Apparatus. Frederic P. Gorham.
39 *Methods of Staining Flagella. Wm. H. Robey, Jr.

Obstetrics N. Y.), July.

40 Chemico-Physiologic Researches with Reference to Tissue-Metamorphosis During Pregnancy and the Puerperium. Theodore Schrader.
41 *What is the Significance of a Febrile Puerperium? Henry E. Tuley.

The Post-Graduate (N. Y.), July.

42 Addresses at Annual Reception of the Babies' Wards of the Post-Graduate Hospital. J. L. Parks and James C. Carter.
43 Affections of the Eye Associated with Lesions in the Kidney. W. O. Moore.
44 *Rectal Alimentation. Max Einhorn.
45 Notes from the Clinics. Dr. Caille and Dr. De Garmo.

The Laryngoscope (St. Louis), July.

46 Some Critical and Desultory Remarks on Recent Laryngologic and Rhinologic Literature. Jonathan Wright.
47 *Removal of Septal Spurs—A Note Upon the Use of the Carmalt-Jones Spokeshave. D. J. Gibb Wishart.
48 Laryngeal Abrasor. Gherardo Ferreri.
49 Symmetrical Osteoma of the Nose with Report of a Case. Otto J. Stein.
50 Report of a Case of Removal of a Myxofibroma from the Nasopharynx. Hal Foster.
51 Report of a Case of Fibroma Involving the Tympanic Cavity. E. W. Fleming.
52 A Tick in a Man's Ear for Two Years. B. F. Church.

Kansas City Medical Record, July.

53 Rupture of Uterus with Report of Case. N. A. G. Tesson.
54 Luetic Infection as a Probable Cause of Cerebral Abscess; The Study of a Case. S. Grover Burnett.

Chicago Medical Recorder, July.

55 *Progress in Obstetric Practice. J. C. Hoag.
56 *Internal Antisepsis; An Experimental Study. Albert H. Burr.
57 Surgical cases. Emil Ries.
58 Cow's Milk; Its Production and Marketing. H. B. Gurler.
59 Inspection of Herds by the Veterinarian. A. H. Baker.
60 City of Chicago Milk Inspection. Arthur R. Reynolds.

Iowa Medical Journal (Des Moines), July.

61 Multiple Osteoma. Wm. L. Allen.
62 Fractures and their Treatment. B. N. Torrey.
63 The Practical Results of Etiologic Investigation in Tuberculosis. Walter L. Bierring.

Interstate Medical Journal (St. Louis), July.

64 *The Nature of Acquired Immunity Against Zymotic Disease. C. A. Reid.
65 *Hysteria: Its Protean Manifestations and Treatment. John Punton.
66 *Transmission of Sound Considered as to Its Truthful Reproduction Through Amplification. Warren B. Outten.

Austin Flint Medical Journal (Mason City, Iowa), July 15.

67 Practical Suggestions Concerning Home Treatment of the Insane. G. H. Hill.
68 Deviated Septum as a Factor of Post-Nasal Disturbances and Treatment. J. E. McDonald.

Texas Medical News, July.

69 Treatment of Corneal Ulcers. R. H. Y. Mann.
70 The Germ Gallery. R. J. McClintock.

The Physician and Surgeon (Ann Arbor, Mich.), July.

71 *The Bubonic Plague. Frederick G. Novy.
72 *Some Further Observations on the Treatment of Epilepsy. David Inglis.
73 *Concerning the Administration of Drugs. Delos L. Parker.
74 The Physician and the Public. Walter J. Cree.
75 Prepared Selvage-Edged Iodoform Gauze. Emil Amberg.

St. Louis Courier of Medicine, July.

76 Ovarian Pregnancy. Catherine Van Tussenbroek.
77 *Pathology of Human Milk. John Zahorsky.
78 Prevention of Deafness, or a Plea for the Recognition of the Involvement of the Ear When Colds are Severe and Frequent, and for Prompt and Judicious Treatment. Louis J. Lautenbach.

The Medical Bulletin (Philadelphia), July.

79 Address to the Graduating Nurses of the Mercy Hospital. G. W. Pfromm.
80 Lupus Vulgaris and Lupus Erythematosus. John V. Shoemaker.
81 Carbonate-of-Lime or Marble Rheumatism. Ephraim Cutter.

Cleveland Journal of Medicine, July.

82 Report of Cases of Serious Injuries to the Eyeball, Occurring in the Service at Lakeside Hospital, Since Its Opening in January, 1898. B. L. Millikin.
83 *Spindle-Celled Sarcoma of the Superior Maxillary. C. A. Hamann.
84 *Adenocystoma of Kidneys, with Report of Case. Ralph J. Wenner.
85 Remarks on the Pathology of Cystic Tumors of the Liver and Kidneys. W. T. Howard, Jr.
86 *Synovitis of the Knee-Joint. William E. Wirt.

The Medical Times (Philadelphia), July.

87 Medicolegal Responsibility of the Aged and the Premature Senile Considered Mentally, Physically, and Morally, Particularly Concerning Their Sexual Failings, with Cases Illustrative. (To be continued.) J. J. Caldwell.

Pacific Medical Journal (San Francisco), July.

88 *Medicinal Vibration. Geo. Adam.
89 Pathologic Conditions in Typhoid, with Specimens. W. W. Cross.
90 The Doctor and Fees from Estates; Also Jeopardy from Damages. E. H. Smith.
91 Hydrochlorhydria and Hyperacidity of the Stomach. Alfred W. Perry.
92 *How Bacteriology Fails to Prove Plague in San Francisco. Ernest S. Pillsbury.
93 *The Alleged Existence of Plague in San Francisco. H. D'Arcy Power.

Canadian Journal of Medicine and Surgery (Toronto), August.

94 Gunshot Wound of Kidney: Nephrectomy—Thyroid Tumor and Fibrous Tumor of Lower Jaw. Thomas H. Manley.
95 Pre-Columbian Leprosy—A Critical Essay. (Continued.) Robert Lehmann-Nitsche.

University Medical Magazine (Philadelphia), July.

96 Some of the Developments and Demands of Modern Public Hygiene. A. C. Abbott.
97 Relation of Artificial Feeding to the Gastrointestinal Diseases of Infants. D. H. Bergey.
98 1. Coxa Vara. 2. Ankylosis of the Hip. De Forest Willard.
99 Experience an Essential of Satisfactory Radiography. Arthur W. Goodspeed.
100 *Osteoarthritis of the Spine and Hip-Joints. Rhizomelic Spondylosis. Charles H. Frazier.
101 *A Study of the Physiologic Action of Phenacetin. Horatio C. Wood, Jr., and Harold B. Wood.

St. Louis Medical and Surgical Journal, August.

102 Syphilis Complicated by Lupus Vulgaris. A. H. Ohmann-Dumesnil.
103 Phthisis Pulmonalis. Wm. Henry.
104 Treatment of Tonsillitis. Milton P. Creel.

The Stylus (St. Louis), July.

105 Preliminary Remarks to the Discussion of Tuberculosis. C. Denison.
106 Chronic Hyperplasia of the Uterus and Emmet's Operation. Walter B. Dorsett.
107 The Rational Treatment of Abortion in Country Practice. J. W. Cline.
108 Recent Improved Methods in Stomach Diagnosis. (Continued.) M. D. Schmalhorst.
109 Report of Case of Double Mastoiditis—Operation—Recovery. Geo. F. Keiper.
110 The Early Diagnosis of Melancholia, with Report of Cases. E. O. Crossman.

Indiana Medical Journal, July.

111 *President's Address Delivered Before the American Medical Association. W. W. Keen.
112 Treatment of Diseases of the Stomach. Alois B. Graham.
113 *Cure of Morphin and Alcohol Habit by Bromids. W. B. Fletcher.
114 The Physician. S. Weir Mitchell.

Medical Sentinel (Portland, Ore.), July.

115 *Some Remarks on Diagnosis and Treatment of Typhoid Fever. Elmer E. Heg.
116 Treatment of Burns. G. S. Armstrong.
117 Adenomyoma Uteri Diffusum Benignum. C. E. McCoy.

International Medical Magazine (N. Y.), July.

118 *Use of Opium in the Summer Diarrheas of Children. Floyd M. Crandall.
119 *A Consideration of Certain Bacteriologic Features of the Gastrointestinal Infections in Infants. Wayne Babcock.
120 Prophylaxis of the Summer Diarrheas of Infants. D. J. Milton Miller.
121 Diseases of the Skin Complicating the Infantile Gastrointestinal Disorders of Summer. Jay F. Schamberg.
122 Treatment of Rachitic Deformities. James K. Young.
123 Artificial Feeding of Infants. John Cooke Hirst.
124 A Few Practical Points in the Treatment of Summer Diarrhea in Children. Wm. S. Newcomet.

125 Clinical Pathology and Symptomatology of Abscesses and Their Bearing on Treatment. Charles L. Leonard.
126 Diagnosis of Cancer of the Stomach. Boardman Reed.

Doctor's Magazine (Chicago), July 15.

127 *Do the Blind See Without Eyes? Frederick B. Stevenson.
128 A Report of Peritoneal Operations for Prolapsus Uteri in Schauta's Clinic. H. Schmit.
129 Method for the Resection of the Fallopian Tubes. Joseph Halban.
130 Peripheral Tubal Sacs and Their Significance to the Etiology of Tubo-Ovarian Cysts. Edmund Waldstein.
131 A Doctor's Paradise. George F. Butler.

Atlanta Journal-Record of Medicine, July.

132 What to Send to the Microscopist and How to Prepare It. T. E. Oertel.
133 Diseases of the Stomach. Edgar J. Spratling.
134 Suggestions on Treatment of Puerperal Eclampsia and Post-Puerperal Kidney Lesions. R. R. Kime.
135 Some of the Later Sequelæ of Accidents Occurring During Parturition. Edward S. Stevens.
136 Ophthalmic Therapeutics for the General Practitioner. A. W. Calhoun.
137 Value of Ergot in Diseases of the Prostate. Eugene R. Corson.
138 Cholera Infantum. A. E. Chatfield.

AMERICAN.

1. **Acromegaly and Giantism.**—From the facts of morphology, embryology, and pathology, Hutchinson concludes that the pituitary glands, third ventricle, and pineal tracts are the vestiges of the primitive mouth and gullet, around which the entire mass of the cerebral nervous system is arranged. He thinks that this throws a light over the fact of the pituitary body being a guiding center over growth, and says that if he were to be asked to locate the growth center of the entire body on embryonic and morphologic grounds, he would unhesitatingly select this region. The conclusions at which he arrived are as follow: 1. That the pituitary body is still functional. 2. That disturbances of its metabolism are the principal factors in both acromegaly and giantism, the difference between the results being simply due to the stage of individual development at which the disturbance of the function begins. 3. That the nature of the overgrowth in both these diseases is primarily on the order of a pure functional hypertrophy; later, however, losing some of the definiteness of its impulse, and either producing immature tissue of a mixed type or resulting in simple hemorrhagic exudation, with either cyst formation or complete breaking down of the tissue mass. 4. That it seems probable, although upon this head the evidence is still uncertain, that some part is played by this body in "dwarfism," rickets, and the dwarf forms of cretinism. 5. That a reflex disturbance of its function may possibly underlie the dystrophy accompanying pharyngeal adenoids. 6. That it would appear to be a sort of "growth center," or proportion-regulator of the entire appendicular skeleton.

5. **Neurasthenia and Syphilis.**—Kiernan calls attention to syphilitic neurasthenia as aggravating the infection when it occurs and as embarrassing treatment. He recommends gold as an alterative in these cases, as it has some advantages over other medication.

7. **Chorio-Epithelioma Malignum.**—The case reported was one that was examined in the pathologic institute of the University of Zurich. Talmey believes that it corresponds to those already recorded. The plasmodial syncytial masses are always characterized by three points: Absence of cell outline; deeply stained nuclei; and vacuolation. The numerous fibrous masses are, he thinks, due to coagulation in a late stage of the process.

10. **Amenorrhea.**—Dunning reviews the various causes of amenorrhea: Atrophy of organs; chlorosis; retarded growth, atresia; imperfect development of uterus and ovaries, which he thinks is not uncommon; atresia of cervix; inflammatory lesions; etc. The treatment is discussed in detail, but nothing especially novel is offered.

11. **Location of the Cardia.**—The variety of statements of anatomists as to the exact position of the cardia in the stomach is pointed out by McCaskey, who has devised an instrument consisting of a graduated rubber tube attached to a rubber bulb, and with a very small bag of thin rubber at its other end for its determination. It is introduced into the stomach, and can be inflated as much as desired by pressing the rubber bulb. With this he is able to measure the exact distance from the mouth to the cardiac orifice, reading it on the graduated tube. The information thus obtained has been of very great value to him in a number of cases, as regards both diagnosis and treatment. In certain anomalous cases it is also possible to gain by this means some information regarding the caliber of the upper portion of the stomach.

12. **Decussation of the Nerve-Fibers.**—Smith explains the decussation of the nerve-fibers in the medulla by assuming that the fibers that pass down on the same side act as inhibitory and the others as contracting fibers, so that the fibers proceeding from each half of the brain pass to muscles on both sides of the body and act in concert in controlling the muscles on one side, and simultaneously relaxing them on the opposite side.

14. **Gastric Peristalsis.**—A new apparatus for determining the volume of the stomach and contracting powers of the muscle cells is described in detail by Quinan, with the method of using it, and a case is reported in which it has been employed.

15. **Consanguineous Marriages.**—Irwell thinks from his study that consanguineous marriages are in a great majority of cases undesirable, not because they originate disease, but because they intensify existing disorders or diatheses. It is impossible at the present time to insure that a family is without some taint, and as we are constantly counteracting the process of natural selection, such marriages become more and dangerous. They should therefore be discouraged. Consanguineous marriages should not be thought of in families in which idiocy, insanity, epilepsy, congenital deaf-mutism, hare-lip, cleft-palate, or the phthisical or lithemic diathesis exist, as they may be handed down from one generation to another. It is not, however, essential that identical symptoms or identical diseases be repeated, as transmutation of pathologic conditions is a matter of every-day observation. As there seems to be a proclivity to cancer, it should also be a bar, and he would urge that marriages of persons whose environments have been similar are injurious to the race, and that extreme exclusiveness in marriage is not commendable. If the diseased and degenerate insist on getting married, it is their duty to consider the next generation, and mitigate their innate unfitness by the selection of suitable consorts. He says, let the feeble marry the robust, the neurotic the level-headed, but he does not advise the robust or level-headed to marry the feeble.

16. **Bacillus Aerogenes Capsulatus.**—Welch first notices the history and points out the identity of his bacillus with that of Fraenkel. Its gas-producing properties and the points distinguishing it from the bacillus of malignant edema are noticed at length. The conditions in which it is found in the human subjects are mentioned, and he says that he knows of no organism that has offered such difficulty in determining whether its effects on the human body have been produced before or after death. It is found that it may exist in the living blood, but in the great majority of instances in which gas bubbles are found in the blood and internal organs, the evidence is in support of the view that it is a post-mortem phenomenon. The great importance, however, of this gas bacillus lies in its production of emphysematous gangrene, and this subject is discussed at considerable length. We can not follow all the author says here, and the reader is referred to the paper itself for this as well as for remarks in regard to uterine infections and infections of the gastrointestinal tract. The article is a very valuable and interesting one, and comparatively exhaustive on its subject.

17. **The Function of the State Medical Examining Board.**—Menninger thinks that the examining boards should accept junior certificates as evidence of proficiency and limit their examinations largely to practical questions of medicine. He thinks that this would not lower the scale of medical education, but would tend to elevate and increase practical teaching and produce a better class of medical men.

23. ***Headache from Eye-Strain.**—In 1892 Casey Wood endeavored to point out that headache from eye-strain could be distinguished from other forms, and in this article he reviews the different types of headache especially connected with ocular

weakness or defects. He excludes, however, all forms of discomfort that find expression in the lids, eyeballs or contents of the orbit. The most important, and perhaps the most obscure, type is that due to incomplete or unsatisfactory muscular effort. The commonest example is supraorbital headache, frequently met with in ciliary strain. He traces the reflex arc back to the ocular motor nucleus and adjacent trigeminus nucleus, from which it is reflected to the terminations of the fifth nerve. He thinks that the proportion of this element is large, and that 40 per cent. is within limits, while 80 per cent. of all frontal headaches are connected with troubles, generally functional, of the eyes. As to the site of headache, we have in order of their frequency: 1, supraorbital; 2, deep orbital; 3, fronto-occipital; 4, temporal. All sorts of combinations and variations of these, however, will be observed. He describes the symptoms. Pain is apt to be dull rather than neuralgic. The eye itself may appear to be perfectly healthy, but astigmatism is probably the most frequent cause, and its determination is of importance in the diagnosis. Weakness of the external eye muscles may be to some extent the cause of ocular headache, how much he does not pretend to say. The headaches that simulate ocular headaches are those connected with supranasal disease, supraorbital malarial neuralgia, certain forms of nervous headaches in neurotic men and women, and a class of incurable headaches associated with organic disease in connection with eye-strain, such as those connected with iritis, glaucoma, etc. The treatment depends largely on the removal of the causes. The cause of nervous irritation must be attended to, whether it be insomnia or dyspepsia, which is one of the most common causes, ocular defects of any sort, and troubles which may be commonly associated in women. As far as local applications are concerned, the simplest is the use of very hot or cold fomentation; the latter is likely to be the most grateful. He says to take a medium sized towel, fold it 12 inches long by 4 wide, dip it into a basin of cold—40 F.—or hot—160-180 F.—water; bend over the basin, pressing the dripping towel gently against the closed eyes, forehead and temples; change frequently and continue the application for five or ten minutes, stopping when it causes pain or discomfort. Do this every hour or oftener while the headache lasts. In conjunction with this he thinks the mixture of equal parts of spirits of lavender, alcohol and spirits of camphor, may be rubbed over the forehead and temples.

24. **Face Presentations.**—McLean speaks of the unfortunate accidents which may be due to face presentations and the difficulty of meeting them, and criticizes the text-books that say they will as a rule, be self-corrected in the progress of labor. The method which he believes most effective is thus described: The patient being under full chloroform anesthesia, the hand is passed carefully into the vulva, with the outside hand seizing the body of the child. In the entire absence of uterine contraction, the chest is pushed as much away from the pelvic brim as possible from the point toward which the chin is pointing in the direction of the occiput, that is, pushing obliquely from behind forward. At the same time the fingers of the vaginal hand are pushed up alongside the head in one or other of the oblique diameters of the pelvis, so that they can reach the suboccipital portion of the head. The thumb at the moment steadies the brow, and with a slight lifting motion imparted to the whole head, it is caused to rotate on its axis as described, the chin passing upward above the sacro-ischiatic notch as the occiput is drawn down below the pubis. Flexion may be considerably hastened by pressing down the occiput by the outside hand as soon as the face is dislodged from its wrong position. He reports cases in which this method was satisfactorily employed.

25. **Trional Intoxication.**—Coleman believes that trional is one of the safest and most efficient hypnotics we possess and has yet to see a really dangerous symptom follow its administration. In one instance he saw a case of trional poisoning, in which a woman had taken 9 drams in seventy-two hours. The patient was in a somnolent condition for some days, and somewhat ataxic and thick in speech. A large dose of saline relieved the symptoms. His statement does not apply, of course, to those cases where it has been used a long period, but he thinks that the case shows that the medicine does not have a depressing effect nor necessarily produce fatal or even alarming results.

30. **Conduction Aphasia.**—Pershing reports a case which he thinks illustrates the conduction aphasia of Wernicke and where there was found a spot of softening immediately above the fissure of Sylvius, 6 cm. back of the junction of its vertical and horizontal branches, and the dorsal half of the right cerebellar hemisphere was destroyed by softening. In this case motor aphasia was excluded by the large number of words correctly uttered; visual aphasia was excluded by the absence of hemianopsia and the large number of words read aloud correctly or otherwise. The case was one of auditory aphasia, but differentiated from other forms by the rapid disappearance of word-deafness without any change in the paraphasia, paralexia, and agraphia. The lesion was small and well defined and, according to the latest views, was so situated as to interrupt communication between the first temporal and third frontal convolutions.

35. **Islands of Langerhans of the Pancreas.**—In 1869 Langerhans published a description of certain bodies consisting of groups of irregular polygonal cells in the pancreas, the nature of which he was unable to determine. Kühne and Lea have described, in injected specimens, glomerular structures composed of dilated and tortuous capillaries which correspond in site with these islands, so-called, of Langerhans. Various conjectures have been made as to their function, that they furnish an internal secretion, etc. Lewaschew claimed that he was able to increase their number at the expense of the acinar tissue by repeated over-stimulation of the gland with pilocarpin or by continued over-feeding. In the human pancreas the interacinar islets are more abundant in the splenic end than elsewhere—three and one-half times as abundant as in the body and head of the organ. In acute inflammatory conditions, the various elements of the gland are almost simultaneously affected, but in chronic inflammations, the islands of Langerhans do not always show alterations corresponding to those occurring in the secreting tissue around them. In some sclerotic inflammations of the organ they seem to be little affected, and Opie distinguishes two types of interstitial inflammation of the pancreas: one which he calls interlobular, which brings out strongly the lobules of the gland with wide bands of sclerotic tissue separating them, the other, the interacinar, characterized by the presence of new interstitial tissue within the lobule. In the first-named, the islands of Langerhans persist unaltered, which he thinks possibly due to the very great vascularity of the parts. They are not affected in obstructive disorder to the organ, and as the ducts do not penetrate through them, micro-organisms reaching the gland by this route would not enter them. In the second form, which he has observed in only three cases, these bodies were generally affected. There is a proliferation of the interstitial tissue forming coarse strands between the columns of the cells. The cells become diminished in size and their nuclei are small and stain deeply. In one peculiar case he found these glands almost entirely destroyed and rendered indistinguishable by hyalin degeneration which was principally associated with these parts. The connection of lesions of the pancreas with diabetes is always of interest, and the relation of these islands of Langerhans to the disorder is especially discussed. In all the four cases of pancreatic diabetes which he has met with, they were more or less affected. In one, which was of the interlobular type, the sclerosis was far advanced. In two out of three instances of the interacinar type, diabetes was present, and in the third case the lesion was accompanied by a condition of general pigmentation known as hemochromatosis. In fact the condition is the bronzed diabetes of French writers, so-called on account of the dark color of the skin. In this particular instance the patient was carried off by typhoid before the lesion of pancreatitis had advanced enough to produce glycosuria. In the fourth case that was mentioned, the condition was accompanied with hyalin change.

36. **Influence of Defibrination on the Kidney.**—Pfaff and Vejux-Tyrode have experimented to improve if possible the technique and method of artificial circulation in the isolated kidney. They found that with the use of defibrinated blood the secretion of the kidney was greatly reduced and contained

albumin, blood and kidney debris, that is to say, the kidney had lost its normal function. When, however, the normal blood from a second animal was used, the kidneys resumed their function, and the pathologic products disappeared, thus proving that defibrinated blood caused a stoppage of secretion in the kidney or produced in the secreted fluid the chemical and microscopical appearances of the urine of Bright's disease. Whether the results of these experiments will throw any light on the cause of Bright's disease can be determined only by further investigations which the authors promise to attempt.

37. **Human and Other Mammalian Blood.**—The distinction between human blood and that of other mammals has been based upon the size of the red corpuscles, and it has been found that they have not been altogether reliable. A new method proposed by Walker is based first on the morphologic and microchemic characters of the granules of the polymorphonuclear leucocytes, and second, on the ability to recognize these conditions in the dried blood. It is well known that leucocytes of the human blood contain granules that are brought out by special staining methods. Disregarding the "mast-cells" these granules are of two kinds, differing in size and staining properties. About 97 per cent. of the polymorphonuclear leucocytes contain numerous, minute, irregular granules which stain in neither basic nor acid stain, but only with certain combination stains like Ehrlich's "triacid," and are therefore called neutrophile. The remaining 3 per cent. contain large spherical uniform granules that stain only with the acid stains—acidophile. Of the other mammals, apes are said to show neutrophiles, but all other species contain only acidophiles and non-granuliferous leucocytes. He describes the condition in different animals and gives a table showing the staining reactions of the granules in a number of species.

39. **Methods of Staining Flagella.**—The method recommended by Robey is summarized by him as follows: 1. Clean cover-glasses thoroughly. 2. Prepare and dry cover-glasses on a level table. 3. Fix in a water bath at 60 C. for one-half hour. 4. Place in Pitfield mordant cold for twenty-four hours or three minutes hot; wash thoroughly in running water and dry. 5. Use the Pitfield stain the same as mordant. 6. Mount in balsam.

41.—See abstract in The Journal, xxxiv, p. 1487.

44. **Rectal Alimentation.**—This is indicated as follows: 1. In conditions in which the passage of fluids from the mouth to the stomach or to the small intestine is impeded or made impossible—strictures, benign or malignant of the esophagus or cardia of a high degree, spasmodic or paralytic conditions of the esophagus, pyloric or duodenal stenosis. 2. In ulcer of the stomach accompanied by considerable hemorrhage, or when the usual methods of treatment have failed. 3. Incessant vomiting, no matter to what cause it be due. 4. In all conditions in which absolute rest for the stomach seems imperative—intense pains soon after ingestion of food; persistent hyperchlorhydria of a high degree; intense chronic continuous gastro-succorrhea. Pronounced ischochymia. 5. In typhoid fever and other severe lesions of the small intestine necessitating a complete rest of this portion of the bowel. How long a period it should be administered depends on the condition requiring it. In ulcers, or irritating affections of the stomach it may be relied on alone for a period varying from one to two weeks, when natural methods may be cautiously resumed. Where there is an organic obstacle in the esophagus or pylorus, rectal feeding must be carried on as long as it exists, and in operating cases until a few days after the operation—in inoperable cases indefinitely. After operations on the esophagus, stomach and small intestine, rectal feeding must be continued for a period varying from four days to a week or ten days. It should be preceded by cleansing injections of salt and water to thoroughly evacuate the bowel and the food enema given one hour afterward through a fountain or Davidson syringe, slowly, without much force. The amount may be from five to ten ounces and three to five such may be given daily. The substances which Einhorn gives are: 1. The different kinds of peptones and propeptones, the different beef juices dissolved in water. 2. Milk and eggs, six to seven ounces of milk, with one to two raw eggs well beaten up in it, with perhaps the addition of pancreatin. 3. Meat pancreatin consisting of five ounces of well chopped meat with two ounces of fresh pancreatin, one ounce of butter or fat with about six ounces of water. These may be altered for variety and in conjunction, injections of water are made to increase the amount of fluid absorbed. Usually saline solutions in quantities varying from a pint to a quart may be given twice daily.

47.—This article has appeared elsewhere. See The Journal of August 4, title 131, 319.

55. **Progress in Obstetric Practice.**—The special points mentioned are instruction of patients as to the best methods of getting through the process of parturition, and preparation beforehand; the hygiene of pregnancy; the question of diet as affecting the development of the fetus, in which matter Hoag thinks that Eichholz' diet method is worthy of further investigation as affecting the size of the child's head and facilitating labor, and the advantages of posture.

56. **Internal Antisepsis.**—Burr reports the results of experiments upon himself as to the effect of aminoform on the blood and urine which seem to show that, under normal conditions, free formalin is not found in the blood two hours after ingestion of an ordinary dose of aminoform. Aminoform is capable of preventing decomposition in both normal and acidulated blood and in both normal and alkaline urine. It must, therefore, be antiseptic and theoretically a valuable drug in infected conditions. He asks whether it may be possible to exhibit formalin or its salts under conditions in which free formalin may be found in the blood in bactericidal strength with immunity, just as it is found in the renal secretions. If this question can be settled affirmatively, its value in infectious disease will be greatly enhanced.

64. **Immunity.**—The ordinary theories of immunity are rejected by Reid, who thinks that the natural processes of immunization are as follows: The individual is infected by the micro-organisms and is poisoned by their toxins. If death does not ensue, these cells produce enzymes which digest the toxins and injure the micro-organisms. As digestion proceeds, a gradual scale of toxins is produced, and up that graduated scale the cells of the individual react until they become indifferent to the strongest toxins and are able to destroy the micro-organisms. Pasteur, he says, imitated this process in his rabies treatment, and Jenner did it unconsciously in vaccination. Immunization by snake venom is produced by attenuating the poison in the stomach, and it may be possible on the same lines to cure a disease by swallowing and digesting its toxins. All toxins, however, are not digested in the stomach, or at least are not rendered innocuous—morphin is an example. If it were possible to attenuate morphin in some way by altering it, this product might prove of curative value in acute morphin poisoning.

65. **Hysteria.**—Punton believes hysteria to be the result of a defect in the anatomical conformation or the physiologic functional activity and power of the higher cerebral inhibitory centers, leading to disorder in the mechanism in one or more organs dependent upon their specific influence, that is, it is due to disorders of the higher inhibitory centers which are the last to develop. He dwells also on the importance of avoiding the evil influence of suggestion and the necessity of control and removal from home influences as treatment for such patients.

66. **Transmission of Sounds.**—Outten has experimented with various animal membranes superimposed one upon another, and finds that sound can be transmitted in a much more perfect state than by simple, more rigid membranes such as are used by the graphophone. He says that in this way the human voice can be reproduced in all its qualities. In the transmission of sound moisture seems to be necessary to produce the best qualities. He suggests further investigation with the superimposed layers of various membranes to augment sound and interpret its quality.

71. **Bubonic Plague.**—Novy's article is a complete history of the bubonic plague from the earliest times until now. He traces the present pandemic by various routes back to Yunnan in China, but there are undoubtedly other foci like those of Gurhwal and the recently discovered ones in Uganda and

Kisaba in Central Africa. It is quite likely another exists in Arabia. The present pandemic seems to have reached nearly all parts of the world, South America, North America, and Europe, as well as Asia and Africa.

72. **Epilepsy.**—The principle point in Inglis' paper is the use of coal-tar derivatives in epilepsy. He has tried the different ones, but has come down practically to the exclusive use of acetanilid. He employs it in cases where the bromids have been thoroughly tested and failed. It is not necessary, he says, to use large doses, 5 gr. or even 3 gr. three times a day will often prove sufficient. He gradually decreases the dose if the fits do not appear while keeping up its regular administration. He says that its use is justified on purely empirical grounds, and it seems that we are more certain of the positive action with these than with any other drugs. The surgical treatment of epilepsy is not hopeful, and he does not speak highly of it.

73. **Administration of Drugs.**—The phase of the question considered is that of the relation of the administration of drugs to the meals, and this is sometimes difficult to decide. The drug may unite with some of the food or digestive fluids, or both, and produce an entirely new compound which may have effects absolutely different from those that have been expected. Certain drugs may need to be given at a fixed time before or after meals in order to have the expected effect. When, on the other hand, they are given on an empty stomach, absorption may be too rapid and irritation may be produced. As an instance of this he mentions quinin, which may cause gastritis if given in large doses on an empty stomach. The administration of iodin in the form of compound solution or tincture, if given during digestion, may unite with the starch and produce a substance as valuable for medicinal purposes as a glass bead or copper cent. The effects of lack of precision in the administration of drugs in reference to meals are not as bad as they formerly were. The first reason was the substitution of the simple prescription for the old polypharmacy. The second change was the adoption of other methods of administration than by the stomach.

77. **Pathology of Human Milk.**—One of the most common variations from the normal is that the proteids are very high in percentage and have little tendency to decrease. While, from experience with cow's milk, this should not make so much difference, we have learned that the high proteids of mothers' milk are almost invariably associated with marked dyspeptic symptoms in the infant, commonly called colic. Zahorsky thinks the explanation of this fact is that the high percentage of proteids favors the growth of gas-producing bacteria, such as the bacillus lactis aerogenes, or, more probably, the gas is produced from proteids, and the treatment must be to secure proper metabolism in the mother by restriction of animal food, water drinking, exercise, sleep, etc. The relief of the infant also must be attended to. He uses dextrinized gruel as a diluent, giving half an ounce to two ounces of the mixture immediately before nursing. This combination of feeding is excellent in many conditions. The second clinical picture caused by faulty mothers' milk is anemia, which occurs usually after the eighth or tenth month, when the breast-milk has become very weak in proteids, but sometimes it occurs earlier. The cure of this disturbance is supplementary feeding, the administration of iron and phosphorus compounds and attention to the nutrition of the mother. In some cases milk contains pathologic bacteria from some disease or lesion of the nipple or breast and toxic symptoms and gastroenteric irritability are prominent. In another class, besides inanition disturbances, nervous symptoms are very prominent. The question of psychosis as regards the mother is mentioned in this connection, but the etiology in many cases is obscure. In any case, when we can, it is of importance to preserve mammary secretion even if it be only in small quantities, as the child must be taken from the breast only as a last resort.

83.—See abstract in The Journal, xxxiv, p. 1003.

84.—Ibid., p. 1418.

86.—Ibid.

88. **Medicinal Vibration.**—This article by Adam is theoretical and based on the assumption that all physiologic and pathologic phenomena are due to vibrations of matter in the intermolecular and interatomic ether, and this idea is applied to disease conditions and their treatment.

92-93. **Plague in San Francisco.**—Pillsbury's paper is in substance the same as that abstracted before in The Journal on p. 320. The article by Power is simply its supplement, and both cover the same ground and express similar views.

100. **Rhizomelic Spondylosis.**—This disorder, which has been given the above name by Marie, is described by Frazier, with two illustrated cases. The ankylosis of the spine which is its characteristic, and also of the large joints and extremities, was well marked. The etiology has troubled the observers. Curiously enough nearly all cases have been in males. In the two cases reported there was a history of traumatism; in neither was there any hereditary predisposition to this or any rheumatic disorder. The disease begins primarily in the ligaments and in the articular cartilages of the periphery. Any lesions of the nervous system are unquestionably not primary, but are due to pressure on the nervous roots or by exostosis. The prognosis is not serious as to life, but recovery is not to be looked for. Treatment can accomplish little, except possibly to relieve pain.

101. **Phenacetin.**—The conclusions in this paper are as follows: 1. The moderate dose of phenacetin is without any distinct action on any vital organ. 2. Large doses lessen reflexes by a direct action on the spinal cord. 3. Doses of .5 gm. per kilo of body-weight—equivalent to a little less than one ounce for a 150-pound man—kill by arrest of respiration. 4. Doses even up to .5 gm. per kilo had no distinct effect on the circulation.

111.—This address has appeared elsewhere. See The Journal, xxxiv, p. 1445.

113. **Bromids in the Alcohol Habit.**—Fletcher offers a treatment which he says is not original, but was suggested by Dr. G. M. Schweig, in New York, in 1876, in his article on the "Cure of the Morphin Habit." It consists in giving large quantities of bromid and a rather rapid tapering off of the narcotic habit. In cases where this habit is of long standing and large quantities are used, say from one to two quarts of whisky, or 10 to 20 grains of morphin, he gives about 1 ounce of bromid with a somewhat reduced dose of morphin or alcohol during the first twenty-four hours. The next day he gives one-half the amount of bromid and one-half the habit dose. It is rare, he says, that they do not get over the exhaustive stage in less than forty-eight hours, and he has never known a case to fail to rally. They require, however, several weeks' careful nursing before they are able to attend to business.

115. **Typhoid.**—Heg reports the general results of his experience with typhoid at Fort Meyer, Va., in the fall of 1898, when it was the base hospital of the Second Army Corps. He thinks that only about one-half of the cases received were correctly diagnosed in the early months of summer, but that the diagnosis of mild forms of typhoid is often exceedingly difficult. The Widal test, which was made in all cases coming to the hospital, was sometimes the only positive basis for the diagnosis. He is inclined to believe, however, that so many cases of mild typhoid are liable to be unrecognized that he agrees with Prof. Dock that all cases of persistent temperature especially in the summer or early fall should be considered as guilty of typhoid until proved innocent. On the other hand, there are many cases which seem almost certain to be typhoid, but which do not react to the Widal test, and which are due to autointoxication or ptomain poisoning. These patients are apt to recover rapidly and are the cases that make the reputation of the quack as cures or abortions of typhoid. The different methods of treatment were tested at Fort Myer, and Heg speaks very unfavorably of the Woodbridge method. He does not believe the Brand method to be of the value claimed for it, and thinks that it is of most use in full-blooded, plethoric individuals with excessive temperature, and then mainly in the early stages. Reduction of the temperature by drugs is in all cases harmful. Intestinal antisepsis is undoubtedly useful, and he found salol rather the best drug as being the best for the stomach and as satisfactory as any. Strychnin proved it-

self to be the most valuable of all drugs when the heart was weak and delirium marked. It was recognized by all that the best results followed the old expectant plan, viz., as full a liquid diet as could be digested, as little medicine as possible, watching and meeting all symptoms, carefully supporting the heart and nervous system and reducing the excessive temperature in the least disturbing way. He was impressed by the following facts: 1. That while all cases are serious, with rare exceptions, they tend to recover, and will recover, barring accidents, under any conservative treatment. 2. While it is advisable to place all cases on a varied liquid diet, semi-solid or solid food does not do the harm that it is supposed to, excepting by disturbing digestion. 3. Relapses may follow all possible care and are mostly due to a new crop of bacteria rather than to solid food. He has not seen harm follow laxatives unless pushed too far, and he does not believe that temperature, unless excessive, over 104 F., is liable to do much harm. Hemorrhage may occur in any case, and he knows of no medicine that specially helps it. A number of cases of perforation were noted, but in no case was it advisable to operate. He afterward saw two patients who recovered after showing all the symptoms of perforation. The total death-rate up to the time he left Fort Myer was about 7 per cent., which he does not think was bad, considering the surroundings of the disease before being brought there.

118. **Opium in Infantile Diarrhea.**—While many practitioners believe that opium should have no part in the treatment of diarrhea, Crandall recommends its use in certain conditions. Its contraindications are, first: 1, in the first stages of diarrhea, before the intestinal canal has been freed from decomposing matter; 2, when the passages are frequent or of bad color; 3, when there is high temperature or cerebral symptoms are present; 4, when its use is followed by elevation of temperature or the passages become more offensive. It is indicated: 1, when the passages are frequent, with pain; 2, when the passages are excessively frequent, large, and watery; 3, in dysenteric diarrhea preceded by castor-oil or a saline; 4, in late stages, with small, frequent, nagging passages; 5, when the passages consist largely of undigested food, and the bowels act as soon as food is taken into the stomach. The method of administration is of importance. It should not be added to the ordinary diarrhea mixture, but should be given alone, which makes it easier to regulate the dose, and safer. The preparations are preferably paregoric and the deodorized tincture, morphin is very rarely required. The dose varies greatly, but should be as small as possible. The dose of paregoric for an infant three months old should be 2 minims; 1 year old, 8 minims; 5 years old, 30 minims. These doses are only approximate and vary somewhat according to individual needs.

119. **Gastrointestinal Infection in Infants.**—Babcock concludes that bacteria are not essential to digestive processes in the human subject, basing his opinion on experiments and clinical observation. The digestive action of bacteria is slight, and injurious compounds are frequently produced. The source of bacteria which cause gastrointestinal infection is chiefly cow's milk. He emphasizes the importance of avoiding contamination in milk, etc. Fortunately the organism has a power of resistance in a large proportion of cases, but this can not be depended on and undoubtedly many troubles are due to this cause. The methods of examining milk for this contamination are described and the details of sterilization given. Pasteurization is of value, but care should be taken that the milk is rapidly raised to the proper temperature, kept at that temperature for twenty minutes and then rapidly cooled. Some methods of so-called pasteurization are simple incubation of milk, and do not destroy some toxins that have been produced, and hence the child may be poisoned after the bacteria have been killed. This but emphasizes the need of securing the milk in as nearly a perfect condition as possible, and preventing contamination.

127.—See editorial in The Journal of Aug. 4.

FOREIGN.

British Medical Journal, July 21.

Our Numbers and Our Work at the Close of the Century. George Eastes.—The presidential address of Eastes before the Metropolitan Counties Branch of the British Medical Association gives some interesting figures as to the distribution of medical practitioners in Great Britain. It shows that they are steadily increasing in their ratio to the population, and that in London at the present time there is about one doctor to every 800 persons, while in 1881 there was one in every 1000, and that a like increase has taken place in the provinces. The number of female physicians is also increasing, but the numbers are not formidable at the present time, there being only about ninety-two practicing in London. The increase of dispensary practice is also another matter of importance to the profession, it being authoritatively given out that the out-patient visits in London alone last year numbered 1,335,000. The conclusion of the whole matter is that the medical profession is becoming more numerous, and its paying work less in Great Britain, as well as in this country. The remedies for this condition are, he thinks, already in effect. The fifth year added in 1892 in the student's curriculum has reduced the number of entries nearly three hundred a year since that date, and Eastes believes that the English colonies will afford a resource for many physicians who are crowded out from Great Britain.

The Lancet, July 21.

Malaria and Malarial Parasite. Patrick Manson.—The author describes the morbid anatomy of malaria, the disintegration of blood, anemia, etc. As regards the latter he remarks that the parasite is not present in the peripheral circulation in the same proportion as the central; hence the unduly small number of them described in the blood tested as compared with the mischief they are doing. The periodicity of malaria, he thinks, is due possibly to the life stages of the parasites and in part also to the diurnal rhythm of physiologic processes. So far as known, the lower animals are immune to malaria, and there is a great variation in individuals in this respect in the human species. The clinical forms are described, and he considers especially the pernicious types, the most common of which is the pernicious comatose. When the patient is suffering from an ordinary attack, he suddenly becomes comatose, and may die unless skillfully treated. Another type is the hyperpyretic, often confounded with sunstroke, and in tropical countries, convulsions may initiate the attack in children. All these different types are explained by the brain sections, which show the capillaries crowded with malarial parasites. The practitioner in tropical countries should always suspect any sudden unexplainable attack to be malaria. The diagnosis should not be positive, but there is cause for suspicion. Black-water fever is a disease not recognized until within the last thirty or forty years, and its symptoms are described. Its mortality sometimes amounts to as much as 50 per cent.; only occasionally is it as low as 10 or 15, and it is almost sure to recur if the patient remains in the endemic area. As in other malarial diseases, the symptoms may appear after the patient has left the infected region. Manson calls attention to the popular fallacy of thinking that every one must have been exposed to its infection, or that malaria is constantly present in all tropical countries. There are some regions in the tropics where the disease is absent. There are few diseases so easily diagnosed. There are three pathognomonic tests: 1. The periodicity, not the diurnal, but the tertian and quartan periodicity. Quotidian periodicity should be absolutely ignored in diagnosis. Then there is the therapeutic test by quinin, which is not sufficient, however, to be entirely relied on, as we have not time to wait for it, and third and last, is the microscopic test. The treatment resolves itself into one thing, the use of quinin, which is as nearly a specific as anything we have in medicine.

Modern Methods of Amputating at the Hip-Joint. Thomas F. Chavasse.—The different methods of amputation of the hip-joint, as described by Chavasse, are: The method with the anterior and posterior skin flaps, and the muscles and vessels divided as high up and as close as possible to the pelvic bone by circular incision. The second method is what he calls the external racket method, the precise steps of which differ somewhat, according to the case. It appears to consist in a circular skin incision, with a vertical incision joining it on the outer aspect of the limb from above the trochanter, and all the muscles and soft parts are cut through by circular incision reaching the bone. The femoral vessels are at once seized and ligatured, and steps taken for the disarticulation of the head of the femur. There is still another method which he mentions, that has been described by Estes, and is a modification of the German operation suggested by Professor Rose. The first step is the ligation of the common femoral vessels at Poupart's ligament, and division of the same between double ligatures. Short anterior and posterior skin flaps are then formed from without inward and the soft parts divided by gradual dissection close up to the pelvis, all known vessels being secured before they are divided, and the smaller ones being clipped immediately afterward. This is slower, but it can be carried out with one assistant, and the surgical apparatus is simple and slight. For obviating hemorrhage he thinks the Wyeth pins are the best means known, though in some cases he has used the compression of the abdominal aorta and digital compression by a skilled assistant. The questions of shock, age, pregnancy, etc., are considered in relation to amputation of the thigh. Chavasse believes that improving the technique makes the operation a less and less formidable one. The remarkable showing of Wyeth of a mortality of 12.3 per cent., is the best yet recorded.

Rupture of the Apparently Healthy Esophagus. E. J. McWeeney.—The author reports a case and analyzes previous records of similar accidents. From a study of the data, he concludes that the two main factors are softening of the coats, and sudden increase of pressure from within. The softening is due partly to the intra-vital digestion, and partly—at least in the case which he observed—to inflammatory infiltration. The intra-vital digestion is to be accounted for by circulatory disturbance, which in his case took the form of venous thrombosis, and by prolonged sojourn of peptic matters in the gullet from prolonged retching. The increased pressure from within is doubtless ascribable to the violent propulsion of the gastric contents into the lower part of the gullet, whilst its upper outlet is obstructed by the contracted state of the muscle—in other words, to want of co-ordination of the muscular action of the tube, probably due to exhaustion from prolonged over-activity. Whether a localized phlegmonous esophagitis—for that is the condition in the case now recorded—is a constant factor in these cases, it is, of course, impossible to assert in the absence of microscopical details of other cases. He thinks he is the first to establish the existence of this condition as a possible cause of rupture of the apparently healthy gullet.

The Varieties of Acute Pneumonia. Henry Handford.—The author reports a case of pneumonia with low temperature, though with typical physical signs, and reviews the etiologic varieties of the disease. One of the first examples of pneumonia is the influenza type, which he thinks accounts for many of the infectious cases that have been reported. Under ordinary circumstances, in good surroundings, pneumonia does not spread from one individual to another, but in these influenza cases there seems to be a direct contagion or infection. Another type which he mentions is what he calls "food pneumonia," due to eating poisonous food. Plague pneumonia, or the pneumonic type of plague, is noticed, and lastly, typhoid pneumonia, which he believes is only a special form of typhoidal poisoning.

Australasian Medical Gazette, June 20.

The Epileptic; His Treatment and Care. F. Norton Manning.—Epileptics are of interest from a social, medical and medicolegal aspect, and in this paper the author discusses their general character, number and treatment. The average epileptic, when the disease has become confirmed, is not, in Manning's opinion, an amiable character. He credits him with an ostentatious religiosity, with a very defective morality, and with general moral decadence. He thinks their number is underestimated, and he gives the figures for the various countries, but assumes that in New South Wales their number is perhaps not less than one to every 1000 of the population. Epileptics are often classed as insane and sane. This is hardly a definite distinction, as there is no marked dividing line between them. Even where there is no actual insanity, there is generally a certain degree of mental impairment. He calls attention to the automatism accompanying their attacks, which has a very important medicolegal bearing; we should be always on the watch in regard to this condition and its manifestations—the unexpected is particularly liable to happen. These cases are best treated in hospitals or asylums, where they may be controlled, properly dieted, and medically treated. For the large number, however, who are not actually insane, no due provision is made in Australia, and he pleads for special sanatoria for their care, and notices those of other countries. The moral treatment is important, and can be better managed in an asylum than among the patient's friends. There should be absolute prohibition of alcohol, only moderate use of tobacco, removal of possible sources of irritation, simple and well-regulated diet, and attention to the elimination. The medical treatment is largely bromids, but variations may be made which he points out. The treatment is almost always long and troublesome, and generally necessary for years, if not for life.

Hereditary Optic Atrophy. C. S. Hawkes.—The writer reports two cases in which optic atrophy seemed to follow in the female line, but affected only the males. Both are followed for four generations; in the first, the female had five children, all males but one, of two of whom the history is not known; the other two males became blind at the age of 30. The female child was not affected, married, and has nine children, five of whom are females and unaffected; three are unmarried, and one is married and has three male children, the oldest 19, none as yet affected. The two males became blind at the ages of 15 and 48, respectively; one, at present 28 years of age, is not blind. One female married and has two male and three female children; both the males and one female have become blind. The second family history is even more striking in some respects. A married B, who is said to have become blind. They had three children, two males, both blind, and one girl, who married and had five children, four males, all blind, and one female, not affected, who, in turn, had two children, both males, and both blind. The heredity in these cases is rather striking as showing the transmission of the defect through the female line, but involving males almost exclusively.

Bulletin de l'Academie de Medecine (Paris), July 3.

Circular of the Malaria Committee.—The committee of five, including Laveran, appointed by the Académie, has drawn up a comprehensive circular of instructions for the use of physicians, naturalists and travelers in malarial countries. It contains a detailed description of the parasite of malaria in all its phases, and of the mosquito, its host, with directions and suggestions for future research. The circular reiterates that neither the water, the soil, nor the air is directly the source of malarial contagion, and that the mosquito does not transmit the malarial germ to its young. Among the questions still pressing for solution are the age at which the system becomes accustomed to the malarial infection, and what type of fever determines it most absolutely. What becomes of the malarial germs inoculated in an immunized or "accustomed" individual? Do they propagate in the blood in this case or not? Is the immunity due to the fabrication of an antitoxin that neutralizes the toxic substances elaborated by the germ and poured into the circulation as the merozoites are liberated, or is the immunity due to a poison produced by the organism which kills the parasite? The study of similar parasites in animals is also of great importance. Adult mosquitoes can easily be raised from the larvæ for study, and can be caught by placing a test-tube over one. It flies up to the top of the tube, which is then corked, and the particulars written on a label pasted on the tube. A little water must be placed in the tube, and the insects can be kept alive by feeding them with a slice of banana or honey, or, if they refuse this, by allowing them access to a young bird still in the down, or a shaved portion of the skin of a small animal. The insects can be preserved in alcohol or pure glycerin, or mounted on pins. The committee will gratefully receive any information or answer questions on the subject. Address rue de l'Ecole de Médecine, 15, Paris.

Bulletin de la Soc. Med. des Hop. de Paris, July 5 and 12.

Permeability of the Pleura. J. Castaigne.—Widal and Ravaut report tests of the permeability of the pleura by subcutaneous injection of .3 sodium salicylate, followed by injection of the same amount into the pleura. The salicylate is eliminated more rapidly, and can be measured more accurately than methylene blue or potassium iodid, which have been used in previous tests. In one case of tuberculous pleurisy the pleural permeability was diminished, in one of pneumonic pleurisy the permeability was altered in respect to the length of time required, but not in the amount eliminated. In three cases of mechanical pleurisy of cardiac origin, the permeability was normal, but in another it was diminished. Castaigne communicates the results of further research in this line, which authorize the conclusions that when the permeability of the pleura remains normal, or nearly so, during the entire course of a pleurisy, its non-tuberculous character is established. Also that the stage of the pleurisy can be diagnosed by comparison of the serum and pleural fluid in respect to the freezing-point, and by study of the permeability of the pleura "from without," i. e., testing the passage of salicylate into the pleural effusion one hour after ingestion of 1 gram. The "augmenting period" of the pleurisy is characterized by pleural permeability from without inward, and by a difference between the freezing-point of the serum and of the pleural fluid. The moment when the inflammatory phenomena subside is characterized by the cessation of this kind of permeability, and by the appearance of isotony between the fluid of the effusion and the serum. The practical conclusion of his research is that a puncture should never be made during the "augmenting period," except as a last resort. At this stage the fluid forms rapidly again. When the fluid is isotonic, and the permeability from without is suppressed, if the pleura is absorbing well—showing "permeability from within outward" —puncture is useless, as the fluid will be spontaneously absorbed. On the other hand, if at this stage the pleura is not absorbing well, puncture is the only means to relieve the pleura of the accumulated fluid.

Pathologic Displacement of Mediastinum in Breathing. A. Béclère.—Holzknecht recently called attention to the displacement of the mediastinum during respiration, which he had occasion to observe in a patient free from pleuritic effusion, and which he attributed to stenosis of the right bronchus of unknown origin. Béclère has encountered two similar cases, and carefully studied the conditions with the fluoroscope. He rejects Holzknecht's explanation, and asserts that displacement of the mediastinum during inspiration is almost invariably a sign of unilateral sclerosis of the lung, the mediastinum moving toward the sclerosed organ. It is a positive sign of sclerosis of the lung if the mediastinal displacement persists without change as long as the patient immobilizes his thorax in forced inspiration, and the variations in the transverse diameter of the image of the lung on the affected side during the two phases of respiration are scarcely perceptible. The diagnosis of sclerosis of the lung is confirmed by the lesser clearness and lesser extent of the pulmonary shadow, by the drawing in of the ribs, and the less open angle formed by their insertion in the spine, by the elevation of the diaphragm, and the shortness of its excursions. The displacement of the mediastinum is total or partial, according as the sclerosis involves the entire lung, or only one of its segments, and also according as the inspiration brings more or fewer ribs into play. This displacement might be due to sclerosis of a bronchus, but in that case it would not persist during the entire period of immobilization of the thorax in forced inspiration, but would vanish before the advent of the following expiration, while the shadow of the lung would enlarge in every direction.

Echo Medical (Lille), July 15.

Gynecology and Advertised Specifics. H. Folet.—Several instances are related of the most serious results in various gynecologic affections, and especially cancers, from the use of remedies advertised in the lay press, some ridiculously useless, others directly fatal, by stimulating a latent neoplasm to malignant activity, and all baleful by the loss of precious time and opportunity. A typical case is that of a patient who had been operated on twice for the removal of a cancerous nodule in the mamma. When it appeared again, the patient, still in blooming health, refused another operation, and purchased an electric machine advertised as a cancer cure. In four months the nodule had become transformed into a vast, inoperable growth, with rapid cachexia and death. The electric treatment had been directly fatal by its stimulation of the neoplastic elements. The only remedy for such occurrences is to have suits for damages instituted promptly and without exception against the proprietors of the remedies. This would enlighten the public, and the firms would soon find the business unprofitable if the suits were properly managed, and if the damages awarded were presented to some benevolent institution. But in none of the instances related in this communication was Folet able to prevail upon the families to incur the notoriety of such a suit.

To Render Raw Meat Appetizing. P. Carles.—Scrape a piece of beef with a sharp knife until nothing is left but the fiber. Press the scrapings through a fine sieve, and add to bouillon with a few spoonfuls of a purée of peas or beans, also strained. It is impossible to detect the taste of the raw meat in this combination. It should be served warm, and to heat it without cooking it is necessary to warm the meat slightly in a double boiler, and have the peas, the bouillon and the dishes hot.

[A correspondent writes to the *Progrès Médical* that the use of raw meat is a return to nature, that cooking is an arbitrary attempt to improve on nature, which cannot be justified. Cooking transforms a living into a dead thing, and it is these dead things, deprived of every vital principle, which we utilize to build up our tissues, contrary to all the examples furnished by nature. Raw-meat therapy is therefore a rational kind of organ therapy.—Ed.]

Journal de Medecine de Paris, July 15.

Pumice Stone in Surgical Asepsis. Meriel.—Instead of a brush, Meriel recommends a piece of pumice stone, boiled and kept in an antiseptic, as the most effective instrument with which to render the surgeon's hands aseptic, and "give him a new skin." Tests on dogs and rabbits, whose intestines and peritoneum were handled after the hands had been rubbed with pumice stone in soapy water, demonstrated the absence of pathogenic germs.

Infanticide with Umbilical Cord. Dufour.—This method of infanticide must be extremely rare, as only two are on record in France. Dufour relates a third case in which the cord was tied in a single knot around the throat, cutting deeply into the flesh.

Revue de Chirurgie (Paris), July 10.

Pneumotomy for Bullet Wound. M. Christovitch.—A young man shot in the lung was immobilized for six days, when the threatening symptoms demanded surgical intervention. In an operation lasting only twenty minutes the fifth and sixth ribs were resected under a V-shaped flap; the hard point of the lung containing the bullet was seized with forceps, and the pulmonary pleura and the parenchyma of the lung were incised. A large amount of blood and pus escaped, and the bullet was removed, with three gangrenous fragments. Hemorrhage was arrested with gauze tampons; two drains were left in the pleura; the flap was sutured, and an aseptic dressing applied nearly encircling the thorax. Ether and 500 grams of artificial serum were injected, the latter repeated two days later. The patient was dismissed completely cured in two months, with not even a fistula left.

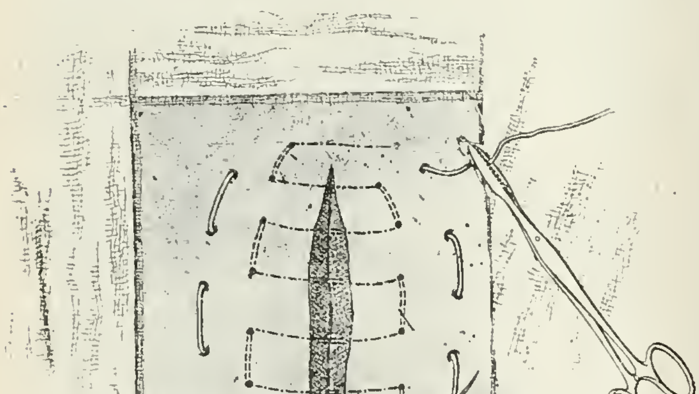
Interstitial Cells in Ectopic Testes. B. Cuneo.—Histologic study of two cases of ectopic testes, recently operated on, showed a remarkable development of interstitial cells in each organ, which seems to confirm the theory that these elements are of connective-tissue origin, and independent of spermatogenesis. From the pathologic point of view, it explains the frequency of malignant tumors in ectopic testes, and the predominance of sarcomata among these tumors. The practical conclusion is the necessity of ablation of every ectopic testis after puberty. The spermatogenic function is definitely abolished, and the testis in this case affords an excellent soil for the development of malignant tumors.

Revue Hebd. de Laryngologie (Bordeaux), June 30.

Best Anesthetic for Operations on Air-Passages. A. Malherbe.—The advantages of the Rose position, for minor operations on the upper air-passages, are obvious, and it is possible and safe if ethyl bromid is used for the anesthetic. The bromid has no action on the heart, and no after-effects, while it is prompt and reliable, as Malherbe has demonstrated in 3024 operations. He urgently recommends it, and asserts that with a few simple precautions, there is not the slightest danger. It must be administered all at once, not fractioned, and with the least possible air. A very small amount, "the size of a five-franc piece," is first poured on a compress folded in four thicknesses and held over the patient's nose and mouth as he reclines on his back on the table. After twelve to fifteen seconds the left hand is slipped underneath, and 10 to 15 grams more of the bromid are poured on the compress, which is then held close over the mouth and nostrils with the right hand, the left sustaining the jaw. If the patient shows signs of suffocation, all that is necessary is to raise the compress, and allow a single deep inspiration of fresh air. Anesthesia is complete in forty to sixty seconds. It is indicated by a snoring respiration, a sensation of cold evaporation on the fingers holding the compress, as the expired air passes between them, and relaxation of the jaws and muscles. The patient can then be drawn to the edge of the table, and the head allowed to hang over, in the Rose position, supported by an assistant. If the operation is long, a small amount of bromid can be administered after five minutes, for a second and even a third time, thus obtaining as much as fifteen minutes for the intervention, and even ten minutes longer, as although the patient is waking, the analgesia persists for several minutes. It is not necessary to raise the patient's head for the secondary administration. There is no congestion after the anesthesia is complete.

Presse Medicale (Paris), July 11.

Method of Suturing Wounds in the Liver. F. P. Canac-Marquis.—The author of the method of suturing here described is a resident of St. Paul, Minn. It was first practiced on a young woodsman who had received an accidental wound in the side from a violent blow with an axe, cutting an incision in the liver 8 cm. long by 5 deep. With a long, round, curved needle, two double rows of U sutures were taken in two tiers in the liver parenchyma, as shown in the cut, the dotted line indicating the path still to be traveled by the needle. The lips of the wound were thus effectually coaptated, with no stitches near the edges. The wound was closed with drainage for twenty-four hours, and the patient made an uninterrupted recovery. The liver was sutured in the same way in another case, after ablation of a hydatid cyst on the upper surface, with equally favorable results. The catgut used was coarse, soft and flexible, and pulled through each time in the direction of the needle, with slow and gentle traction, never to right nor to left, for fear of injuring the parenchyma. The spaces left between the stitches were never less than 1½, nor more than 2 cm. long, and the lower tier was carefully taken below the deepest point of the wound, to avoid any dead space.



Constriction of Esophagus. J. Potarca.—Cicatricial constriction consecutive to ingestion of a caustic salt, in the observation reported from Bucharest, required catheterization. This caused perforation of the wall, purulent infiltration of the cellular tissues, ulceration of the bronchi, and rapidly fatal infectious pneumonia. The constriction was near the fourth dorsal vertebra, and the cadaver showed that the intramediastinal thoracotomy from the right side, advocated by the writer for such cases, would easily have reached and evacuated the pus, and afforded the only chance of safety. Quénu has advocated the left side for such operations, but the conditions showed that this route would have been far more indirect, tedious and dangerous. The operation in the observation related was postponed until the arrival of the surgeon-in-chief, when it was too late. This experience indicates that prompt, radical intervention is the only chance in such cases.

Semaine Medicale (Paris), July 11.

New Method of Treating Tubercular Osteoarthritis. C. Trunecek.—The aim of this treatment is to cure tubercular or other fistulæ by the application of a caustic that destroys the pyogenic membrane, induces an intense inflammatory reaction around the tubercular foci, and yet is not toxic for the tissues. The fluid used is a 20 to 25 per cent. solution of salts, with which the tissues are normally in contact in the serum, observing the following proportions: Sodium sulphate, 1.46 gram; sodium chlorid, 16.4; sodium phosphate, .5; sodium carbonate, .7; potassium phosphate, .94; water, 80. This fluid is injected into the fistula through a tube, at first gently, and then with great force, the opening plugged around the tube, and the sound skin protected with vaselin. The injection is continued until the fluid emerges clear and slightly tinged with blood. The cavities are then injected with 10 per cent. iodoformed ether; compresses are applied to reduce the inflammation, and the patient is kept in bed. There is smarting and pain on pressure, but these soon pass away, and this simple method of treatment cures without scars or hemorrhage. It is almost invariably effective, if the organism is capable of any inflammatory reaction at all. The serous discharge that follows usually brings out any sequestra. In one case of multiple tubercular caries in the humerus of an adult, a sequestrum .5 by 3 cm. in size was eliminated the third day after the caustic injection, and the cure was complete in three months.

Dermatologisches Centralblatt (Berlin), July.

Inunctions vs. Inhalation of Mercury. M. Saenger.—The idea has gained currency of late that the beneficial effects of mercurial inunctions are due to inhalation of particles. Saenger has been thoroughly testing his inhaler, invented for treatment of pulmonary affections with volatile substances, and finds that, with it, the mercury can be inhaled fully as effectively as when it is rubbed on the body. But he discovered that the therapeutic effects were not nearly so marked as with the same amount of mercury absorbed in inunctions, and consequently announces that the theory which assumes that inhalation is the essential factor in mercurial treatment is erroneous.

Muenchener Medicinische Wochenschrift, July 10.

"Milk Immune-Serum." V. Dungern.—In some recent experimental research at the new Frankfort Institute, guinea-pigs and rabbits were treated with cows' milk in the attempt to determine whether the products of epithelial secretion will produce a specific immune-serum, such as has been obtained for ciliated epithelium, spermatozoa, etc. The experiments were successful, resulting in the production of a hemolytic serum, which differs in its action from blood immune-serum, but so far no difference has yet been discovered between it and ciliated-epithelium serum. The milk serum is therefore an epithelium serum, characterized by its special hemolytic immune-body. This indicates that the same specific group is present in the milk as in the epithelium producing it, which coincides with the histologic observation that the protoplasm of the gland cells is directly applied to the production of milk. The specific epithelium serum thus obtained by preliminary treatment with milk suggests that human milk might be successfully utilized for purposes of immunization against carcinoma, especially of the mamma. All of the experiments with dogs and rabbits treated with human milk, however, have thus far failed to produce any hemolytic serum for human blood corresponding to that obtained with cows' milk.

Poisoning with Turpentin. H. Schulz.—Ten to twenty drops of pure oil of turpentin can be taken into the stomach in health without serious disturbances, but a small amount inhaled is liable to cause symptoms of poisoning. The minute particles which are inhaled are readily absorbed, and it is possible to induce poisoning with even a small amount taken into the stomach if finely emulsified, as was demonstrated by tests on a number of medical students. The central nervous system was always more or less affected, the spinal predominating over the cerebral symptoms, with muscular fatigue to exhaustion, cephalalgia, lowered pulse, digestive disturbances, constipation, and extensive acne in two cases, but no urinary nor respiratory symptoms.

Etiology of Fibrinous Bronchitis. Ott.—A simple catarrh in a man employed in grinding knives and scissors was aggravated by the metal dust, resulting in a fibrinous bronchitis, of an unusually protracted course. The association of staphylococci and pneumococci was probably responsible for the lingering course of the disease.

Tincture of Soap for Surgical Asepsis.—Paul and Sarwey.—Spiritus saponatus officinalis has been urgently recommended by Mikulicz and others as the simplest, least expensive, and most effective means of disinfecting hands and the field of operation. Their assertions are now authoritatively confirmed in respect to the effectiveness of the disinfection that can be obtained with it, by the tests instituted by the writers of this communication at Tübingen, scraping the hands afterward with a piece of hard wood, etc.

Passage of a Compress Into the Intestines. Wunderlich.—Another case is reported of a compress, 21 by 100 cm., evacuated by the anus three and one-half months after an ovariotomy. It had not caused any symptoms until a sudden diarrhea occurred, in the course of which it was discharged. In another case a compress was found in the peritoneal cavity, at the autopsy, thirty-six hours after a cholecystectomy, but it had probably nothing to do with the fatal termination. Wunderlich observes, "I always used to have my compresses and instruments counted, but since this occurred, I count them myself."

Wiener Klinische Rundschau, July 1, 8 and 15.

Latent Tubeculosis of Tonsils. L. Réthi.—In a hundred operations for ablation of hypertrophied tonsils on persons apparently entirely free from indications of tuberculosis, the writer discovered tubercle bacilli in the extirpated tonsils in six cases. The bacilli were found in the epithelium in one instance, and it was eroded, thickened, or knobby in most of the cases, affording favorable opportunities for bacillary invasion. He advocates removal of hypertrophied tonsils under all circumstances, without regard to clinical symptoms.

Splanchnoptosis. F. Kraus.—Study of the pathogenesis of ptosis of the visceral organs shows that there are two varieties; one due to alterations in the general conditions of the intra-abdominal equilibrium, and the other to certain constitutional defects, of which the splanchnoptosis is merely the most prominent symptom.

July 8.

Pathogenetic Importance of Tonsils. E. Aron.—Two more cases are related which conclusively demonstrate the important part played by the tonsils as the primary lodging place of pathogenic germs. One was a streptococcus-pneumococcus infection, and the other abdominal typhoid, each following a typical follicular tonsillitis after the characteristic incubation period. The absence of glandular involvement in one instance suggests that the germs must have passed directly from the tonsils into the circulation. Aron is inclined to consider tonsillitis in its various forms, a disease *sui generis*, and in any event, the necessity of prophylactic measures is emphasized by his experience.

The Becquerel Rays. G. Holzknecht.—The greater importance of the Roentgen rays has overshadowed the later discovery by Becquerel of the invisible rays emitted by uranium, and especially by pitchblende, a combination of the metal found in Bohemia. They differ from the Roentgen rays in being spontaneous and inherent, and by their far greater diffusibility, but most prominently by their property of rendering the air a good conductor for electricity. It is impossible to load a spectroscope or Leyden jar in the vicinity of the substance emitting the rays, and all attempts to break up the rays with prisms, to polarize them, to measure the light waves, have proved ineffectual. A bit of the black substance in the bottom of a test-tube will cause the fluorescent screen and other substances responsive to the Roentgen rays to shine faintly at a distance of 20 cm. A sensitized plate is blackened as by daylight, even in light-proof wrappings and when covered with other bodies—gold-leaf, aluminum, zinc, etc.—in certain thicknesses. According to its chemical reactions pitchblende is a combination of bismuth and barium, which are called "radioactive" in this combination, and certain scientists consider them two new elements, "polonium" and "radium." As days or even weeks are required to take a Becquerel radiograph, the process has as yet no practical interest.

July 15.

Serum Therapy in Septic Processes. Haeberlin.—Four cases of general pyemia, mostly puerperal, are described, all treated with antistreptococcus serum. There was slight transient improvement in one case, no effect in the second, but the morbid process in the third and fourth was arrested as if by magic. The difference in the streptococci evidently prevents any therapeutic action in certain cases, and a streptococcus serum, to be effective in all cases, must be derived from an animal immunized by means of all different varieties. The injections are harmless, and should always be tried as a last resort at least. Further tests of it as a prophylactic measure would be welcome.

Wiener Klinische Wochenschrift, July 5 and 12.

Colic Pains. R. Lucke.—Colic is a pain from acute tension. This tension may be due to congestive processes, obstruction of the outlet, or other causes, and the effect is supplemented by the contraction of the circular muscles in the organs. The acute tension of a hollow organ in consequence of abnormally increased internal pressure does not cause colic pains if the tension has been gradually induced and the tissues yield. In case of organs with exceptionally developed circular muscles, remedies are indicated to relieve the cramp, but when the rapid increase of pressure is chiefly due to inflammatory processes, we endeavor to reduce the hyperemia. In this latter case we must not forget that we are neutralizing one of the internal processes for the expulsion of a foreign body. In cases in which the natural forces are manifestly inadequate to overcome the obstacles to its expulsion, our treatment of the colic is rational, but not in cases in which the natural processes have a prospect of success. Whether therapeutics should not have other aims than merely the relief of the pains in these cases, is a question for discussion.

Combination of Basedow's Disease and Myxedema. J. A. Hirschl.—A case was observed in Krafft-Ebing's clinic in which the patient, a woman of 33, previously healthy, had typhoid fever seven months before, and then immediately after a fright due to a severe fall, developed palpitations and the characteristic pulse. These symptoms subsided in two months, but the skin of the face and lower limbs became myxedematous, the uterus atrophied, and the memory became defective—the symptoms indicating a transition from Basedow's disease into myxedema. The struma was at first vascular, but later hard and fibrous. The skin was never moist with perspiration. This case suggests the possibility that the excessive and abnormal secretion of the thyroid gland may induce a series of symptoms caused by changes produced at certain points in the nervous system. These changes—and with them the corresponding Basedow symptoms—may persist even after the hypersecretion of the thyroid has ceased. The process may be cured, but the Basedow symptoms still persist. The changes in the nervous system might even continue past the period in which the hypertrophy of the thyroid is neutralized by atrophy. This conception would explain the occurrence of Basedow and myxedema symptoms in the same individual.

July 12.

Recurring Tetanus Gravidarum. C. Hödlmoser.—None of the stigmata of hysteria appeared in the case described, but the patient, a woman of 33, had experienced cramps and other symptoms of tetanus in each of her seven pregnancies about the time the first fetal movements were felt. They recurred about every two weeks from this until the end of the pregnancy. During the intervals she was completely free from any of these symptoms.

Zeitschrift f. Orthop. Chirurgie (Stuttgart), viii, 1.

Contraction and Ankylosis in the Knee-Joint. A. Blencke.—In all cases of ankylosis with tuberculosis, the writer's experience and study of the literature indicate that resection is the best method of treatment and also for ankylosis with considerable backward dislocation of the tibia, and genu valgum. Light cases of subluxation of the tibia can be treated by an arc-shaped resection. Helferich's method is preferable for angular ankylosis, as it does not shorten the limb nor interfere with its later growth, while it allows the gradual straightening of the member, and by the shape of the bony surfaces, guarantees their solidity. On the other hand, the best method of treating contractions in the knee-joint is by portable apparatus, severing the tense soft parts in certain cases. This does not require the patient to stay in bed, allows the contraction to be gradually and painlessly reduced, and avoids the dangers of *brisement forcé*. If the contraction is complicated with curvature of the femur or tiba, osteotomy is necessary for the latter.

Spondylitis Typhosa. M. Herz.—The wife of a physician in Dresden was recovering from an attack of typhoid fever, which had been complicated by suppurative choroiditis, when lightning pains and cramps appeared in the right limb with symptoms of paresis in the arm of the same side. By the fifth week the sacral region became the seat of intense pain, which radiated into the limbs, until the least movement of the spine and lower extremities was exquisitely painful. There was no fever, but the knee-jerk was excessive, and the dorsal muscles contracted. The patient was placed in a plaster bed with immediate relief of the pain and gradual recovery. Although no bacteriologic test of the spondylitis was possible, yet the typhoid origin was unmistakable. The case is the fourth on record.

Orthopedic Practice. A. Schanz.—In reviewing his experience, Schanz mentions that he has found a thick cotton bandage better than a plaster cast for the treatment of torticollis, care being taken to avoid too great pressure on the brachial plexus by compression of the clavicle. A correct attitude of the head is attained by having the child carry a light sand-bag on the head. In the treatment of coxa vara he has always acted on the principle that the first and chief indication is the arrest of the deforming process. Anatomic correction is frequently found unnecessary when this has been accomplished. In one case diagnosed as congenital dislocation of the hip-joint, with Trendelenburg's sign, extreme painfulness and marked projection of the head of the femur on one side, the latter proved to be a myxoma on the neck of the femur, simulating the head in size and position, complicating double coxa vara. Another patient, a lad from a "bleeding family," and himself a "bleeder," in an advanced stage of coxitis, was completely cured in a year, which suggests that the lesion was hemorrhagic rather than tuberculous in origin. General treatment alone is considered sufficient for children under 6, with genu valgum or varum, and operative correction is attempted only in the severest cases. Supracondylar osteotomy is indicated for genu valgum, and below the epiphysis of the tibia and in the middle of the diaphysis of the femur in case of genu varum, always oblique and sometimes in as many as three places.

Gazzetta degli Ospedale (Milan), July 8.

Injections of Iodin in Surgical Tuberculosis. G. Mortari.—The unmistakable benefits derived from injections of iodin in fistulous affections are probably due to the neutralization of the toxins of the tubercle bacillus, rather than to any action on the bacillus itself, supplemented by the stimulation of the natural defensive processes. This communication describes a dozen typical cases of tuberculous fistulæ cured by injections of Durante's combination of iodin, .3 gm., and potassium iodid, 3 gm., in glycerin and water, āā 50 gm.

Hemorrhages in Influenza. V. Grossule.—The latest epidemic of influenza in Italy was marked in the writer's experience by a predominance of hemorrhages—epistaxis, bronchorrhagia, metrorrhagia and menorrhagia—in persons with no previous history of the kind, which frequently required extreme measures to arrest them. Another feature of the epidemic was the number of cases of malignant bronchopneumonia and the fact that none of the 400 children who had passed through an epidemic of measles the year before were attacked by the influenza.

Anaerobiosis. C. Fermi.—None of the culture-media hitherto used for anaerobic cultures have been absolutely free from oxygen, and Fermi has been testing some from which the last trace of oxygen was expelled by prolonged boiling under a layer of paraffin, or by other means. He announces that no cultures of the so-called anaerobes developed when the oxygen was rigorously expelled from the medium, and that consequently the complete absence of oxygen is probably incompatible with micro-organic life.

Queries and Minor Notes.

MEDICAL LAWS.

To the Editor.—Please inform me as to the law governing the practice of medicine in California, Oregon, Washington, Louisiana, and Iowa, and state the names and addresses of the respective State Board Secretaries.

Answer—California: A diploma, duly certified and sworn to from a recognized medical college. Secretary of the State Board of Examiners—regular—C. C. Wadsworth, M. D., 1104 Van Ness Ave., San Francisco.

Oregon: Examination by the State Board of Medical Examiners. Secretary, Byron E. Miller, M.D. Portland.

Washington: Same as Oregon. The secretary is either Dr. W. G. Tucker, Port Townsend, or J H. Hoxsey, Spangle.

Louisiana: Diploma from a medical college recognized by board, and examination. Secretary, Dr. F. A. Larue, 624 Gravier St., New Orleans.

Iowa: Diploma from recognized medical college and examination. Secretary of Board, Dr. J. F. Kennedy, Des Moines.

Lewiston, Ill., July 25, 1900.

To the Editor.—Will you kindly inform me through the columns of The Journal what is the law regulating the practice of medicine in the State of Arkansas? J. R. H.

Answer—In Arkansas there are county boards of medical examiners. Write to the county clerk of any county for details.

GOAT LYMPH AGAIN.

A few days ago one of the Chicago dailies printed a two-column article headed in big, bold, black letters: "Big Meet of Doctors, Great Conference of Physicians to be held in Chicago. Assemble in August. Three Days to be Given to the Study of Goat's Lymph Remedy. Doctors from All Parts of the Civilized World Will Make Reports on the Treatment." Then we are informed that one thousand physicians from the United States and Europe are to come to Chicago "on a peculiar mission," which is to exploit the goat-lymph business. We are told that the lymph "has been adopted by the medical director of the British Army," whoever he may be, "for use among the Queen's troops in India, and in this another great triumph has been scored by the Chicago scientists who have worked so hard to bring the lymph to public attention. When the British army medical authorities became satisfied that there was real merit in the lymph they expressed the fear that, being an animal derivative, it would not stand exporting to so hot a climate as that of India." Sic! "'You have undoubtedly got a wonderful remedial agent,' one eminent physician wrote, 'but I fear it will be useless to ship it to India. It will be better for you to come over here and show us how to prepare it.' But Dr. Hawley didn't go to India. He was too busy making lymph experiments for the benefit of American doctors. He just went to work and devised a means of preparing the lymph so it was climate proof and would retain its remedial qualities under all possible conditions of heat or cold, and it is now being used with miraculous effect in Hindostan."

The names of the "celebrated American physicians who will be in attendance" are also printed, and that our readers may not be kept in ignorance of those who are "celebrated" among American physicians, we print the names also:

Dr. Scott Stone, Cleveland, Ohio; Dr. H. W. Hartwell, St. Louis, Mo.; Dr. Ed. T. Smith, Buffalo, N. Y.; Dr. F. S. Holladay, Los Angeles, Cal.; Dr. C. S. Crandall, Utica, N. Y.; Dr. William H. Helsen, Denver, Col.; Dr. A. R. Rainear, Philadelphia, Pa.; Dr. O. K. Thompson, Detroit, Mich.; Dr. William W. Townsend, Rutland, Vt.; Dr. A. L. Flanders, Boston, Mass.; Dr. R. W. Steger, New York City; Dr. F. C. Holden, Brooklyn, N. Y.; Dr. A. W. Parsons, City of Mexico.

These are no doubt celebrated, for have they not paid $100 for the privilege of using the lymph and $25.50 for each ounce and a half of the stuff they use? Or if they are very celebrated, they have probably accepted this offer which we clip from one of the circular letters sent out by the exploiters: "We have a special lymph, the Roberts-Hawley lymph, which is very much stronger, that costs you $30.50 for each ounce and a half."

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., July 25 to 31, 1900, inclusive:

James A. Alexander, acting assistant-surgeon, from the Division of Cuba to San Francisco, Cal., for duty with troops going on foreign service.

David Baker, lieutenant and assistant-surgeon U. S. A., from the Department of Western Cuba, to San Francisco, Cal., to accompany troops on foreign service.

William H. Corbusier, major and surgeon, U. S. A., leave of absence granted, on the expiration of which to report for duty at Fort Columbus, N. Y.

Joseph J. Curry, acting assistant-surgeon, leave of absence granted.

Oscar F. Davis, acting assistant-surgeon, from Bloomington, Ind., to San Francisco, Cal., to accompany troops on foreign service.

Guy S. Dean, acting assistant-surgeon, from Kenton, Ohio, to San Francisco, Cal., for duty with troops en route to the Philippine Islands.

Albert W. Dumm, acting assistant-surgeon, from Columbus, Ohio, to the Department of California.

Julius A. Escobar, acting assistant-surgeon, from the Division of Cuba to San Francisco, Cal., for duty with troops going on foreign service.

John M. Feeney, acting assistant-surgeon, from Huntsville, Ala., to San Francisco, Cal., to accompany troops on foreign service.

Robert J. Gibson, major and surgeon, U. S. A., to report to the Surgeon-General for instructions.

Frank C. Griffis, acting assistant-surgeon, from Mt. Gilead, Ohio, to San Francisco, Cal., for duty with troops en route to the Philippine Islands.

Robert B. Grubbs, acting assistant-surgeon, from Washington, D. C., to the Department of California.

Philip F. Harvey, major and surgeon, U. S. A., leave of absence extended.

Edwin P. Hayward, acting assistant-surgeon, from the general hospital, Presidio of San Francisco, Cal., to duty with troops en route to China.

Joseph M. Heller, acting assistant-surgeon, from Washington, D. C., to duty at Fort Columbus, N. Y.

James W. Holland, acting assistant-surgeon, from Westfield, Mass., to the Department of California.

Thomas W. Jackson, acting assistant-surgeon, leave of absence granted.

Henry S. Kilbourne, major and surgeon, U. S. A., and medical superintendent, Army Transport Service, to proceed to Newport News, Va., to inspect the transport *Buford* and return to his proper station.

W. P. Lawrence, acting assistant-surgeon, leave of absence granted.

Wharton B. McLaughlin, acting assistant-surgeon, from the Division of Cuba to San Francisco, Cal., for duty with troops going on foreign service.

Lieven de Poorter, acting assistant-surgeon, leave of absence granted; relieved from duty in the Division of Cuba, to report at San Francisco, Cal., for duty with troops going on foreign service.

William M. Roberts, acting assistant-surgeon, from Baltimore, Md., to San Francisco, Cal., for duty with troops en route to the Philippine Islands.

W. D. Shelby, acting assistant-surgeon, leave of absence granted.

Thomas J. Strong, acting assistant-surgeon, from Burlington, Vt., to the Department of California.

William H. Tefft, acting assistant-surgeon, from Belmont, N. Y., to San Francisco, Cal., to duty with troops en route to the Philippine Islands.

Benjamin L. Ten Eyck, captain and assistant-surgeon, U. S. A., member of a board of medical officers at San Juan, P. R., to examine candidates for admission into the medical corps of the army.

Francis M. C. Usher, lieutenant and assistant-surgeon, U. S. A., from New York City, to San Francisco, Cal., for duty with troops en route to China.

Clement C. Whitcomb, acting assistant-surgeon, from Camden, Mo., to the Department of California.

Llewellyn P. Williamson, lieutenant and assistant-surgeon, U. S. A., from the Department of Western Cuba to San Francisco, Cal., for duty with troops en route to China.

William B. Winn, major and surgeon, Vols., from the Department of Western Cuba, to San Francisco, Cal., for duty with troops going on foreign service.

Alfred A. Woodhull, lieutenant-colonel, deputy surgeon-general, U. S. A., leave of absence granted.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ended July 28, 1900.

Orders issued by Commander-in Chief of the Asiatic Station

Surgeon A. C. H. Russell, detached from the *Newark* and ordered to the Naval Hospital, Yokohama, Japan, for treatment.

P. A. Surgeon R. M. Kennedy, detached from the *Yorktown* and ordered to the *Newark*.

Asst.-Surgeon A. G. Grunwell, detached from the *Brooklyn* and ordered to the *Monocacy*.

Surgeons M. F. Gates and G. Rothganger, commissioned surgeons from July 7, 1900.

P. A. Surgeon R. Spear, commissioned passed assistant-surgeon from June 22, 1900.

Asst.-Surgeon M. K. Elmer, commissioned assistant-surgeon, from July 18, 1900

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending July 26, 1900.

Surgeon G. M. Magruder, granted leave of absence for fourteen days.

Surgeon C. P. Wertenbaker, to rejoin station at Wilmington, N. C., and upon being relieved by Surgeon T. P. Perry, proceed to New Orleans and assume command of the service, relieving Asst.-Surgeon J. W Scheresehewsky.

Asst.-Surgeon J. W. Scheresehewsky, relieved from temporary charge of the service at New Orleans, La., and upon arrival of P. A. Surgeon C. P. Wertenbaker, directed to report to him for duty.

Acting Asst.-Surgeon Bailey, granted leave of absence for three days.

Acting Asst.-Surgeon A. W. Fisher, granted leave of absence for fifteen days during month of July.

Hospital Steward W. L. Stearns, granted leave of absence for twenty-three days from August 6.

Hospital Steward B. E. Holsendorf, granted leave of absence for thirty days.

PROMOTION

Junior Hospital Steward B. E. Holsendorf promoted and appointed Senior Hospital Steward.

Health Reports.

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended July 26, 1900.

SMALLPOX—UNITED STATES.

Alaska: Cap Nome, June 20-July 10, 5 cases on vessels.

District of Columbia: Washington, July 14-21, 1 case.

Indiana: Michigan City, July 14-21, one case.

Kansas: Wichita, July 14-21, 1 death.

Kentucky: Covington, July 9-15, 3 cases.

Louisiana: New Orleans, July 14-21, 8 cases, 2 deaths.

Massachusetts: Fall River, July 14-21, 2 cases; Lowell, July 14-21, 2 cases.

Minnesota: Minneapolis, June 30-July 14, 23 cases.

New Hampshire: Manchester, July 14-21, 3 cases.

Ohio: Cincinnati, July 6-20, 7 cases; Cleveland, July 14-21, 20 cases.

Utah: Salt Lake City, July 14-21, 4 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, June 23-30, 10 cases.

Brazil: Rio de Janeiro, May 19-June 22, 18 deaths.

China: Hongkong, June 8-23, 1 case.

Egypt: Cairo, June 3-10, 5 deaths.

England: Liverpool, June 30-July 7, 3 cases, 2 deaths; London, June 30-July 7, 17 cases.

France: Lyons, June 23-30, 1 death; Paris, June 30-July 7, 4 deaths.

Gibraltar: July 1-8, 1 death.

Greece: Athens, July 30-July 7, 2 cases, 2 deaths.

India: Bombay, June 12-26, 12 deaths; Karachi, June 10-24, 8 cases, 5 deaths.

Mexico: Vera Cruz, July 7-14, 4 deaths.

Russia: Odessa, June 23-30, 5 cases; Warsaw, June 23-30, 7 deaths; St. Petersburg, June 23-30, 3 cases, 3 deaths; Siberia: Vladivostock, May 1-31, 9 cases.

Scotland: Glasgow, July 6-13, 68 cases, 2 deaths.

Straits Settlements: Singapore, May 26-June 16, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, May 18-June 2, 34 deaths.

Colombia: Cartagena, June 30-July 7, 9 cases, 7 deaths; Panamá, July 9-16, 3 cases, 1 death.

Costa Rica: Port Limon, July 17, 1 suspicious case.

Cuba: Cienfuegos, July 21, 1 case among soldiers; Havana, July 4-11, 21 cases, 5 deaths; Sagua, July 5, 2 cases.

Mexico: Vera Cruz, July 7-14, 4 deaths.

CHOLERA.

India: Bombay: June 12-26, 179 deaths; Madras, June 2-22, 2 deaths.

Japan: Osaka, June 23-30, 1 case.

PLAGUE—FOREIGN AND INSULAR.

Arabia: Aden, June 23-30, 1 case, 1 death.

China: Hongkong, June 2-25, 297 cases, 185 deaths.

India: Bombay, June 12-26, 185 deaths; Karachi, June 10-17, 17 cases, 16 deaths.

Japan: Osaka, June 19-30, 3 cases; Sakai, June 19-30, 1 case; Shidzuoka Ken, June 19-31, 1 case; Tamsui, June 1-14, 76 cases, 65 deaths.

Korea: Seoul, June 8-16, endemic.

Philippines: Manila, May 26-June 7, 4 cases.

Change of Address.

Dr. G. A. Bachman, from Burnips Corners, to Hopkins Station, Mich.

Dr. J. C. Blume, from Benton Harbor, Mich., to Mishawaka, Ind.

Dr. R. W. Bemis, from 2603 N. Fifth St., to 2512 N. Fifth St., Philadelphia, Pa.

Dr. C. W. Baker, from Trempealean, Wis., to Blanchester, Ohio.

Dr. S. B. Bennett, from Galesburg, to Canton, Ill.

Dr. J. R. Bradford, from Boulder, Colo., to Sanitarium St., Battle Creek, Mich.

Dr. J. M. Byne, from Waynesboro, to Augusta, Ga.

Dr. Alice Bennett, from Huntsville, Ala., to Wrentham, Mass.

Dr. B. L. Clary, from Sun Prairie, to Edgerton, Wis.

Dr. E. O. Church, from 591 W. Congress St., Chicago, to Watertown, S. D.

Dr. W. B. Coakley, from Virginia Hotel, to 297 N. State St., Chicago.

Dr. W. S. Carnes, from 22 Third St. N. E., Washington, D. C., to Box 47, Pierce P. O., Ohio.

Dr. J. A. Ascher, from Cherry Creek, to Lovelocks, Nev.

Dr. J. M. Asher, from 1527 Girard St., to University Hospital, Philadelphia, Pa.

Dr. W. A. Dickey, from 227 Twelfth St., to 1703 Jefferson St., Toledo, Ohio.

Dr. A. M. Earel, from Alma, to Lincoln, Neb.

Dr. W. W. Fox, from Atlantic City, N. J., to Orthopedic Hospital, Philadelphia, Pa.

Dr. E. S. Goodhue, from Kailua, Hawaii, to Honolulu, Oahu, H. I.

Dr. N. P. Grensel, from 42 Butternut St., to 440 Lincoln Ave., Detroit, Mich.

Dr. B. P. Goode, from 2012 Baymiller st., to 1812 Baymiller St., Cincinnati, Ohio.

Dr. F. E. Gibbons, from Mattoon to Eagle River, Wis.

Dr. I. B. Hayes, from Northampton to Florence, Mass.

Dr. C. P. Hayden, from Woburn, Mass., to St. Agnes Hospital, Raleigh, N. C.

Dr. W. A. Hickman, from 1409 Wood Ave., to 1319 N. Nevada Ave., Colorado, Colo.

Dr. C. C. Hummell, from Iowa Falls to Dike, Iowa.

Dr. J. A. Hart, from Colorado Springs, Colo., to Geneva, N. Y.

Dr. C. F. Judkins, from Seventeenth and Race Sts. to Rose Hill Park, Station I, Cincinnati, Ohio.

Dr. W. Johnson, from 1940 Fifteenth St. to 1414 U St. N. W., Washington, D. C.

Dr. A. C. Karsten, from Haricon to 584 Seventh St., Milwaukee, Wis.

Dr. A. E. Klein, from Washington, D. C., to Elmhurst, L. I.

Dr. I. P. Lyon, from Buffalo to Camp Wilmurt, Tarnesda, N. Y.

Dr. E. E. Levers, from Red Cannon to Almy, Wyo.

Dr. W. T. Liggett, from Colorado Springs to Cripple Creek, Colo.

Dr. C. W. Leonard, from Dotyville to St. Cloud, Wis.

Dr. H. F. Langhorst, from Aurora to 58 Evergreen Ave., Chicago.

Dr. J. A. Miller, from Beddow to Farmington, Mich.

Dr. H. G. Patillo, from Charlottesville, Va., to Milton, Ala.

Dr. L. E. Powell, from English American Building, Atlanta, to Lanier House, Macon, Ga.

Dr. W. M. Phelps, from Chicago, Ill., to Lincoln, Kan.

Dr. B. J. Read, from Charlottsville, Va. to Blackwell's Island, care M. T. S., New York.

Dr. H. Randles, from 648 Minnesota Ave. to White City, Kan.

Dr. J. L. Stewart, from Loomis, Neb., to San Pedro Mex.

Dr. H. T. Summersgill, from Wilmington, N. C., to University of Virginia Charlottsville, Va.

Dr. S. Smith, from New York to Skaneateles, N. Y.

Dr. S. M. B. Smith, from Fort Atkinson to 315 Third St., Wausau, Wis.

Dr. J. C. Steven, from Three Springs to Huntington, Pa.

Dr. A. J. Sibley, from Creedmore to S. E. Hudson, Austin, Tex.

Dr. L. Tibbitte, from Rockport to L. Tibbets, Rockport, Ill.

Dr. J. S. Troutman, from Fourth and Broad Sts. to 1711 Meyers St., Paducah, Ky.

Dr. L. C. Vincent, from 101 W. Fifty-second St. to 151 W. Eighty-fourth St., New York City.

Dr. R. T. Van Pelt, from Wabash and Twenty-second Sts. to 167 Dearborn St., Chicago.

Dr. H. W. Wellner, from 183 E. 117th St. to 10 E. 115th St., New York City.

Dr. H. Wilson, from Pittsburg to Somerset, Pa.

Dr. J. A. Williamson, from Mineral Wells to Dallas, Tex.

Dr. C. Vander Veen, from 331 Grandville St. to 77 Canal St., Grand Rapids, Mich.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, AUGUST 18, 1900. No. 7.

Original Articles.

THE SURGICAL TREATMENT OF CONICAL CORNEA.*

ROBERT SATTLER, M.D.
CINCINNATI, OHIO.

Surgery in the treatment of conical cornea has a limited application. The various surgical measures which have from time to time been advised and practiced are justifiable only in certain progressive or confirmed expressions of this congenital deformity of the eye.

In the main, the purpose of surgical intervention concerns itself with attempts: 1. To arrest an inexorable advance of a deformed central area of the cornea by converting this region—in part or altogether—into an opaque scar or a series of cicatricial lines, thereby affording a more or less effectual check to an otherwise hopeless progression. 2. To effect a betterment of vision in confirmed cases which have been rendered helpless in consequence of hopelessly reduced sight, after all other methods of treatment, including every kind and combination of lenses, stenopaic appliances, etc., have been discarded as useless.

ARREST OF ADVANCING DEFORMITY.

In taking up the first proposition, it must at once be stated that this tendency to progression again, declares itself only in a limited number of cases of this class. For the latter alone it is justifiable to attempt through the aid of surgery to bring about an arrest of this progressive advance of a conical deformity of the cornea, which, since birth, or for many years, has been known to be present, but which throughout a longer antecedent period has remained stationary. What starts it, or whether it is due to inherent local or general causes, remains a mystery. Furthermore, it must be added that the deformed region of the cornea is not in the exact center, but rather involves the paracentral regions, and of these again, that just below the mathematical center. It is also observed that this progressive advance commonly begins between the twelfth and twenty-fourth year. It is so slow in some cases, and the aid which corrective lenses afford is not infrequently so satisfactory—particularly if successive changes are made as the needs for failing vision demand—that, for a longer or shorter period, this progression is either not recognized at all or is assigned to a not unnatural increase of the complicated error of refraction which is present. The fact that the refraction in most cases is myopic makes this oversight during the earlier stages of advance not only a possible, but a common one.

It is also not infrequently observed that, whilst this increase of conicity affects both eyes, it is almost invariably more rapid and destructive in one eye, and leads in this eye to complete suspension of function, whereas, in the fellow eye, progress is retarded, or may even be entirely arrested.

It is, indeed, then, an important, as well as a difficult, question to decide whether in cases in which the progression has unmistakably begun, but is not rapidly destructive to vision and the comfortable use of the eyes is not too seriously interfered with—whether in such cases it is at all justifiable to interfere during the early stages of advance, or whether surgical interference should be deferred until vision falls below a standard of less than 0, and a person so affected is rendered helpless in consequence of his reduced sight.

The indications which may suggest whatever surgery is considered justifiable or necessary are not clearly defined. This congenital lesion is a rare one, and for this reason both common and individual experience are necessarily limited. Among the accepted disclosures recognized as clinical facts, it is not infrequently observed that in certain cases which have remained stationary for years, and in which suddenly and mysteriously a marked and progressive advance of this congenital deformity shows itself, this is again, after a variable period of time, lasting in most cases, months, and often even years—spontaneously arrested, leaving the patient a fraction of available vision for the most necessary practical needs. Another equally established clinical fact is that this progressive increase of the deformity is more rapid and more pronounced in one eye, and in this hopeless reduction of sight takes place, but in the fellow eye, the same process either does not advance so rapidly or terminates more fortunately in spontaneous arrest, leaving the patient a fraction of available sight. It is not easy to decide whether in such cases it is justifiable to practice interference, which, even in the most favorable instances, is beset with dangers and is extremely tedious, so long as a fraction of useful vision belongs to the fellow eye.

We must not lose sight of the fact that a spontaneous arrest may take place in any case at any stage of progression. By keeping this in mind, too great haste of surgical interference in cases belonging to this class is avoided. This is to be the more remembered in those cases in which the fellow eye is either defective or altogether blind from the same or some other cause.

For these and other reasons to be referred to, the indications for interference can only be settled along lines which apply to the cases in question, and which only the judgment and experience of the surgeon can determine.[1]

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] The first purpose of surgical intervention also bears directly upon that which was long a mooted question: whether the conical protrusion of the central region was solid and due to an actual increase or thickening, or, rather it was rarefied and due to an excessive or abnormal thinning of the layers of the cornea at this point. Clinical and anatomical studies of typical cases of conical cornea since then have established certain facts which were misinterpreted by the older German and English ophthalmologists. For instance, Himly—*Handbuch der Augenheilkunde*—regarded this excessive conicity as a solid growth or a morbid thickening, and selected for it the name of hyperkeratosis. Sir William Adams—*Journal of the Sciences and Arts*—shared this view and

This brings up questions of practical importance in every case in which operative treatment may be not only justifiable, but indicated. Foremost among these are: Can the surgical methods which have been practiced, singly or combined, in those cases which show an inexorable advance of an existing congenital deformity of the cornea, really affect an arrest of such progression? Are those methods successful which are directed to the cornea alone? Do they involve serious risks? Are they attended by a fair share of success? How explain the good they accomplish, granting that they really bring about a cicatricial flattening with increased resistance of the ectatic region?

The last is perhaps the most important question. It would indeed be an achievement worth striving for, if, in these cases we could verify, in part and in a certain proportion of cases only, the cherished theoretic conclusion that if we substitute opaque scar-tissue, the result of a carefully guarded traumatism, cauterization—galvanocaustic, especially—excision or abscission of the prominent cone for the relaxed and thinned tissues of the ectatic region—we would fulfill the most essential requisite toward bringing about a check to an otherwise hopeless and uninterrupted progression. If this could be brought about with reasonable safety, a supplementary iridectomy would add greatly to the betterment of sight and the purpose of surgical interferences be accomplished.

Unfortunately, however, this is not easy of attainment. It will not be denied that, in some instances, brilliant returns attend operative treatment on the cornea alone, undertaken with the specific purpose to reduce through cicatricial contraction the central deformity and its progressive activity so mysteriously and insidiously aroused. Experience with these cases will soon demonstrate conclusively that such attempts are fraught with exceptional risks. Either reaction out of proportion to the traumatism inflicted is excited, which may even terminate in loss of the eye, or, subsequently the scar-region undergoes repeated necrotic changes, and instead of offering greater resistance, the opposite takes place and the ectasia is more pronounced.

It can only be claimed for the surgical methods which are concerned with the cornea alone, that they are uncertain in their results in affecting an arrest of progression, and that they involve exceptional risks. This brings up another question: Is the central region of the normal cornea more vulnerable to traumatism, and, if so, is this tendency increased in a congenital deformity such as is present in these cases, with thinning, and doubtless also more precarious nutrition of the central lamellæ of the cornea? That this is the fact is the conclusion which has come to me from a limited experience with these cases.

They recall to mind other surgical experiences, such as the sudden starting up—after a long period of inactivity—of a violent and destructive endocapsulitis, in old and confirmed cases of partial or anterior phthisis of the globe with ectatic leucoma of the cornea. In such cases, a slight traumatism—a blow or abrasion of the central region of the cornea—sets up a lesion which in rapidity of progress and destructive tendency is exceptional, and can be averted only by prompt enucleation.

Occasionally also we see, especially in strumous children of African parentage, a fatal expression of pustular keratitis if it happens to localize itself in the very center of the cornea. In spite of every method of treatment, a hopeless infective lesion of the globe results, with loss of the eye.

So also in cases of common traumatism, such as the lodgment of a foreign body. If this is imbedded in or near the center of the cornea, it may, in exceptional cases, be followed—even if promptly removed, and with every caution—by violent and sometimes fatal reaction, taking on the expression of endocapsulitis. If meddlesome or careless interference is practiced, as is done by some mechanics, who, in certain shops, gain a reputation for dexterity in removing particles of emery or steel from the eyes of their fellow workmen—if the foreign body is imbedded in the center, the attempts at removal, which, in other parts, cause little or, at least, no serious reaction, sometimes result in a violent disturbance.

Several years ago a mechanic came to me with the history that on the preceding day a fellow workman had removed a piece of steel from the cornea with a penknife. I found a small infiltration in the very center of the cornea and a dusky, or rust-like, discoloration. It was assumed that an infection had occurred, and an unfavorable prognosis was given. The epithelial layer of the cornea was rough; chemosis of the ocular conjunctiva and proptosis were just beginning. In spite of heroic measures, in a few hours the cornea became hazy and an extraocular infection—endocapsulitis—developed amidst symptoms of intense severity. To anticipate prolonged suffering, as the eye was lost, on the third day it was enucleated. It may be said that the mechanic used a dirty knife, or that its point was rough and conveyed infectious material, or that infection was subsequently conducted along other channels. The most careful inquiry, however, failed to develop more than that the same service had been rendered to others on the same day. Since then I have had several opportunities to confirm this conclusion—that the central region of the cornea is more vulnerable to traumatism and is followed by reaction out of proportion to the injury inflicted. Another and more common experience is that if a violent reaction follows in these cases, it

---

held "that the lesion was the effect of a morbid growth and that the short sight of the patient was to be attributed to the increased refractive power of the part which together with that of the crystalline lens brought the rays of light to a point far short of the retina, etc." For this reason he advised and practiced the removal of the lens, and in the case which he reports, and which Mackenzie—*Text-Book of the Diseases of the Eye, p. 659*—considered of sufficient importance to quote extensively, a brilliant success was achieved.

Wardrop—*Anatomy of the Human Eye, p. 819*—however, held to the opposite view, which since then has been generally accepted, that an abnormal thickening of the protruded region was not present, but that, on the contrary, the ectatic region was rarefied. In support of this view, he mentioned a case in which a slight blow upon the eye caused rupture of the cornea at this point.

For more modern conclusions and investigations, see:

Fuchs: Text-Book of Diseases of the Eye.

Bowman: Cornée Conique; Congress de Londres; Compte rendu, 1873, p. 204.

Silcock: Conical Cornea: Trans. Ophth. S. U. K., vol. xlii, p. 56.

Tweedy: The Physical Factor in Conical Cornea: Ophth. R., p. 127.

Schiess: Basel, 1891: Drei Fælle von Doppelseitigem Keratokonus.

Critchett: A Case of Conical Cornea treated by galvano-cautery without perforation of the cornea and subsequent small iridectomy. Trans: Ophth. S. U. K., Vol., xv, p. 73.

Gibson: Treatment of Keratoconus by means of the galvanocautery and iridectomy: The Journal xix, p. 3.

Gullstrand: Ein Fall von Kerato-konus mit deutlicher Pulsation der Hornhaut: Nord. Ophth. Tidesskrift, iv, p. 3.

Knapp: Five Cases of Keratoconus Treated with Galvano-Cautery. Arch. Ophth., p. 540.

Snellen: Die Behandlung des Kerato-Konus; Graefe Arch. f. Ophth., July, 1897.

Bullard, J. W.: Keratoconus: Am. Jour. of Ophth., July and August, 1897.

Sattler, Robert: The Surgical Treatment of Keratoconus. Reprinted from the Am. Ophth. S. Trans., 1898.

takes on a fatal expression of endocapsulitis, or extraocular suppuration, conclusively showing that pyogenic infection traveled along the lymph-spaces—capsule of Tenon—and here has excited, first, an extraocular suppuration, to which is added later on an intraocular infection. Or, perhaps, it is only that the symptoms of the extraocular complication—capsule of Tenon—overshadow those of the intraocular for reasons which are well known. A recent experience again confirmed this statement. An eye with adherent leucoma and phthisis anterior had been blind for twelve years but absolutely free from all irritation or pain. As the result of a slight traumatism, the central ectatic region of the scar was abraded eighteen hours before I saw the patient. At the time of his visit the lids were edematous; the ocular conjunctiva chemotic; the globe dislocated forward and rigidly fixed; excessive pain; no discharge. The cicatricial area was abraded in the center but with no deep pitting; the remaining portion appeared dry and the entire region of the scar showed a peculiar leaden discoloration.

Vomiting had occurred several times and nausea was constant. The eye was at once removed. The capsule of Tenon and the tendons of the muscles showed advanced plastic inflammation, and when the globe was removed the internal surface of the entire capsule was covered with a distinct, pyogenic membrane. The globe was opened, and under the choroid, intraocular plastic inflammation was only in its inception.

To this may be added a case of conical cornea published in the Transactions of the Ophthalmological Society. In this case, for the relief of rapidly increasing keratoconus in a young woman apparently in the best of health, I proposed as a first surgical or exploratory interference, the excision of a narrow, wedge-shaped piece of tissue from a little below the center of the cornea. This simple excision of a narrow strip was followed by paracentesis, amidst the strictest aseptic precautions. Forty-eight hours subsequently endocapsulitis developed with such rapid and violent symptoms that enucleation was the only remedy.

Similar cases have been reported. One mentioned by Mackenzie as occurring in the practice of Adams, bears evidence that this complication was known even to the earlier English surgeons.

It must be admitted that disastrous complications may attend the most carefully planned and executed surgical measures, directed in the main with a specific purpose to the cornea. Experience also sufficiently upholds the fact that repeated paracentesis, cauterization, excision or abscission of the deformed region—in cases in which serious complications do not follow—effect in exceptional cases only an arrest and reduction of the central ectasia. It is a question even with these successful ones, whether the good which is accomplished is not brought about through the central opacity of the cornea, for it is this which aids the supplementary measures on the iris and lens, which almost without exception are necessary to improve or raise vision to a higher standard. For this reason those operative measures which involve a major amount of surgical traumatism to the deformed cornea should be avoided. Surgical treatment must be undertaken with no other prospect than to render opaque the central regions, but with no reliable hope that it will bring about greater resistance of the ectatic region. For this reason the simplest surgical measures should be chosen, and these, as is well known, consist of cautious cauterization and tatooage.

SECURING BETTER VISION.

The second proposition concerns itself with attempts to bring about a betterment of sight in confirmed cases of this ocular deformity, in which vision has been hopelessly reduced: either, as the result of extreme conicity of the central regions of the cornea following a mysteriously started progression, but which was spontaneously arrested or was favorably influenced by the treatment practiced—adjustment of lenses, etc.; or 2, because of an excessive congenital deformity, but in which there can be discovered no evidence that the progressive tendency referred to has ever taken place. In the largest number of cases of this class it will be found that an excessive congenital deformity is present without tendency to fatal progression.

The cases which belong to this class are often greatly and permanently benefited through the selection and faithful use of proper corrective lenses. Sometimes stenopaic appliances are of great aid, but as often not. Strong crossed cylinders, or any combination of lenses which after repeated empirical tests has been found to aid vision, may prove of great service, and such lenses decentered placed or held by the patient in certain positions in front of the eye may even afford an increase of vision over the same lens in exact position directly in front of the eye in the test-frames.

For this certainly smaller class of cases of an excessive deformity, but in which lenses afford a fair amount of vision, should surgery be advised? If vision falls below a standard which implies helplessness, this must be considered a measure of justifiable expediency. If progression has not taken place, such cases offer far better returns from surgical treatment than those already referred to. With these, however, the same statements hold good, though they apply with less force to these cases: to avoid all unnecessary surgery with the cornea, limiting it rather to cauterization, followed by tatooage of the ectatic regions, relying for the restoration of better vision mainly on the supplementary measures—iridectomy and removal of the lens, or both.

Surgical experience and clinical observations uphold two expressions of conical cornea.

The first is more frequent. It is more amenable to the measures ordinarily employed as well as to surgery. The second is less frequent and also less amenable to non-surgical treatment and fraught with more danger if surgery is resorted to.

In the first expression of conical cornea, the entire structure participates in the deformity, but the conicity of the central region is without exception more pronounced. If progression starts, it again finds its chief declaration in the central regions.

The apex of the central cone is generally sharp. Neither involuntary pressure of the lids nor that which is voluntarily exerted, affects, disturbs or alters the conical shape. The apex of the cone is not easily indented with the blunt end of a probe. Surgical experience, furthermore, discloses that the apex region of the central cone, in most instances, is abnormally thin. It may happen, however, that the affected region in this more common expression, may even be increased in thickness. Vision is generally correspondingly reduced, but can, in most cases, be benefited, even with advanced progress or excessive deformity.

The second expression of conical cornea is less frequently observed. The conicity of the central region comprises a larger area. Implication of the peripheric regions of the cornea, though pronounced, is not so marked as in the preceding form. In other words, the entire cornea is less conical, but a larger portion of the central area is more ectatic. In this form, abnormal thinning of this ectatic region, and, in particular, of the apex of the cone, is met with without exception. The normal pressure of the upper lid, in marked or advanced cases, is sufficient to distort the shape and outline of the conical protuberance. Forcible contraction of the palpebral fissure produces flattening of this region. Pressure against this ectatic central region with a blunt probe readily confirms that this region has a lesser resistance and is easily indented. Surgical experience also fully corroborates the rarefaction of texture at this point. Clinical experience also confirms other points, and that is that visible pulsation of the thinned area is noticed.

The surgical methods for the relief of conical cornea are many and have long been practiced.

The obliteration of the conical protuberance by repeated cauterization with nitrate of silver and other escharotics, led eventually to surgical measures which accomplished this same object of cicatricial contraction and opacity with a lesser amount of painful reaction and danger and in a shorter period of time. For this reason, the use of the thermocautery, and in particular, galvanocautery, has superseded the older methods, and this procedure is justly entitled to preference. More than this, cauterization carefully practiced in selected cases is at present considered one of the safest and most useful surgical methods. Even if undertaken for no other purpose than to transform the deformed but clear central region into an opaque one without any definite hope that a reduction of the conical deformity may be brought about, a very desirable aim is accomplished.

The observation that after an accidental rupture of the thinned central region, the scar which followed reduced the deformity, led, especially on the part of French surgeons, of which Desmarres was a prominent advocate, to repeated paracenteses, followed by compress bandage and rest.

Early in the history of the surgical treatment of conical cornea, supplementary interference on the part of the iris and lens was found necessary even in cases in which the primary object was realized. On account of the large opaque area which followed, and not infrequently anterior synechiæ, it was found almost without exception necessary to perform a small iridectomy.

The view current for a long time that the central ectasia was a thickening of this portion of the cornea, led to the suggestion, and also to the practical surgical experiment of abscission of the prominent cone, excision of wedge-shaped pieces of tissue from or near the apex region, splitting of the cone by crucial incision, with or without paracentesis, cauterization, tatooage, etc. All these methods, however, were found to have a limited application only. They were all fraught with great dangers, and the returns from such treatment, always tedious and painful, were so unsatisfactory that such surgical procedures were only practiced infrequently and with the greatest hesitation.

In the early history of the surgical treatment of conical cornea, the suggestion was made that removal of the lens was a practical venture and accomplished a most desirable benefit for the patient. This suggestion was made and acted upon by Sir William Adams[2] as early as 1817. He had, in a case of successful cataract extraction, in a woman with high myopia, observed that she could see better without any, or required much weaker convex lenses than are ordinarily worn by persons who had undergone an operation for cataract. He recognized the high myopia so uniformly present in conical cornea and suggested and successfully practiced the removal of the lens in a typical case. Useful vision was restored in this case.

During a long interval of time, little or no progress was made either in the perfection of old or the discovery of new methods. Some surgeons condemned operative interference entirely and others practiced it only in extreme cases. For iridectomy, iridotomy and iridenkleisis were substituted by some surgeons.

The knowledge gained from surgical experience and careful clinical studies of conical cornea enables us to summarize briefly: That the surgical treatment of this uncommon deformity of the cornea is attended by uncertainty and danger even in the most favorable cases. Also, that it is without exception tedious. If it is undertaken with the hope of improving vision by reducing the central ecstasia through cicatricial contraction alone, it will prove in most cases an unsatisfactory venture.

The simplest and least risky surgical method consists of the discriminate and cautious use of the galvanocautery, supplemented, if necessary by an iridectomy, iridotomy, or iridenkleisis.

Abscission or excision of the central ectatic region, repeated paracenteses, are one and all most uncertain in their final results. The most vicious resentment may follow the most cautious attempts of such surgical interferences and for this reason they should not be too hastily resorted to.

Experience with the more desperate cases suggests as the most rational plan of surgical interference: 1, the removal of the lens by discission or extraction; this is followed by superficial cauterization with the galvanocautery and tatooage—simply to render the ectatic region opaque, but not with the hope or object of bringing about greater resistance on the part of this locality, or, what is less likely to occur, a better restoration of shape and curvature of other parts of the cornea. This accomplished, it may be expedient to perform a small iridectomy, placed in the locality in which it may furnish the greatest possible good.

It must be remembered as an inviolable fact of surgical experience that the most carefully guarded traumatism to the deformed or central region of the cornea may be followed by fierce, and at times by fatal, reaction. In conclusion, it may be stated that surgical treatment is justifiable in a certain number of cases, and while not often one of imperative necessity, may be one of practical expediency, which, however, only the judgment and experience of a surgeon must determine in every case.

THE TREATMENT OF KERATOCONUS WITH GALVANOCAUTERY.*

HERMAN KNAPP, M.D.

NEW YORK CITY.

In 1892, I published five cases of keratoconus[1] which I had treated with galvanocautery.

Case 1.—Operation was performed on both eyes. On the left eye the apex was cauterized with a fine loop in an area of 2x3 mm. and then pierced, so that the aqueous spurted out. Healing was free from dangerous reaction, but slow. The chamber closed and opened seven times. Before the operation patient read J. 1 at 1″ and with —7D. 20/200; eighteen months after the operation he read J. 1 fluently at 10″, and with —4D.

---

[2] Adams, Sir Wm.: Journal of the Sciences and the Arts., vol. ii, p. 403, London, 1817.

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Arch. of Ophthalmology, Vol. xxi, p. 540.

20/40. The right eye, on account of the slow healing of its fellow, was cauterized cautiously and repeatedly until I saw the aqueous just begin to ooze out. There was a good deal of reaction, and the lens having become cataractous—by overheating the aqueous—had to be needled. Recovery favorable. Vision with +12D. +4cyl. 20/70. The recovery has remained permanent. The young man went through Yale College, stood high in his class, and is now a lawyer.

Case 2.—One eye only was markedly affected. Sn. No. 6 at 1″. To avoid an irregular cauterization I had electrodes made with a convex, slightly oval end-plate, which I placed on the well-cocainized cornea, and withdrew it the moment it became red. After this I pierced the center of the eschar with a fine-pointed electrode. Undisturbed and rapid recovery. Read No. 2 at 3″; with —4D. 20/70.

Case 3.—One eye presented a very slight cone, but the other a marked one with a dense patch in the center, so that vision was particularly abolished. Operation, July 18, 1891, as in the preceding case, piercing eschar in center. No reaction for eleven days, when the anterior chamber was restored. Repeated attacks of glaucoma followed, which pilocarpin relieved. A telangiectatic adherent leucoma developed. August 30, a violent attack of glaucoma, partially relieved by eserin and morphin. September 1, downward iridectomy, immediate relief, permanent recovery in a week. A year later patient reads J. 1 at 4″ and with —9D. 20/70.

The severe reaction in this case, and in the second eye of the first, determined me to operate on the two other patients without piercing the cornea.

Case 4.—L. E., J. 1 barely at 1″. Operation Feb. 29, 1892. No reaction. Improvement of sight considerable; at the beginning of April, J. at 1¼″. Cauterization repeated in the same way in the same place. No reaction. Semitransparent scar in ophthalmoscopy. September 17, 1892, I was told that her eye had given her no more inconvenience. She read with the naked eye J. 1 at 10″. V. 20/50. Glasses no improvement.

Case 5.—The sixth eye is almost a repetition of the previous one—L. E., J. 1 at 1″—and with —15D. 20/200. Two cauterizations, one March 10, 1892, the second March 23, 1892. Permanent visual result, J. 1 at 10 to 12″; with —3D. —1cyl. ax. 25°, 20/30.

To study the effect of the galvanocautery on the eye I made experiments on eight rabbits (loc. cit.), which showed that the reaction and the subsequent scar are proportionate to the extent and intensity of the cauterization. Moderate burnings, with or without perforation, healed kindly and left circumscribed scars. Extensive and prolonged cauterizations were followed by intense iritis, suppuration, and even sloughing of the cornea. To the six eyes of keratoconus published before and here given in short abstracts I can add eight new ones.

Case 1.—Miss Edna D. had marked conus in one cornea. J. 1 at 1″, 2/200 for distance without glasses, i. e., about 15/200 with glasses. Galvanocautery with disc-like electrode, June 16, 1893. Some pain the first twenty-four hours; none later. November 1, second cauterization. November 11 upward iridectomy on account of central opacity. November 16, reads No. 2 at 6″. V. 20/200; with —3.5D. —2.5cyl. 20°, 20/70. No discomfort since.

Case 2.—Both eyes. Mrs. Mary F., Cohoes, N. Y., Keratoconus on both sides, with speck in right cornea. September 20, 1895, right J. 1 at 3″; left at 1½″; operated on both eyes. Undisturbed recovery. Small optical iridectomy on temporal side. October 8 and 31, 1895, R. Sn. 2 at 4″, 6/200; with 5 D. 17/200. L. Sn. 6 at 4″, 4/200; with —10D. 10/200.

Case 3.—Mrs. Robert B., Oceanic, N. J., aged 25. Keratoconus progressive in both, R. J. 1 at 3″, L. J. 1 at 1″; with her own glasses, R. —5 D. about 15/200; L. 4 cyl. 30° 20/50. Operated on R. E. November, 1897. No noteworthy reaction. Re-examined May 22, 1900. R. —8 D. —2 cyl. 30 ° 20/70.

Case 4.—Mrs. Bertha S., New York City. Keratoconus, R. more than L. Came May 16, 1898. Thinks that L. has been greatly worse after childbirth, three years ago. Now R. J. 1 at 1″, with —9 D. 20/200; L. 20/70, with —3 cyl. 45°, 20/50, J. 1 at 5″. Right cornea, two small maculæ at apex. Is positive that L. formerly was excellent. June 16, 1898, apex touched with galvanocautry, perforated with pointed electrode. Some secretion and pain. Slow healing. July 17, wound closed with anterior synechia. Soon afterward great pain occurred in eye, nausea, vomiting. Pilocarpin and morphia gave relief. July 19, iridectomy upward; no reaction, no pain, opacity smaller. Tn. and S. better, 20/70. Examined in May 1900. Eyes quiet. Right, adherent leucoma downward, large artificial coloboma upward.

The following four eyes have been operated on according to the method of Mr. Anderson Critchett, of London. He burns at low heat a large area superficially; then with a little more heat, a smaller area more deeply, and lastly with a smaller point at a dull maroon heat somewhat deeper still stopping short of perforation. He thus creates two zones and a small central spot, the whole bearing some resemblance to a concentric target. Over the area of the outer ring, where only the superficial layers are touched, the cornea in almost every instance regains its former transparency. In only two cases out of ten, on which Mr. Critchett has operated by this his latest plan, has he found it necessary to perform an optical iridectomy. The improvement in vision has, of course, varied in degree, but in every instance it has been very encouraging; in one case raised from 6/60 to 6/9, without any glass correction.[2]

Case 5.—Both eyes, Miss A. M. A., Watertown, N. Y. Eyes formerly very good. Now keratoconus, left more than right. R. 20/200, L. 10/200, with crossed cylinders. R. =J. 1 at 4″. L. at 2″. Point and opacity slightly below and down from center of cornea.

The left eye was operated on November, 1899, as follows: With a convex, disc-like burner at dull-red an area reaching from the center of the well-holocainized cornea down and outward about 4 mm. in diameter, is superficially singed. Holocain is dropped in again. After a few minutes a smaller zone within the former is treated the same way, and holocain dropped in again. Lastly the disc is placed cold on the cornea opposite the outer-lower quarter of a moderately dilated pupil, the current is closed, and the disc withdrawn the moment it is red. These three areas differ distinctly in color, according to the intensity of the effect. The center appears like a dirty brown depression, as if in it the whole corneal substance were destroyed, and the aqueous humor kept back by the eschar. I was careful not to let the upper limit of the cauterization go beyond the center of the pupil, in order to obviate the necessity of a subsequent optical iridectomy.

The young lady immediately after the cauterization saw 20/100 without glasses. This primary effect of the cauterization is known. It may be owing not only to the flattening of the cornea which we notice at once, but also to the diminution of the aqueous humor. The recovery was undisturbed. The sight was 20/100 (from 10/200).

The right eye was then operated on in the same way. It recovered without disturbance like the other. Its sight was raised from 20/20 to 20/70 with —2D.

Case 6.—Miss R. N., Bergen Point, N. J., keratoconus slight, non-progressive in R. eye, L. marked and progressive. R. =20/40; L. fingers at 6; reads J. 1 at 1″; with —20D. =10/200, cylinder gives no improvement. Galvanocautery February, 1900. Recovery smooth. Sight good, namely, June 2, 1900, with glasses =20/70. Reads J. 1 at 6″. Nevertheless, the cornea shows again a slight conical prominence, which may make another simple cauterization desirable.[3]

---

[2] From communication made at the Ninth International Congress at Utrecht, August, 1899.

[3] Done in June, 1900, without reaction, and good result.

Case 7.—Aleie A., New York, reads R. No. 1 at 1", and has with —2D. S. =12/200. L. not impaired. January 17, 1900, galvanocautery. There was mild reaction from the cauterization, which soon subsided. Patient was discharged in eleven days; has not been seen again.

This makes a series of fifteen successive operations, all of which were more or less improved, as the subjoined table shows at a glance. I should not omit to mention that vision was noted as determined by glass-corrections before and after the operations.

FIRST SERIES—VISION.

	Before.	After.
1.	20/200	20/40
2.	20/200	20/40
3.	7/200	20/70
4.	1/1000	20/70
5.	15/200	20/50
6.	20/200	20/30

SECOND SERIES—VISION.

	Before	After.
1.	15/200	20/70
2.	6/200	17/200
3.	4/200	10/200
4.	15/200	20/70
5.	20/200	20/70
6.	10/200	20/100
7.	20/200	20/70
8.	10/200	20/70
9.	12/200.	Unknown. (Did well.)

The improvement of vision is not the only gain; the greater gain is the arrest of the progress of the deformity and degeneration. Though we know that keratoconus may become stationary at any stage of development, we commonly notice that, at least in one eye of the patient, the cone not only increases, but the cornea on and around the apex becomes patchy.

In my attempts at relieving keratoconus cases, I have not had to deplore the loss of a single eye, but in many cases the treatment by cauterization with silver nitrate has been inadequate.

The superficial galvanocautery is not much better. Seeing this, I, for a time, have thought that perforation was a necessary factor in securing the desired effect. The perforation in some cases was followed by bad consequences: slow healing, repeated openings and closures, anterior synechia, glaucoma. The cautious and progressively deeper cauterization with the galvanic current has obviated these prejudicial consequences and proved efficaceous. I am not unaware that my own cases, and I dare say those of other ophthalmic surgeons, are not numerous enough to warrant us against the occasional loss of an eye, but feeling our way cautiously and supplementing insufficiency of experience on man by experiments on animals will make our practice safer and more and more beneficial. In the manner of executing galvanocautery in keratoconus I shall endeavor to observe these two rules:

1. Never cauterize too deeply, and if the result of the first operation be imperfect, apply the convex disc electrode again to the place in which you want the subsequent cicatrical contraction to have the greatest effect.

2. Spare, if in any way possible, at least half of the pupilary area. If we operate early, even in restricting as we should our interference to the progressive cases, we have to deal with a clear cornea, the reaction will be least, and the visual result as well as the operative effect greatest.

I need not say that we should not operate when the least septic condition is present in the conjunctiva or in the lids and surroundings of the eye, in particular in the lacrimal sac.

DISCUSSION ON PAPERS OF DRS. SATTLER AND KNAPP.

Dr. S. D. Risley, Philadelphia—There is probably no topic in ophthalmology about which I feel like being less dogmatic than the subject of keratoconus. My own management of this affection has always been very conservative. Very early in my professional career I conceived the idea that it was one of those affections that belonged to diseases of the anterior segment of the ball and was primarily dependent upon a diseased condition of the uveal tract.

I think the treatment should depend on the stage of the disease in which we find the eye. If still progressive, which will be indicated by the fact that the eyes are painful and the patient is suffering with severe headaches, we shall find more benefit by insisting on a prolonged rest of the eye and enforcing this by the use of mydriatics, using them alternately with weak solutions of eserin or pilocarpin, and the use of a compress bandage in the earlier cases. With the idea of the disease that I had, that we were having a stretching of the anterior segment of the ball instead of the posterior segment, as occurs in the eyes of young myopes, due to a lack of nutrition, I have made much use of the bandage, filling up the spaces over the closed lids with cotton, closing them for twenty-four hours and when the bandage was removed using gentle massage through the closed lids. At night the bandage might be removed to put in a solution of eserin, as strong as will be borne without causing pain, and then renew the bandage after an interval of rest. This was my early management of cases of progressive conicity of the cornea, until such time as the headache and tenderness of the ball disappeared, and then while the pupil was still dilated I made careful measurements of the cornea by the Placedo disc and then through the stenopeic slit and otherwise gained the best visual results I could. I would then allow the pupil to contract and go over the optical study of the cornea again to pick out the best glass, often getting the best results with the crossed cylinders. It is usually a matter of pure empiricism as to what glass will give the most benefit.

I think conservatism in the treatment of these cases is in the majority of instances better than surgical measures, especially if we consider that it is a pathologic condition of the cornea which is apt to be progressive and due to an impaired nutrition of the eye itself. If time permitted I could present a considerable group of patients that had been thus managed, some of whom have been under my care now for a good many years, having been among my earliest patients.

I may say I have been greatly pleased with the visual results that Dr. Knapp has just rehearsed in our hearing, for they exceed the results that generally come from optical correction, but the cases I have referred to have been greatly improved by the conservative treatment. One young man has just concluded a college course and another is passing through his college course now. Another man I recall at this moment is the principal of a large educational establishment in the central part of Pennsylvania. He was absolutely unable to use his eyes at all when he first came to me he passed through the mydriatic and myotic treatment with compressed bandage, and when he at times found the bandage intolerable he would take it off for a while to reapply it when he felt better. His treatment ran over a period of four or six months, and he has had no trouble with his eyes, no asthenopia for years, but he drops in occasionally to let me see him. During the past year there occurred a slight change in the principal meridian of his left eye, and I had to change the axis of a cylinder he had been wearing for twelve years, a few degrees. He has gone back to work again with comfort.

Dr. Burnett—I would like to ask Dr. Knapp as to whether the visual acuteness he announced was taken without the use of glasses, or whether there was an optical correction.

Dr. Knapp—It was taken with glasses.

Dr. Sattler—I would like to emphasize the point Dr. Knapp made in reference to cauterization, that it be limited to bare perforation of the cornea. It may be repeated as often as necessary.

Gelatin in Hematuria.—Schwabe reports in the *Therap. Monatsh.* for June a case of hemorrhagic nephritis that was unmistakably benefited by subcutaneous injections of a solution of gelatin below the clavicle on each side, supplemented by a pint of a 10 per cent. solution of gelatin ingested during the day. No red corpuscles were to be found in the urine by the end of a week.

THERAPEUTICS OF TRAVEL AND CHANGE OF SCENE IN NERVOUS AND MENTAL DISEASES.

RICHARD DEWEY, M.D.
WAUWATOSA, WIS.

This paper is suggested by the experience I have had in seeing a large number of cases in which travel or change of scene has been employed without resulting in benefit, or with apparent injury; also, to a less extent, in seeing patients improve or recover for whom travel had been recommended after they had received all the benefit they could be given by home, hospital or sanitarium treatment. Other patients have been observed who were incurable from the start, e. g., victims of paresis, who were sent traveling with the fallacious hope of benefit or palliation—in some cases the disease not being recognized—with useless trouble and sometimes disastrous results—explosion of maniacal excitement in public places, death in a foreign land or other distressing occurrences. Again, I have encountered cases of melancholia with suicidal impulses, or patients with delusions of persecution, who have made suicidal or homicidal attempts while traveling, to the great distress and confusion of all concerned. It is undeniable that great benefit may result from travel, when the conditions both of the patient and of the journey are favorable; and there are undoubtedly many cases where recovery results—of these latter we are less apt to hear, because they no longer seek medical aid. The relative proportion of benefit and injury is, therefore, difficult to estimate, but the inquiry seems worth while: In what cases is travel or change of scene likely to be beneficial, and in what cases, contraindicated?

Both nervous and mental diseases are included in this discussion, and properly so, for there are many patients with nervous disease pure and simple, or, at least, where no question of mental integrity arises, whose mental state is, nevertheless, a most important element, and may or may not be benefited by travel, while, on the other hand, there are many cases with pronounced insanity, for whom, however, travel can be made decidedly beneficial, if not curative.

I will here cite some cases illustrating the above remarks, confining myself for brevity's sake, to the bare outline of each case:

A woman, aged 60, of neurotic temperament, with some senile changes in the heart and blood-vessels, who had had a severe attack of neurasthenia some years before, suddenly developed insane jealousy regarding her husband, with whom she had lived happily for forty years. Her propensity to irritability and violent anger, with loss of self-control toward her husband and children, was so great that a change of surroundings was found necessary. She was sent to a Southern seaside resort, but grew constantly worse from day to day. She was then brought home, but could not be kept at home, as her conduct bordered on the maniacal, though she remained rational in everything except her jealousy. She was placed in a sanitarium, and after about three months' treatment regained her health. This same patient, in a previous attack of neurasthenia, was sent to California, and constantly grew worse there, being under the obsession of the idea that she would never reach home alive; that there was some incurable uterine disease, and no one but her home adviser could do anything for her. She was, accordingly, taken to her home again, and I was informed that on her arrival she was anesthetized and told that she had been operated on, though there was no condition requiring operation. She then went on to a fair recovery, being usually well for some years.

A patient suffering from neurasthenia was sent to Europe, with the expectation of cure from travel. While she was abroad a member of her family died; she hastened home; the obsession seized her that this relative was enduring endless punishment in the other world because not orthodox in his beliefs, and insomnia in aggravated form developed. Prolonged and rigorous rest-cure was tried, without avail; then a trip to a watering-place, but all her symptoms grew worse. Finally three or four months' systematic treatment in a private hospital for nervous and mental diseases resulted in such improvement that the patient was recommended home where her convalescence was completed. In this case the trip abroad might possibly have been beneficial but for the death of the relative, but such events as this must be taken into account in sending a patient abroad. Another feature of the case deserving note is that the full completion of convalescence was best attained by a change to her home from the hospital at the right time.

Another patient, a woman of 50 who suffered from extreme insomnia and "phobias" of various incurable diseases, visited numerous European health resorts and traveled extensively at home without benefit, but improved very decidedly when treated for six months in a suitable hospital, and has been for a year at home in better health than at any other time since she broke down.

A patient with puerperal mania was sent into the country and temporarily improved, but grew worse at once on her return home. She was then again sent away on a trip, but became delirious. When she came under my care an acute delirious mania had developed, which proved obstinate and protracted, and for a time threatened death from exhaustion, but resulted in perfect recovery after five months' treatment.

A young man was twice under my care who on two occasions became insane while traveling, having been sent from home with the idea of benefit when in the prodromal, depressed and melancholy state of a psychosis, which would have been labeled "acute mania" under the usual classification.

I find on looking over the histories of a series of forty-six cases in which the patient was sent from home for recreation, that there were thirteen instances of unmanageable mental state, in which compulsory care or legal commitment became necessary. The remainder of the forty-six were cases of neurasthenia, hysteria or mild psychosis, in which, as no improvement was experienced from travel and change of scene, my advice was sought. Patients in numerous instances were taken to the *Mardi Gras,* to some large city for a round of amusement, to some fashionable watering-place with the same idea, and injury, rather than benefit, was the result. It was evident in some cases that the friend or nurse accompanying the patient was enjoying the diversions of travel and sightseeing more than the patient, and could not, or would not see that the ostensible object of the trip—the improvement of the patient's health—was not being furthered.

One patient who came under my care suffering from primary dementia had evidently broken down as a result of the strain of taking an epileptic brother for a European tour, during which constant difficulties and disagreements arose.

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Five cases I have noted in which the effect of taking a patient suffering with neurasthenia or mild melancholia from the country to a general hospital in a large city was to precipitate a mental or physical crisis. The strange and unwonted sights and sounds of such an establishment and the contrast to a quiet country home were naturally unfavorable for a patient of this description.

Another patient, who was for many months under my care without benefit—a case of paranoia of long standing—illustrated in her earlier history the evil of sending patients who are undergoing rapid changes where they can not be under constant medical observation. This patient, a brilliant, accomplished young girl, by the direction of an eminent neurologist was kept under the care of a nurse and given frequent changes to the various health resorts and cities of the Atlantic seaboard. There had been no suspicion of mental disease entertained by the physician named, or, if there had been, it had not been communicated to her family, and their first knowledge that she was insane came from finding her at a hotel, where she had been for weeks, almost wholly refusing food under the influence of delusions, while the nurse allowed her to stay in bed with total disregard of all hygienic conditions. Her friends always believed her subsequent development of confirmed insanity was largely due to her neglectful management. though it is, of course, probable nothing could have prevented the ultimate appearance of mental disease.

Some experiences in sending "paretics" traveling which have come under my notice are here worthy of mention. Palliation is in such cases all we can expect from any treatment, but aggravation of the symptoms, exposure of the patient to unfortunate and serious annoyance, trouble and expense, have been the results in the large majority of such cases, judging from my own observation.

One patient was sent from Colorado to California last summer to visit friends. He attempted to engage in business there, became maniacal, wasted a large amount of money, and was finally brought across the continent in a violent and unmanageable state by two attendants, to be placed under my care.

Another, whose condition was not recognized by the medical man in attendance, was sent to Scotland, where he grew rapidly worse, and was brought back only to die in a few weeks. When the true condition became known to the family in this distressing manner there was sever censure of the ignorance, or lack of care, shown by the doctor in charge.

Another paretic, whom I saw at a hotel at the time of the World's Fair in Chicago, came from an Eastern city for recreation. He had been in a comfortable remission for about five years. After a few visits to the fair he developed a series of violent epileptiform convulsions, which lasted forty-eight hours, causing great alarm and distress to a large circle of friends. After being cared for for some time at the hotel he was removed home in a special train. His deterioration was somewhat more rapid after this seizure.

Another paretic, taken to a summer resort upon one of the great lakes, caused endless trouble before he could be brought home and committed to a private hospital, where he rapidly improved. He returned home in a few months, and remained quite comfortable for a year, when another threatened maniacal attack was cut short by his going to the same hospital for a few weeks only, and he has now been at home for some months.

Another case of this kind was recently sent from a Southern state to a large general sanitarium. The plain symptoms of paresis had not been recognized, or at least, no such diagnosis was communicated to the family, who had endured serious anxiety and expense they could ill afford in the hope of cure, when the patient was placed under my care. I could only advise the family that the condition was incurable and recommend a state hospital.

Similarly, I have been consulted in the cases of patients who had been sent to Colorado, to Japan and to the Pacific coast. Many other cases might be mentioned, but their main features would be the same.

What has been said above militates largely against travel as a method of treatment. Now, on the other hand, I would state from my own experience that I have seen much benefit from travel, especially in the convalescent stage. A recital of cases of this kind would be mostly the record of uneventful recovery, and yet I find that I have a comparatively small number of cases to report. Of seventy-six of my own cases in which travel and change of scene had been previously employed unsuccessfully, there were thirty-two cases of recovery while the patients remained under my care, and five for whom a further change of surroundings was later secured, and who subsequently recovered; four of these were cases of melancholia, and one a case of morphin habit, not of long standing.

One patient, a melancholiac with senile changes, who had been suicidal, and on a certain day expressed a wish to throw himself under a moving train, and attempted to do so, was taken on a long journey the next day by his daughter, much against my advice, but arrived at his journey's end alive.

Aside from cases in which cure has resulted, I have seen a large number of cases in which travel and change of scene were of great service, mostly in chronic conditions where nervous erethism was relieved by the diversion of thought to new and interesting objects. The old maxim, *cœlum non animam mutant qui trans mare currunt,* does not apply to cases of nervous and mental disease, for it is constantly evident in such cases that the suggestive influence of new objects does produce a change in thought and feeling. This change may be for the better or for the worse, according to the internal and external conditions in each case which I will briefly discuss at the close of this paper.

The essential elements of travel in general are quaintly described by Baedeker in a quotation from v. Sittewald, who wrote about two hundred and fifty years ago:

Wer reisen will
Der Schweig fein still
Geh, stetem Schritt
Nehm nicht veil mit
Tritt an am frühen Morgen
Und lasse Heim die Sorgen.

I venture to translate this freely as follows:

When traveling your own counsel keep,
Go onward with a steady step.
Get every night a good night's sleep,
Rise early on the morrow.
Take little load
Upon thy road:
And pray, no trouble borrow!

The essentials of the above are: Suitable reserve in meeting crowds of fellow travelers, steady progress, a definite plan or itinerary steadily carried out, good sleep, small luggage and a care-free mind.

Certain of the above are, on their face, important for a nervous invalid. Such a one who can not secure for himself or have secured for him, freedom from outside impertinence or annoyance, a well-ordered plan of journeying, free from capricious change, a good sleep each night, and who can not travel without burdensome baggage and appliances, and enjoy a mind at ease and free from care, will hardly be able to benefit by mere divagation from place to place upon the earth's surface. The ordinary plan, the good sleep, the light luggage and the untroubled mind, are especially valuable for any invalid, and we see how difficult of attainment these are for neurotic individuals. A garrulous and capricious person, as so many of our invalids are, would become constantly involved and confused. A sufferer from insomnia would, as a rule, soon be worn out. A dyspeptic or over-particular person, or one ailing physically, as is the case with so many, would meet annoyances and trials which would nullify all good of the journey, and one given to worry and anxiety would grow worse instead of better. Of course, exceptions might occur to all these rules. A suitable companion, who had the confidence of the invalid, might overcome many of these difficulties, especially with a passive, easily-influenced patient.

There may be mentioned the bearing upon this question of certain mental states. Of course the acute stage of mania, melancholia or dementia would preclude travel. In chronic cases, suicidal tendencies and delusions of persecution and suspicion would contraindicate travel. All paranoiacs who are capable of becoming dangerous or homicidal under their delusions should be prohibited from travel. Paretics vary enormously in different stages of the disease and in their individuality. There are certain exceptional conditions under which such a patient may travel, but, as a rule, such patients, where the disease is active, are liable to fall into the hands of the police.

In considering travel for neurasthenics, hysterical patients and victims of hypochondria, it is especially important for the two classes first mentioned to determine whether rest is not more important than any other condition. Often the inclinations or wishes of the patient can not serve to guide us in the least; such patients crave change and novelty, and will evidently enjoy it, but may be all the while increasing nerve-exhaustion, while an unnatural excitement may impel them onward to the verge of collapse, or beyond it. Hypochondriacal patients, too, in some cases, have their morbid ideas confirmed, in others dissipated.

It may be broadly stated that the stage of convalescence from most nervous and mental maladies is the one in which benefit may be obtained from travel. Here a reservation should be made for those in whom profound prostration, both mental and physical, develops on the cessation of acute symptoms and the setting-in of convalescence.

I have spoken in my title of "travel and change of scene" considered as therapeutic measures and, in some cases it is necessary to discriminate between the two. There are many patients who could not travel from place to place with advantage, but who imperatively require a change of scene. A single change and remaining in new surroundings would often be beneficial, while repeated change would be injurious. Such single change, according to the state of the patient may be either a visit to congenial friends, a sojourn at some pleasure resort, a stay in the country, or the change may be combined with treatment by selecting a medical institution.

In studying this subject I have gone over the literature to some extent and made extracts. I quote here a few opposite sentences:

Esquirol says—quoting Seneca:—"Travel is of very little use in emotional disorders, hysteria, many cases of neurasthenia and affective insanity." He mentions Socrates' answer to a melancholiac who complained he had no benefit from travel—"I am not surprised. Do not travel with yourself." Esquirol proceeds: "Nevertheless the ancients prescribed journeys. They sent their patients to take hellebore at Anticyra and to make the leap at Leucate. The English send their melancholiacs to the southern parts of France and Italy, and even to the colonies. I have always observed that the insane are bettered after a long journey, especially if they have visited distant lands, the location and views of which have seized their fancy; if they have experienced the difficulties, the annoyances, the *contretemps* and the ordinary fatigue of travelers. Travel acts also by exciting the assimilative functions. It produces sleep, increases the appetite and the secretions. Convalescents who dread to reenter society, where they fear having to talk of their disease, are less discomposed after a journey, which is the subject of their conversation with their friends and relatives." Allowing for certain exceptions, the words of Esquirol are very wise.

Dagonet says: "Among the means that have been recommended we find walking and travel. But the value of this last agency has been strangely exaggerated. Hardly have the first signs of insanity declared themselves than the patient is advised to travel. Harmful at the beginning, this agent produces good results when employed at a later period, and especially during convalescence."

Marce, in his practical treatise, says: "Journeys are highly recommended in the treatment of insanity. They renew impressions, excite interest by the sight of new objects and may cause a healthful diversion from morbid preoccupations, but they are impracticable with disturbed (maniacal) cases, and full of danger with those who have ideas of suicide. They should be reserved for quiet cases, whose delusions tend to become fixed and to always revolve in the same circle."

Griesinger remarks: "Immer soll der Kranke den schädlichen Einflussen, die bisher auf ihn wirkten, entzogen, und es sollen ihm neue, wohlthätige zugeführt werden. In vielen Fällen debarf es hierzu einer durchgreifenden Umänderung aller Aussenverhältnisse; Ortsveränderung, kleine Reisen namentlich Fuss—und vorsichtig gewählte Badereisen, wenn die ausseren Vehältnisse solche gestatten (niemals aber Reisen in Grosse Städte, wo Hirn und Sinne des Kranken aufgeregt werden), sind hier oft vom besten Erfolge."

Says Regis: "Travel is an efficacious therapeutic agency in mental derangement, and at the same time is a salutary means of diversion. By removing the patient from his usual surroundings, it corresponds, indeed, to the very principle of treatment isolation, while at the same time it causes moral and physical distraction that reacts favorably on the mind of the patient. Specially recommended by Esquirol and some of his students, who had obtained good results with it, it is less utilized at the present on account of the inconveniences and the dangers to which it may give rise. We may employ it, also, in some chronic insanities with subjects more or less inoffensive, but in these cases it is only a means of diversion capable at the most of producing a relative sedation. Whatever the morbid form and the end proposed, the physician ought never to advise or permit an insane person to travel, except on condition that the patient should not be accompanied by any of his nearest friends; that the direction of the trip should be by an experienced person, in preference to a young physician; finally, that all precautionary measures should be taken to prevent, as far as possible, any disagreeable events or accidents."

Bucknill and Tuke say: "Should the threatened man travel? We think not often. Change of scene may do much good, but not constant change of scene with its labors, irritation and trials, especially if undertaken in foreign countries. This constant change of scene, which we call travel, easily suggests itself to friends and physicians. It is so obvious a method of getting a man away from places and people and circumstances which are irritating and obnoxious, and of removing him out of sight for a while that it is an expedient adopted with far more frequency than wisdom. We have known most disastrous results from it. Men threatened with lunacy who have been sent on their travels we have known to commit suicide in foreign hotels and in mountain solitudes, to have outbursts of raving mania in railway stations, and in city streets, and to get into the hands of the police for outrageous conduct. The friends of such a man who send him on his travels without sufficient watch and ward, commit a flagrant breach of private responsibility and of public decorum. As far as cure is concerned they might as well throw their friend from the house because a lunatic is said to have been cured by pitching accidentally on the right cranial spot. What they do, and know what they do, is to hide their friend for a while from the eyes of their own immediate public and to postpone the responsibility of taking proper steps for his care and treatment. . . . If he be attended by a medical man instructed in his case, by a trustworthy body servant and a good courier, and has 'put money in his purse,' there is no reason why the efficiency of foreign travel should not be tried under proper advice. . . .

"Travel within the four seas is quite a different measure, and with due provision for care and protection, for the right admixture of rest and fatigue, of change and repose, is a very fair and proper thing to try, not only in threatened yet undeveloped insanity, but also in many chronic conditions of mental disease, and especially also in the state of convalescence."

Clouston remarks: "A sea voyage, that favorite recommendation of despair, often does far more harm than good, and is attended with many risks. How many suicides I have known to result from this cause!"

Says Kellogg: "As a means of psychotherapy travel and change of scene in certain cases are unsurpassed. This form of treatment has been greatly abused by the sending of acute cases of insanity on a rampage from one country to another. The remedy is suitable in occasional cases in the initial stage of mental disease, but it is chiefly important when acute symptoms are at an end, and there is need of novelty and change to hasten and complete the mental restoration. In intelligent patients convalescence is often marked by mental depression, due to surging memories of the painful causes of the insanity, and to a certain conscious feeling of loss of social standing and of the confidence of friends. Instead of return to old surroundings and a host of disagreeable recollections, travel and change of scene are of the utmost benefit in confirming the cure in these cases. The rich insane, partially recovered with permanent defect, and without dangerous tendencies, should be allowed such pleasure in life as can be derived from travel. The view that all mentally unsound should be confined is grossly unjust, and hundreds of thousands of such persons are living in enjoyment of perfect freedom and comparative happiness. Such insane patients have a veritable mania errabunda, which should be checked rather than indulged."

I will now briefly present some results of the tabulation of cases encountered in my own experience when travel and change of scene were tried. The statistical method, so fallacious at all times, is perhaps of even less value here, but a few points may have some interest.

In five years' experience, out of more than 600 patients treated by me, 110 had been sent from home with the object of benefit or cure before coming under my care. Of these 51 had been sent with the double object of change and of medical treatment, nearly all to medical institutions, springs, etc.; 16 had gone for visits to friends; 23 to resorts of various kinds for recreation; 8 to the Pacific Coast; 12 to Europe, Japan and across the seas. None of these had recovered; most of them had grown worse; a few had improved, but still needed care and treatment.

Of the total of 110, 38 were practically incurable; 9 of paresis, 13 of paranoia, 11 were confirmed habit cases, 2 senile, 1 ataxic, and 2 epileptic. Of the 73 possibly curable cases, 36 recovered after an average of three or four months' treatment; 10 of these were depressed and exalted forms of psychosis; 7 neurasthenics; 5 had hysteria; two were habit cases. In the 73 cases there were 18 suffering from delusions of persecution, and of these 10 were cured, but I have not known a case of this kind to improve by travel.

In conclusion I may summarize my remarks as follows:

Travel and change of scene for mental and nervous maladies can not be judiciously prescribed except by careful consideration of the individual case. Travel may be good in one stage, and bad in another of the same disease. If the patient grows worse by travel, this does not prove the treatment bad, for some cases will grow worse whatever is done. It may even be necessary to make a careful experiment before the question can be settled. Another fact regarding travel is that a great deal depends upon the manner of its regulation. Patients who can command every facility for comfort and safety and an experienced medical escort, could travel where such a course would be injurious and dangerous for one of moderate means.

Again, we must discriminate between cases in which a curative result may be expected and others in which palliation is all that is attainable.

Certain symptoms may be said to raise a strong presumption against travel. In nervous diseases the real weakness of neurasthenia and hysteria—often masked by an excitable and irritable state—require rest rather than motion, though the patient outwardly appears strong, and is himself incapable of knowing or judging the limits of his strength.

Certain self-centered patients who are incapable of giving attention to any external object can gain no benefit from travel.

In mental diseases, delusions of persecution, the presence of elements of danger to self or others in the mental state, suicidal or homicidal tendencies, active and changing mental conditions, especially with visual and auditory hallucinations, will generally forbid travel.

In the convalescent stage of all these diseases, travel may be expected to prove most efficacious.

In sending a patient for travel or change of scene, some suggestions may be offered:

In most cases where a neurotic patient is sent from home, safety and welfare will be best consulted by combining treatment with the change of surroundings. The patient should have access to a well-qualified practitioner, or, perhaps better, enter a medical institution capable of giving the recreation and supplying the diversion without the risks of travel, and with medical supervision otherwise not attainable unless a physician accompanies the patient.

Visits to friends by a nervous invalid except when convalescence is well established, are of little use, and may be very injurious.

Long journeys to Europe, to the Pacific Coast, etc., should be very carefully considered in all their bearings before undertaken.

BIBLIOGRAPHY.

1. Esquirol: Maladies Mentales, I. p. 70.
2. Dagonet: Traité des Maladies Mentales, Paris, 1894, p. 246.
3. Marce: Traité Pratique des Maladies Mentales, 1862, p. 184.
4. Griesinger: Pathologie und Therapie, p. 957.
5. Regis, E.: Psychical Manual of Mental Medicine, pp. 566-7.
6. Bucknill and Tuke: Psychological Medicine, pp. 646-7.
7. Clouston: Mental Diseases, p. 693.
8. Kellogg: Text-Book of Mental Diseases, p. 505.

DISCUSSION.

Dr. E. G. Carpenter, Columbus, Ohio—I wish to say a word with reference to one class, and that is in regard to the cases of melancholia, because there is a general vagary, even among the profession, that diversion and getting the patient away from home will tend to convalescence in melancholia. The reader has cited cases which show that it meets with failure. Those people that are interested in themselves and self-centered find it annoying to see things, be entertained, and be where many people are. It irritates them and does them absolute harm, and above all, they are cases which should be kept quiet until convalescence. When that is established it will be time for diversion and travel to be brought most effectively in play.

Dr. H. A. Tomlinson, St. Peter, Minn.—The chief essential to success in the care of cases of this kind that are traveling as a part of their treatment, is the caretaker, and I believe many of the failures resulting are due to the fact that the person taking care of the patient is not competent. The first element that enters into the failure of nervous health is loss of self-control, accompanied by morbid self-consciousness, and unless there is some one with the patient who has the character and strength of will necessary to control the patient, it does not make any difference what he attempts to do, his efforts will almost surely fail. Another point is the necessity to discriminate as to the attitude of the patient toward his surroundings; whether he wants to seclude or exploit himself. It is well to recognize that the patient will as a rule want to adopt a line of conduct which will feed his morbid self-consciousness in the direction of his mental perversion. Therefore he must be firmly and persistently antagonized and compelled into the proper attitude toward his environment. It is my experience that the importance of these tendencies is not sufficiently recognized; consequently the caretaker is inclined to follow the line of least resistance and accede to every whim of the patient that does not interfere with his own comfort or convenience.

Dr. J. H. McBride, Los Angeles, Cal.—Neither in cases of incipient insanity nor in those cases in which the disorder is fully developed is travel advisable. In certain exceptional cases in which there is danger of the development of insanity the diversion of travel may be beneficial with proper companionship. Travel is mentally and physically taxing for the well, and it is very liable to be harmful to those who are insane or as yet imperfectly recovered from an attack. A very important part of the management of the insane and of those who are convalescent is that they have a quiet, undisturbed, even monotonous, life, with, however, a certain amount of variety, but without excitement. The proper adjustment of interests to their needs demands the nicest discrimination and excludes novelty or anything that tires or excites. As the recently cured morphinist is weak in self-control and incapable of enduring stress, so the recently recovered insane person is weak and is mentally unstable, and to send such person home or traveling before the normal stability and resistive power of the brain is regained is as unwise as to dismiss a fever patient as cured when the temperature drops to normal. There may be occasions when travel is a choice between that and the patient going home too soon. When the insane person has given up his delusions and talks sanely he is liable to think he ought to go home, and it may not be easy to convince him and his family that he should remain away from home for a long period. In such cases one may find it advisable to have the patient travel. The redevelopment of the mental stability of the recent insane is a slow process, is in fact a re-education, a growth, and the friends should understand that months or a year may be occupied in getting back the normal mental vigor after the active symptoms of insanity are gone. When these cases travel they should go about it in the most quiet way and thus avoid hurry and tire. The cases, too, should be carefully selected, for intelligent and cultured people can travel under such circumstances with greater safety than those who lack the interests of such people and to whom travel is more of a dissipation, and therefore an excitement. It is difficult, however, to lay down rules. The question must be decided upon the conditions of each case. The question of travel is one about which the alienist can easily make mistakes, and when there is any doubt any proposition for travel had better be vetoed.

MORPHINISM FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.*

T. J. HAPPEL, M.D.
TRENTON, TENN.

A practitioner of medicine in a large city, as a rule, has not as intimate a knowledge of his patients and patrons as his confrère in the small country town of two or three thousand inhabitants. In the cities, unless it be an exceptional case, the statement of the patient must be accepted as our basis upon which to draw conclusions; but in the smaller towns, nearly every one is personally known to the physician, who may have had, in a long life, a personal knowledge of three generations. It has been my own experience in several cases to have had a knowledge of as many as four generations of several of the families for whom I have practiced, and in cases referred to in the subsequent portions of this article, frequently three generations have been my intimate acquaintances. It is just such a condition as this that will make statistics honestly furnished by general practitioners in the country of fully as much value as hospital records; for it is a well-known fact that the morphin habitué will both lie and steal, if it become necessary, at any time to get a supply of the drug.

INCREASED CONSUMPTION OF OPIUM.

The alarming increase of the amount of opium imported into this country, far exceeding the legitimate demands brought about by an increase of population, gives one a slight idea of the rapidity with which we are becoming a nation of opium-eaters. In 1860, the United States imported 72,000 pounds of opium; in 1880, 372,000 pounds, and in 1893, nearly 1,000,000 pounds, an increase of sixteenfold in forty years, with an increase of about twofold in population.

If 72,000 pounds was sufficient for all medical uses in 1860, certainly it has been used largely in other ways since that time. A druggist in a town of 2500 inhabitants, laid in forty-eight ounces of morphin as a supply for his drug store for three weeks, and yet there were three other drug establishments in the same town. The vice grows rapidly, and the end of the course is not yet. We inveigh against the use of liquor. Prohibitionists grow eloquent in declaiming against the evils resulting from drink, and overlook an evil which is poisoning the very sources of all that ought to be good. Women, as a rule, do not indulge in the use of alcohol, especially those in the upper strata of society; would that I could say that they are equally free from a more blighting vice. High living, the demands of modern society, and efforts to keep pace with those more able physically and financially, soon produce such a state of the system as to demand a stimulant, and a dose of morphin is used for the relief of some real or imaginary trouble. The relief once obtained is again demanded, and in a short time the confirmed morphin habitué is the result. It is not my intention to attempt to trace the development or progress of morphinism, but to present some facts connected with morphinism with which I am conversant as a practitioner of medicine in a small city.

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

EFFECTS OF OPIUM ON FERTILITY AND ON CHILD IN UTERO.

In a article written some years ago, I detailed the histories of several patients, showing that the morphin user does not become sterile, or lose all sexual appetite. In that paper cases were cited where the users of the drug continued to bear children, in several cases three, in another four, and in yet another two—though in this last case the mother aborted—and in another one. These cases were all in families under frequent observation, for all of whom I practiced. From statements made to me by habitués themselves I am satisfied that the sexual appetite is not destroyed; in one case, a young man of 25 years, whose grandfather was a drunkard, his grandmother a neurotic, his father a user to excess of both whisky and morphin—dying finally from the effects of the opiate—and his mother ending her days at about forty years in the same way, the sexual appetite is claimed to be as vigorous as ever, while he uses not less than twenty grains of morphin, hypodermically, every day. Where the father is a user of morphin the children begotten have not been many in a family. In the case of the mother, abortions have seemed to me to be more frequent; and where the children have been brought at full term, I have found many cases in which the children have died cyanosed from non-closure of the foramen ovale. In the case of one mother, one child was born, which within forty-eight hours became restless and cyanotic, and in spite of simple remedies, died before the end of the third day. At that time I did not know that she was a morphin user. Two years later another child was born, which in every respect duplicated the history of the preceding one. About two years later a third was born, which died as did the first and second. The mother at the time was using increasing doses of morphin. Two years later, a fourth child was born, which showed all the effects of morphin that the three before it had, but knowing at that time that the mother was using two drams of morphin a week—about seventeen grains a day—I began the administration of full doses of paregoric to the infant, and after gradually increasing the doses to about twenty drops every three hours, I found a steady improvement; the cyanosis disappeared on the fifth or sixth day, and after one month I was able to discontinue the use of the opiate. At no time was the child quiet during that period, except when under the influence of the drug. The digestion of the child was poor, and it had an aged, withered, pinched look. At the age of five months it died. In another case, a mother with no hereditary taint, with an excellent family history, suffered from periodic attacks of sick-headache. She had menstruated scantily all her life. She gave birth to a vigorous, healthy boy, who at the age of 18 years is strong mentally and physically. Between the birth of this one and the second child, she began using morphin, though not in large doses; but she was constantly under the influence of the drug during the whole time of the second pregnancy. The child was born at full term, but had an aged appearance, was nervous, restless and fretful, with, at times, cyanotic attacks. Dover's powder in half-grain doses was given every two hours; then on the second day it was increased to one grain, and repeated *pro re nata*. The babe became quiet; cyanosis gradually decreased, and the opiate was then diminished. The child is now living, and at the age of 12 years is not as large as he should be at 8 or 9, nor is he vigorous otherwise, physically or mentally. This same mother gave birth two years afterward to a female child at full term; and again, two years later, to another female, both of which died with every symptom of an open foramen ovale. This mother is still living, but has not been pregnant for eight years; she still uses morphin, but not in increasing doses. She has always denied any sexual appetite.

MORPHIN RETARDS DEVELOPMENT.

I have been persuaded, in reviewing the work of my earlier life, that in many of these cases of death among infants where no reason could be assigned for them, the opium curse accounts for the trouble. The rationale of the non-closure of the foramen ovale in such children is easily understood. We know that opium in any of its forms delays all changes in the human economy, and hence in the pregnant woman who is a morphin habitué, the nutrition furnished the child in utero is vitiated by the drug; the full and perfect development of the fetus is delayed, and at the last moment labor begins before the closure of the foramen has been properly advanced, hence the child's circulation after birth is the same as that in utero, and cyanosis follows, because a proper supply of oxygen is not furnished the blood, as it should be during respiration, the blood being diverted by the open foramen in the direction of the fetal circulation. If the child be kept alive for a few days, by careful management, the foramen closes and cyanosis ceases. To keep this child alive, it is necessary, as has been shown frequently, to give it some one of the many preparations of opium, gradually reducing the dose until the drug-habit has been eradicated.

FIRST DOSE PRODUCING HABIT.

In some cases it has been clearly and conclusively shown that with the first dose of the narcotic, the child becomes a confirmed opium-taker. Such a case has been reported by Dr. Crothers, and I have had a similar experience with a patient who is now using twenty grains of morphin per day. This person did not get his first dose until he was several years old, and from the time that was administered, he reports that he has not been able to restrain his desire for the drug. One forcible detention for a few weeks in a "Cure," and several efforts to withdraw the drug gradually, have proved complete failures. He now reports that he has no desire to leave off the drug, yet he knows that both his father and mother ended their days as confirmed users of it. He calls the drug his medicine, and he believes that he can deceive even the elect in regard to his using it. I have never yet seen a confirmed opium user whose assertion could be depended on in regard to anything.

CYANOSIS AND MORPHIN.

Returning again to the question of cyanosis, I desire to impress one point, learned from experience drawn from many cases of children born of morphin-using mothers, viz., that when an infant that has been unusually quiet, resting sweetly, reported by mother and nurse as a "good baby," for from twelve to twenty-four hours, begins to fret and grow restless without any apparent cause, and when, in addition, the nurse reports the child as "looking blue," then it becomes important to inquire into the family history of the child. Not only should inquiry be made of the mother, but of the nurse and father. Then, if no light can be gained in the matter, the mother should be watched. If the drug is used it can soon be determined. She can not do without it after labor, and if deprived of it, the after-pains may cause, as they did in one of my cases, puerperal convulsions. In this case the mother died before she could be gotten under the influence of the drug, of which she had been using seventeen grains a day. The child was saved by administering opiates and afterward gradually withdrawing them.

CURE BY GRADUAL WITHDRAWAL.

Another point has been established in the work of the general practitioner, viz., that if a patient honestly desires to abandon the morphin habit, it can be gradually withdrawn without much discomfort to the patient, sometimes with the aid of some substitute for the morphin, such as papain, and sometimes by means of the gradual withdrawal of the morphin, substituting enough of strychnia, as the morphin is lessened, to stimulate the patient to the point that the "gone feeling" does not develop.

In another case, where I found a prisoner using thirty grains of morphin *per os* a day. I had no trouble in rapidly reducing the dose, beginning with eight grains morning and night, combining each dose with five grains of quinin, and leaving off one grain of morphin out of each dose every day. The patient never suspected the reduction until the dose reached one grain twice a day, but no nervous symptoms supervened until the dose was reduced to one-eighth grain twice a day. Then, discovering what had been done, he became unruly, but in three days the storm had passed and the appetite disappeared. We have all found that those who use morphin hypodermically on themselves, are managed and reformed with more difficulty than are those who use the drug *per os*. I have had one patient who abandoned the hypodermic use of morphin, which she had kept up for years, by substituting, *per os*, some patent preparation of opium. She seemed to suffer not at all while withdrawing and decreasing the hypodermic. I would by no means advocate the home treatment of morphin habitués, except for such cases as are sometimes met with where the patient must either continue a slave to his or her appetite, or be treated at home. The habit can be eradicated much more rapidly under changed surroundings than it is possible to do at home, where everything brings the morphin habit so forcibly before the patient.

MANY PHYSICIANS ACQUIRE THE HABIT.

On still another point I am prepared to go on record authoritatively in regard to morphinism. In glancing over some records in my office I find, in a list of the names of one hundred and fourteen physicians, almost all of whom have been personally known to me, eighteen who became addicted to morphin—nearly 16 per cent.—five who used whisky to excess—three of them dying of chronic alcoholism, and three who became addicted to the excessive use of chloroform, one of the three inhaling it to stupefaction as a substitute for whisky, and all three dying from its effect. These records show that twenty-three, or about 20 per cent., were unfitted for the practice of medicine by reason of their habits.

MORPHINISM AND HEREDITY.

As to the question of heredity in its relation to morphinism, my own observations are fully in accord with those of many other writers on the subject. The morphin habit is not transmitted, except in the few rare cases already referred to, where the offspring of the morphin-using mother demands the drug from its birth to preserve its life; but a certain dyscrasia, or peculiar state of the nervous system, results that in the course of time demands either alcohol or opium, and when the first portion of either is taken, the ruin and wreck has begun. In the family of a morphin-eating, whisky-drinking physician, I have seen one son die a perfect wreck from the use of both these drugs, and another son worse than dead, a vagabond upon the face of the earth. In this family the mother had no bad habits, was unusually bright mentally, and her characteristics, both mental and physical, were transmitted to the girls. In another physician's family a son and daughter have developed the morphin habit. In another, where alcohol was the curse, one son is a wreck. In two patients, not physicians, the children born to them—one father being a morphin habitué, the other an alcoholic—have no mental acumen. In another family where for three generations whisky and morphin were both used, the third generation is almost extinct, without offspring; the one representative has never used either drug, but suffers for the sins of his ancestors.

Our almshouses and asylums are being rapidly filled with degenerates; even in our country counties and towns, where many of the vices of "higher civilization" such as syphilis, sexual debauchery, etc., are unknown, and where the history of the case can be traced without doubt to the excessive use of some of the derivations of morphin. Whisky has slain its thousands, but a vice of a greater magnitude, because it can for a long time be indulged in secretly, and one that is seizing hold upon the mothers and daughters of the day, will have to be faced and fought in the twentieth century. We as physicians owe it to the nation to keep this subject plainly before the people.

MEDICOLEGAL RELATIONS OF OPIUM INEBRIETY AND THE NECESSITY FOR LEGAL RECOGNITION.*

T. D. CROTHERS, M.D.
HARTFORD, CONN.

How far is a morphia or opium habitué responsible for his acts? Will the use of opium or other narcotic drugs diminish or destroy the sense of right and wrong, or of duty and obligation? Will opium and allied drugs whose physiologic action is most prominent on the sensory centers disturb the reason and the higher moral centers and encourage crime and criminal acts? Practically the opium inebriate is uniformly untruthful, particularly regarding himself and his use of drugs. Like the alcoholic, when under the influence of drugs he resorts to intrigue and deception, often coarsely or skilfully executed. Thus secrecy, deception and disregard of all questions of ethics and duty are the common symptoms. Obligations of honor and respect for society and for those having claims upon him have little influence compared with his morbid impulses and feelings.

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

In some instances in the earlier stages but little change is apparent in the higher brain function, but when subjected to pressure or strain of temptation the real condition appears in weakness and failure, which was unsuspected before.

CHARACTER OF CRIMES COMMITTED BY THE HABITUE.

The action of opium on the brain and nervous system is that of a narcotic and depressant, hence crimes of violence are rarely committed. Crimes against property and character, and crimes associated with selfishness, scepticism and credulity are more common. Some of the illustrative incidents of these classes are the disinheriting of the only son in a will because he has incurred his father's displeasure. Another man forges a note to procure money for opium. Another enacts a scheme to defraud his father. In another case a swindling operattion is engaged in. In still another a printer goes about the country marrying in every town that he lives in, disappearing in a short time, changing his name, and seeking new acquaintances for the purpose of marrying again. These are crimes of selfishness and impulse, and are often associated with cunning and design, but they lack the essential features of calculating criminals.

WHY MORPHINISTS ARE IRRESPONSIBLE.

There are many physiologic reasons for the assertion that opium inebriates are irresponsible for their acts. Continuous narcotism and blunting of the sensory centers impair the power of reasoning, by obscuring and narrowing the impressions of the senses. The opium inebriate has always diminished and deranged powers of seeing, hearing, taste and smell. The objective world is not correctly seen. The subjective functions of the brain and nervous system are slowed up and their activity and acuteness lessened. In addition to this the waste products are increased, and the power of elimination is retarded. Favorable soils are formed for the growth of toxins and poisons which in themselves are sources of depression. Anemia and disturbed nutrition are common symptoms of this condition. It would be impossible for such persons to have a clear recognition of the nature and consequence of acts and conduct. Practically, persons suffering in this way act automatically, repeating what has been done before, showing some recognition of duty and obligation, but if confronted with a new set of facts and new conditions, would be unable to recognize the relations of right and wrong. All opium inebriates are controlled by the impulse to procure and to use the drug at such times as they may think best for their comfort, and every consideration must be subservient to this impulse. The comfort or discomfort which comes from the use or absence of the drug is always attributed to objective conditions. hence, the reason is perverted and sense activities are deranged. Pessimism associated with egotism grows so rapidly that the relations, both of the subjective and objective conditions and events, are confused and misunderstood. Where the quality and nature of conduct and acts come into question this defect is very apparent if along unaccustomed lines of thought and action; and often it will vary widely with the physiologic condition of the person and of his surroundings.

LEGAL RESPONSIBILITY IN DISPOSITION OF PROPERTY.

Recently these questions of responsibility have come into prominence concerning the disposition of property by persons who use opium.

A recent instance is that of a merchant who had used morphia for five years, and was forced by persuasion of his sons to undergo treatment in an asylum; he made a will disinheriting them. He urged that he could recover at home, and that it was a hardship to go away under special treatment. The morphia was withdrawn, and he returned apparently cheerful, and continued in former pleasant relations with his sons. One year later he died from an accident, and a will was found giving all of his property to his daughters. This will was drawn up after the return from the sanitarium, when he was not using morphia, and was apparently in full possession of his senses. He explained to the lawyer who drew the will that this disposition had been resolved on for a long time and grew out of want of confidence in his sons. In a careful study of the case I found that morphia had been given for insomnia and neurasthenic states some years before and had been continued in increasing doses up to the time of entrance into an asylum. Soon after he began to use morphia, mild delusions of losing his property and fears of loss by fire and burglars grew constantly. At times he was excited because unusual efforts were not made to avoid these dangers. After returning from the asylum he was more irritable and depressed than ever. The strong probability was that he began the use of morphia again although this was concealed. His delusional egotism and continued denial of using the drug when it was in his possession were prominent symptoms. From this and other facts I was convinced of his irresponsibility and mental perversion at the time of writing his will. The result was a settlement out of court.

Example 2.—A morphinomaniac who began the use of morphia eight years before for relief from neuralgia following an attack of malaria. continued the doses, gradually increasing them until he was using twenty grains a day. Except occasional somnolence and short periods of excitement, he seemed in no way changed. Suddenly, without cause, he sold out his business and property to a clerk for a very low price. His family applied for a guardian. and a commission was appointed to examine him. His changed mentality and extraordinary care of his business at times, followed by periods of great excitement or indifference and disregard of any business considerations, were the most prominent symptoms. He had delusions and fear of violent death, and would not ride in a public conveyance. He thought his family was opposed to him and wished to have him die. At times he was very credulous and emotionally religious; then he would become skeptical of everything and doubt every statement made. The commission decided that his mind was impaired to the extent of being unable to judge of his property and of his relations to his family.

These examples are given to show that in the care and disposition of property an opium eater is most likely to have an impaired mind and mentality. and is unable to reason sanely and to understand the relations and duties to others. His impressions are unstable and his reasoning changeable; hence he is not likely to act consistently or rationally.

RESPONSIBILITY IN SWINDLING AND FRAUD.

In criminal acts the morphinist and opium-taker is often seen in swindling operations. deception and frauds. A very few cases have been contested on the ground of irresponsibility of the criminal. In most of these cases the facts of the history were not studied with sufficient minuteness. and the court preferred not to enter upon the fine distinctions or to permit innovations in the ordinary rulings. One such case preferred to go to prison rather than to have a defense made on the ground of opium-taking. The circumstances were these:

A manufacturer, 54 years old, in good health, and of excellent character, was given opium for some digestive troubles. The effect was so pleasing that its withdrawal was followed by insomnia, and hence opium was continued. It was changed to morphia, which was used by the needle secretly. Six years after, he was tried and sentenced to prison for forgery. He had used the names of his friends on bank notes, and became involved, although not bankrupt. The forgery was unreasonable, and without special motive or purpose, and wanting in the usual cunning of this class of crime. His embarrassment could have been relieved without resorting to this crime. For two years he had forged papers and notes, taking them up before the forgery was found out. He was not a poor man and did not seem to make anything by these efforts. He could not explain why he had done this, and did not seem to realize the nature of the act, but excused it in a childish way as "business methods." His mind was feeble and he manifested religious delusions, carrying on a correspondence with relatives who were dead. To his family he was reticent and suspicious, rarely irritable but always melancholy. There was unquestionably mental impairment in this case, and a degree of insanity which was not recognized. The man is now serving out his sentence, his mind seriously affected. Had he been sent to an insane asylum and properly treated, there might have been recovery.

RESPONSIBILITY FOR EXTREME SELFISHNESS.

Other cases of opium inebriety exhibit symptoms of intense selfishness which merge into dishonesty and crime. Often such persons show a veritable delirium of acquisitiveness. Their relations to others are those of grasping selfishness and contant efforts to borrow, beg, and appropriate everything of value which may or may not add to the comfort of the individual. Such persons are always slanderous, deceitful, and untruthful. They commit crimes of minor character and show extraordinary ability in denial and explanations of their conduct.

Recently a morphinist of several years' indulgence died. An inventory of his property showed a large collection of miscellaneous articles which had been both borrowed and stolen. An effort was made in the courts to identify these goods and to distribute them to the rightful owners. It was found that for years he constantly begged, borrowed and finally stole, everything he fancied. The foremost thought of his mind was to procure something for nothing. He was shunned by his neighbors and friends, and on several occasions was arrested, but was always able to prove an alibi. There seemed to be no object in life except to procure morphia and to go about gathering up things. He seemed to possess cunning enough not to steal openly or to go about at night, and when confronted with his theft always explained that it was borrowed, to be returned at a certain time. This mania was a degree of irresponsibility which should have been recognized as clearly as if it had been homicidal. He possessed a certain amount of intellectual capacity, talking about events outside of himself, and showing a perception of the relation of the surroundings and conditions common to ordinary men.

It is not intended to imply that this peculiar symptom of delirious selfishness is of itself insanity, but when it springs up associated with the excessive use of opium it may naturally be regarded as evidence of irresponsibility. In all these cases there may be surface indications of sanity which may be purely automatic, associated with defects of reasoning and sensory impression, which will not bear the test of critical study.

REPRESENTING TWO TOTALLY DIFFERENT CHARACTERS.

In a paper read before this section last year I pointed out a form of crime following morphia-taking, which apparently had for its object the representation of two different characters. In such instances the leading desire is to be recognized as an honest, innocent man, and at the same time act out the part of an adroit swindler. Under the influence of morphia, both these parts were acted with skill and a degree of judgment. When the morphia was withdrawn singular confusion and childishness would appear. These cases are called by detectives the most adroit and dangerous because of their low cunning, audacity, and utter absence of all consciousness of right and wrong.

PETTY, STEALTHY CRIMINAL ACTS.

Another class is becoming more apparent, whose petty criminal acts are confined to thefts, perjury, and disgraceful conduct. The shop-lifters and the sneak thieves who seldom do anything boldly, who study to keep up the appearance of honesty, but always fail with every temptation and opportunity, are common examples. Many seem to lack the boldness of criminals, but excel them in deception and duplicity. A certain number of these cases are recognized by their friends and are sent to asylums for treatment. The withdrawal of the morphia reveals their real condition, and their constant intrigue and slanderous conduct make them very difficult patients.

CAN THE OPIUM INEBRIATE BE TRUSTED AS A WITNESS?

The question has been asked and answered differently in several important suits, namely, how far can an opium inebriate be trusted as a witness in matters in which he has or has not an interest. I think there can be no question that all statements of such persons on the stand should be considered worthless, unless confirmed by other facts and strong circumstantial evidence. In a recent case an opium-taking woman swore to an assault which she witnessed. In reality, no assault took place. Her statement was either a misconception or a wilful perjury. In another case an opium-taking lawyer swore that he had witnessed a certain will. It subsequently appeared that the will was written and witnessed a long time before. In criminal cases the question of the reliability of the witness is often very important, but the fact of taking opium should always increase the supposition of the possibility of error. The opinion held in courts at present is that the use of opium in any form does not impair the degree of responsibility unless the drug has been used a long time, and stages of chronicity have been reached. It is also asserted that the opium-eater is responsible except at periods when the opium is removed and the mind is in a state of delirium and intense irritation due to this cause. While crime may not be committed during this latter stage, there are always phases of insanity and delirium which can not be mistaken showing the irresponsibility of the acts. The conduct during this period is so clearly that of insanity that no question or doubt can be raised. In disputed cases it is a reasonable procedure to show that the criminal was not using opium at the time the crime was committed, or was not in a condition of opium delirium owing to its withdrawal, but was in a state of opium saturation. In all these conditions, the principal fact that opium had been used a long time previously would be good reason for inferring mental change and unconsciousness of the nature of conduct and acts. The fact should be recognized that the use of opium either in large or small doses for a long or a short time, depending upon the man and his condition always changes and alters the reasoning powers and sensory activities, and is always followed by intellectual weakness with diminished moral sense and consciousness of right and wrong. In many instances this disability is very prominent and apparent from the early use of opium. In all cases this damage to the higher brain centers is persistent and progressive. In some instances it is precipitate and intense. In others it is slow and concealed. In one case under my care a man who was previously of a good character suddenly dropped to very low levels of intrigue and moral paralysis; both his talk and conduct showed marked irresponsibility. This damage from morphia appeared within a year from the time of the first use, indicating both accumulative and concentrative action on the higher brain centers. His intellect in other respects was not much changed. In the case of a printer who was a bigamist, marrying with every opportunity, the injury from morphia was manifest in the same direction. His mind and body seemed not to suffer much change, the insanity of his case developing in this direction. In a noted case of the abduction of a child, the criminal was a morphinist, and the crime was without motive or purpose. Most opium cases coming under legal notice show defects of both reasoning and consciousness, which are usualy concealed by egotism and delusions of free will and power to do differently.

THE CLINICAL HISTORY IMPORTANT.

Wherever the fact of opium appears in a disputed case, the most careful investigation should be given to the clinical history. The first condition and circumstances in which the drug was used will often throw great light on the direction of the degeneration and the pathologic changes which are most active from its use. After the drug has been used a long time, certain local injuries and impairments of functions are always present. From this general study the progressive march down through successive stages is noted by certain localized disabilities and dissolutions, bringing out the fact of irresponsibility without question. Such a study will aways dispel the common delusion that opium-takers are not injured but are responsible and perfectly sane in thought and conduct. It will also clear up the mystery which has gathered about cases where frequent narcosis is produced without the appearance of any serious damage. Crimes and questionable acts by narcotic habitués are always open to suspicion and in most cases the certainty of coming from disease and diseased brains.

The question in most cases whether these perversions and changes are indications of permanent organic changes can only be settled by an appeal to the clinical facts which may be gathered with the same accuracy as those of any other disease. It is perfectly clear that opium-takers should be classed among the insane, and morphinism should be studied as a member of that family of diseases. It is also absolutely clear that all use of opium or of other narcotics is followed by organic change and limited responsibility and impaired degree of health.

NEED OF MEDICOLEGAL STUDY OF MORPHINISM.

The necessity of legal recognition and study of these disputed cases is growing more urgent every year. Questions of partial or total irresponsibility, and failures to realize right and wrong are coming into prominence constantly. When alcohol is used alternately with opium the complexity of the symptoms increases. In reality the degree of unsoundness also increases, and with it irresponsibility, until it is doubtful if anyone can use both long and be sane and rational. The use of opium alone may be continued some time without attracting attention or creating suspicion of mental change. The following cases show that the use of opium was unknown before the commission of crime. A woman killed her infant child and was unable to recall or explain the motive for the act. She became a maniac soon after conviction and sentence to prison. It was found that she was a secret opium-taker and committed the crime in some delusional stage after a larger dose of the drug than usual. A man convicted of incendiarism proved to be a morphia-taker. In prison he suffered from collapse following the withdrawing of the drug, and became insane. He had a mania for the use of morphia, also to set fire to property, and concealed his acts. In another case a man suddenly traded his property for mining stock which was worthless, thus impoverishing his family. An examination revealed the fact that he was a secret opium-taker and had for years committed strange acts. In another case a man invested all his property in a machine for perpetual motion. He was a morphinist, and his use of the drug became known after this event. Another case of a man who became an accessory to a murder, was known to use opium, and although strange and eccentric in his conduct, was considered to be sane. He had been using opium for years and never manifested any violent symptoms, although associating with low company much of the time. A leading specialist swore that he was sane and responsible for his acts and conduct. It is difficult to understand how any one can use opium and be continually narcotized even in a slight degree and retain health and mental integrity. An examination of such persons shows that they are largely neurotics and degenerates. Many of them have inherited states of nerve and brain exhaustion, and from neglect and bad living have injured the brain and nervous system; such persons have defects, with feeble and unstable brain centers, and the use of opium increases and intensifies this instability. In all the disputed cases which have come under my notice, the first use of opium was found to precede or follow some organic and functional change. These departures from health might have gone on to serious disease in some other direction, but from opium they became concealed, intensified, and turned in certain definite directions. The fact that it was a most grateful sedative at the start indicated a diathesis and predisposition which was significant of further changes. Given a heredity to exhaustion and prediposition to seek relief from psychical and physical pain, and to this add neurasthenic states and the use of opium for years, and it would be impossible to have a clear rational brain and consciousness of right and wrong. In all such cases strange conduct, unusual erratic acts, uncertain, unstable brain functions, morbid impulses, failures of reason and judgment, and inability to recognize right and wrong, and duty to others, followed by crimes, would be the most common sequelæ. Such cases, if studied with the same critical accuracy as that of typhoid fever, insanity and nerve diseases, would appear as irresponsible beyond the slightest shadow or question. The rule should be to examine these cases, beginning with the commission of the crime and going backward, finding the character and extent of the opium addiction, and its physiologic action on the body and mind, tracing this condition still further back to the first use of the drug, and ascertaining all the causes and circumstances associated with its use and the heredity and predisposed states of ill health and disease, to this add the study of the injuries and physiologic changes which have profoundly affected the vigor and growth of the body.

From all these facts very clear conceptions can be drawn of the capacity or incapacity to realize the higher ethical relations of life. Going beyond this, the psychologic question of to what extent any impairment of the brain has destroyed the knowledge of right and wrong may be studied in the act committed. In all these, authorities and courts will differ, often depending upon the theories of the relation of the mind and body, and also on the facts of the case and their meaning. As medical men, we can never be mistaken in claiming irresponsibility for all these cases where the facts indicate an addiction of long continuance. An almost infinite combination of conditions and circumstances will, of necessity, vary and change the minor conditions of each case, but the general facts will remain true, namely, that the use of opium continuously always impairs the responsibility and consciousness of right and wrong.

The conclusions from this study may be grouped as follows: 1. An increasing number of cases where opium addiction has preceded, and is associated with, crime calls for a medical study with some authoritative legal rulings. 2. Both medical experts and judges hesitate to recognize irresponsibility from opium-taking alone and attempt to explain the phenomena by other theories and conditions. As a result, much confusion and injustice follows. 3. Any general study of these cases brings out the fact of disability, and often the crime itself is purposeless and indicates the disorder of reason and control. 4. The use of opium falls most severely on the higher brain centers of consciousness and right and wrong. The derangement of the senses reacting on the reason still further separates them from sanity and health. 5. There should be no question of the incapacity of opium-takers to execute bills and contracts, or to understand the relations of conduct and duty in all relations of life. This should be asserted theoretically, and a study of the cases will practically sustain it. 6. The medical profession should insist that a degree of insanity and irresponsibility exists in all these cases; then legal recognition will follow. 7. Already in several states legal rulings have been made recognizing a limited and impaired responsibility in certain of these cases. Still the theory prevails that the reason is able to discern the conditions and realize the penalties of failure. 8. The pressing need is for a wider study of the facts of the addiction in these disputed cases. Such a study must be made above all theories, statements or appearances, and entirely from the facts and conditions present. 9. Medicolegally, this is a new field awaiting research, in which the number of cases is constantly increasing and the questions of responsibility and degrees of insanity are submitted to the profession more urgently than ever.

DISCUSSION ON THE PAPERS OF DRS. HAPPEL AND CROTHERS.

Dr. Kenniston—I have had a good deal of experience with insanity, and I agree with what Dr. Crothers has stated, that the prolonged use of opium produces not only a moral but also a mental degeneration. Of course, every one is familiar with the class of cases of Coleridge and de Quincy, and how an opium-eater will lie; and a man who has become a confirmed liar is apt to be sooner or later mentally unsound. I have seen a great deal of mischief caused by the reckless prescription of opium by physicians. Opium is often the lazy physician's remedy. I know of at least six cases who are mental, physical and moral wrecks, because of the prolonged and excessive use of opium.

Dr. W. S. Watson, Fishkill-on-Hudson, N. Y.—I heartily agree with the points made by Dr. Crothers in relation to the action of opium on the higher senses. The drug habit unquestionably favors the production of toxins in the system, and a secondary autointoxication is very frequently indirectly, if not directly, due to the drug habit, consequently, mental diseases are not infrequently due to the use of drugs, such as morphia and the other derivatives of opium. I have met with many instances similar to some of those which he pictures. There is no question that the physician is often responsible for the introduction of this habit.

Dr. T. J. Happel, Trenton, Tenn.—The general practitioner has to bear his burden, but he is not responsible for all of these cases. The teaching upon the effect of this morphin habit is not what it should be. Our people should be impressed with the curse of it. We have many people agitating against the use of liquor, and many clergymen preach against it; but it does seem to me that some of these efforts might be profitably employed in the direction of an extension of public knowledge on this important subject, the dangers from the use of morphin.

Dr. T. D. Crothers, Hartford—The question of the mental capacity of opium-takers has come into prominence during the past few years, and while no leading decisions have been made concerning the responsibility or irresponsibility of users of opium or morphin, there is evidently great confusion in the minds of experts as well as judges concerning the facts. At one time there were two cases in which the capacity to devise large estates was the point of issue. A number of medical men gave conflicting opinions as to the meaning of the facts in the case. The adjudication of both cases was unsatisfactory, due largely to the want of clear apprehension of the mental condition of the testators. I think any careful study of a number of cases will convince the student that morphinism means irresponsibility and diminished ability to distinguish between right and wrong. The constant narcotism which comes from morphia must of necessity impair both the senses and reasoning, and while each case is a law to itself, we must admit impaired mental ability. My aim has been in this paper to bring out this fact and to attempt to rouse greater interest in this subject, which is becoming prominent in courtrooms.

TREATMENT OF MORPHINISM.

THE NECESSITY OF A MORE UNIVERSAL KNOWLEDGE THEREOF: REPORT OF CASES.*

A. J. PRESSEY, M.D.
CLEVELAND, OHIO.

The medical profession may be divided into three classes, with reference to their different views of morphinism and its treatment: 1. Those who consider that the addiction has produced a diseased condition of the nerve-centers and that by a well-directed, scientific treatment the patient may be restored to health. 2. Those who believe that the continuous use of morphin produces such a pathologic condition of the nerve-centers that treatment is of no avail, that is, "once in morphin always in morphin." 3. Those who look with little sympathy on those unfortunates who have become accustomed to the use of narcotic drugs, and who seem to consider the use of the hypodermic a mere habit which could be as readily discontinued as could a physician cease toying with his watchchain or mustache while talking at the bedside of his patients. In other words, they think that if the person desires to discontinue the use of the drug, why does he not quit it?

In regard to those in the first division we will say that morphinism has long been known, by those who have given it the most attention, to be a curable disease. Of course, there have been many relapses, after the best known plans of treatment. There always will be some relapses, but these, I believe, will grow less and less as the disease is better understood and treated. There are many other diseases which frequently relapse, but that is not a sufficient reason why they should not receive treatment. I have never heard of a physician refusing to treat a case of appendicitis because of its liability to recur.

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

In regard to the second division, I wish to relate a few experiences. About five years ago a young man came to consult me regarding his case. He was using 60 grains of morphin per day hypodermically. Every portion of his body which he could reach to use the hypodermic was covered with abscesses produced by the needle. I counted fifty on one arm between the shoulder and the wrist. He was in a deplorable condition both mentally and physically. He had been advised that day by a physician to go to the hospital and have the abscesses cured, be taught how to use the hypodermic so as not to make more, and continue to take as small doses as possible, for he could never be cured of the "habit." He, however, decided to take treatment, was finally cured, and three years after was free of morphin; since that time I have not heard from or of him. Four years ago Mrs. N. came to me for treatment, and said she would have been treated two years previously had not her physician told her she could not be cured. She decided to make the effort, took treatment and was cured, and I believe she is yet free of the addiction. Mrs. D., who had arrangements nearly completed to come to my place for treatment, received a voluntary visit from her family physician urging her not to attempt treatment, and stating that she could never be free from the use of opiates and that she had better continue their use. However, after further correspondence, she came, took treatment, and was cured. Mrs. B., a widow who is at the time of writing this paper under treatment, came to me a physical wreck, using 20 grains of morphin per day hypodermically. She was very much emaciated; her appetite was very poor, digestion bad, bowels very much constipated; she got little sleep, and was compelled to stay in bed one or two days every week on account of headache. Her physician, who was formerly a partner of her husband and is now a personal friend of hers, urged that she could not be cured. She is now using only 1 grain per day. She has increased in weight eight pounds. Her appetite is good; she sleeps well; the digestion is improved; the bowels are in better condition, and she has had no headaches in several weeks.

I might recite many other cases, but the above are sufficient to show that at the present time there are some physicians who do not believe in treatment of morphinism. This condition can be only detrimental to the physician and doubly so to patients, for there is no doubt that many patients are discouraged from taking treatment and continue in the most wretched condition, when with better advice they might be restored to health and useful lives.

The third class, or those who look upon the addiction as a mere habit, probably have seen little or nothing of the abstinence symptoms which follow within thirty-six hours of the time that abstinence begins, such as vomiting, diarrhea, cramps in the legs, arms and abdomen, profuse perspiration, extreme nervousness that is varied and indescribable, prostration with possibly collapse and death. It would seem from a physician's knowledge of opiates that he should be able to reason that the long-continued use of so virulent a narcotic poison as morphin in doses sufficiently large to produce the death of fifteen or twenty persons not accustomed to the use of the drug, must of necessity have produced some pathologic change in the nerve-centers. Any change from the normal must mean disease. A diseased condition is entitled to our consideration and to treatment.

I now wish to give a very brief report of some cases for the purpose of demonstrating what I have previously said.

In November, 1899, a physician in the city of Cleveland called on me and requested that I would visit his friend, a Dr. R., who had been using morphin about nine years and who had been making heroic efforts for the past six months to discontinue the use of the drug. The next day I called at the residence of Dr. R. and found that he had ceased all business for several months, giving his undivided attention to freeing himself of the morphin addiction. He was much emaciated, very weak and nervous, so much so that it required considerable effort for him to articulate distinctly. His condition would suggest complete nervous prostration. He had reduced his dose from about 20 to 25 grains per day to not more than 1 grain per day. I was unable at that time to induce him to accept any assistance in the way of treatment. He was thoroughly convinced that no system of treatment could be of any assistance for the relief of morphinism, and that the only thing was to stop taking the drug. He appeared firmly to believe that he would be able to do it within the next very few days, as he had already reduced his dose to so small an amount. He came to me for treatment about four weeks later, at which time he had increased the quantity used in twenty-four hours to about 3 grains. He was discharged cured in nine weeks. There was scarcely a day while under treatment that he did not express regret at having refused the advice of some of his friends and placed himself where he could have received the assistance necessary to restore him to health.

Mrs. D., whom I have before mentioned, came to me for treatment in the autumn of 1898. Her age was 40. She had used laudanum for seventeen years; her general health was poor; she was very nervous and irritable; she had very little appetite. However, she was able to accomplish considerable labor about the home when she used plenty of opium. She had been a woman of uncommon energy and determination. Although her family physician had advised both her and her husband, that in her feeble health, at her age and because she had used opium for so many years, it would be impossible for her to stand the suffering she would be obliged to endure to be cured of morphinism, and that as she could yet attend to many of her household duties, by continuing the use of opiates she might live in some degree of comfort for several years to come. Although this advice had a somewhat discouraging influence over her, her great desire to be free of the addiction finally decided her to at least make the effort. In her case the opiates were withdrawn very gradually, at no time to the extent of causing diarrhea, vomiting, perspiration or pain. With the exception of feeling weak and having a nervous, uneasy sensation of the legs, I think she was fully as comfortable during her entire treatment as when she took laudanum ad libitum. After returning to her home, she continued to improve in strength and flesh, and when the warm spring weather came she lived and worked much of the time out of doors. It is now nearly a year and a half since she discontinued the opiate and her husband informs me that she is in better health than she has been before for twenty years, and that she has no need of any drugs whatever.

A Mr. B. came to me for treatment in the autumn of 1897, aged 40 years, single and much emaciated; he had chronic gastritis; his bowels were constipated; he was very despondent. He said that he had been told so many times by physicians that he could not live without some opiate, that he had little faith himself in ever getting free of it. He had used opiates sixteen years and was using 60 grains of morphin hypodermically and drinking 2 quarts of whisky during each twenty-four hours when he came to me. I withdrew the whisky within the first few days. I was between three and four months withdrawing the morphin. He remained in bed quite a large portion of the first part of his treatment. As soon as the stomach would tolerate food he was encouraged to eat all that he could of an easily digested and nutritious diet. I gave nerve, heart and general tonics, hot baths and massage. The withdrawal was so gradual that at no time was there any indication of the ordinary withdrawal symptoms. He remained with me for several weeks after taking the last dose of morphin. He left me, feeling well and strong, and I am very sure that he has never tasted liquor or used morphin since leaving my place, now over two years. His was a most desperate case, but, as is usual with a large majority of this class of cases, when they are entirely free of the necessity of the drug they recuperate very rapidly and very soon seem to attain to their full physical and mental capabilities.

There are without question large numbers of persons addicted to the use of opiates, and where physicians have not the conveniences and necessary time to give to the treatment of these cases they should be sent where they may receive proper care and treatment. We should remember that, while some of the milder cases will relapse, some of those who appear the most hopeless will remain faithful to the end, and they will become good members of society, a comfort to their families, and to themselves life will be worth the living.

In fact, I know of no disease or class of diseases for which the physician's aid is sought more satisfactory to treat, or of which the patient is more grateful to be relieved than morphinism.

900 Fairmount Street.

DISCUSSION.

Dr. D. T. Millspaugh, Paterson, N. J.—I wish emphatically to indorse Dr. Pressey's opinion that morphin addiction is a disease and a curable one. To those so afflicted, who are in the very depths of despair and hopelessness and ill-health, the benefits to be derived from a scientific treatment that reaches their case can not be overestimated. I would like particularly to ask Dr. Pressey what he uses to stimulate the heart, if he has any specific drug or treatment for that purpose?

Dr. H. H. Levy, Richmond—What is the meaning of the cure of the morphia habit? When do we know that we have cured a patient? I would say that in my limited experience I have seen cases which were apparently cured, in three years take up the habit again. They always allege that there is some special or unusual strain or reason why they did it, and that brings up another question: What are the causes of the original taking of morphin? How is the habit begun? That is important to the general practitioner. Are we responsible for the beginning of such a habit by the administration of an occasional dose of morphin for the relief of pain? Practically, I think we all know that we can give an opiate to a hundred patients and in one only may the habit be engendered. Has one dose of an opiate administered for the relief of pain been the true cause of this habit? My idea is, and I do not believe that I stand alone, that there is some precedent deficiency in the nervous system; that there is some lack of full strength or of control, or, we might say, an inherent weakness in the nerve cells of the brain which calls for bracing up and stimulation. I have in a few cases been able to go back to the early history of drug habitués, and have always found something occurring in childhood, for example, some long, protracted illness, which has weakened the system; and along with other organs and tissues of the body, the nervous system has suffered some detriment. I believe it is either heredity or an early acquired condition of the nervous system that leads up to the formation of this habit. Such a subject never having been called upon to take an opiate may never have started the habit, but the administration of a single dose may cause the habit to be engendered.

I desire now to allude to the treatment in Keeley institutes of morphia and cocain habitués.

If we can endorse the results obtained in the liquor habit by that system of treatment, I believe we should every one of us inveigh against its application to morphia habitués. I have, within a few months, known of two physicians, subjects of the habit, submitting themselves to treatment in a Keeley institute, and one of them made a very rapid improvement, getting completely rid of morphia; but three weeks later he was again taking the drug. It seems that there is for opium and cocain takers only the most transient help afforded by the Keeley treatment, and I think we should dissuade our patients from taking it.

Dr. Dunham, New York—I am very much pleased with the Section. There is a field for workers in this line, and the field is not entirely outside the medical profession. Morphinism is a disease which can be cured. If they relapse, cure again. I would treat them like tonsillitis. It is possible to treat them if the general health improves after treatment. I want to report one case which is interesting, and it may help others who have had experience in the same line. It was a case of morphinism following headache for ten years. We prescribed hyoscin hydrobromate, 1/150-grain dose. This being a neurotic case, it did relapse in a year; she took it again and then relief came. She then relapsed the second time, and then remained well. I want to make another addition here, that is, disease of the brain leading to the use of a narcotic, such as morphin and liquor, and so in addition to the morphin we have a symptom of a diseased condition. We can remove the disease all very well. I offer to the Section this morning this hyoscin hydrobromate as a remedy which is valuable in all of those cases where there is a great neurotic element. They do not get using it themselves; it is really in the hands of the physician and is perfectly safe.

Dr. Campbell, New York—My experience has been quite extensive. I decidedly claim that morphinism is never cured, a person with the morphin habit, if we take the words of our old teacher, Dr. ——. He says that the morphin habit is never cured, and that a person who takes morphin for work can never be relied on. It is the history of criminal cases, that a morphin fiend will lie to physician, husband, wife, child and father; you can never depend on the word of one who has the morphin habit. In my experience in the city of New York, where I have seen physicians bring these morphin-habit people, I could not point my finger to one who has been cured. I have seen them cured of the whisky habit by taking the Keeley cure, and I have seen people two or three years out of the Keeley Institute with the morphin habit. I have had experience with doctors who have taken the Keeley cure, and if we could take these doctors and break their hypodermic syringes up, remove the morphin temptation, we would not have them go back for some time. Right in my neighborhood in New York to-day there are eminent men who have themselves dosed with morphin all the time and they have been in the Keeley Institute for this habit. I claim—I am sorry— I have never seen a case of morphinism cured. I am connected with the "Tombs," where we have them every day. There is not a day in the year but there are people to whom I have to give morphin. I could cure them by "stocking" them. It is impossible to keep them there without giving them some, as high as three grains a day. I would like very much to hear the Doctor's cure.

Dr. F. S. Pearce, Philadelphia—I believe that there is a large amount of truth in what the Doctor says. I think he sees a class of morphin cases associated with degeneracy in a mild or great measure; and in those people, of course, you can not expect good results.

In private practice you will see good and bad; you will treat more of the normal type of human body. I myself in a short experience have seen four or five cases of morphia habit cured, and they have not relapsed. While we all grant that morphinomania is most difficult to treat, I feel that in an institution you get a class of cases that are on the wrong side of the fence—degenerates. This sad fact should not at all prevent us from doing our utmost toward saving the others, of whom I feel positive there are a great many more than physician or layman supposes.

Dr. McCarthy, Philadelphia—It strikes me, with regard to the morphin habit, that there are individuals who form habits of any kind. It does not seem that there is connected with these individuals any weakness of will power, but they will form habits from time to time. They will start as children, and even the minor habits of childhood developed will become intensified. When they start using tobacco it is carried to excess, or the liquor habit, or any habit is carried to excess. In some cases there is little evidence to show that they are degenerate, but their ability to form habits. A physician is never justified in giving morphin if he informs the patient that he is getting it. In those cases of morphinism, the patients knew at the time that the doctor was giving morphin, not only that, but other drugs. The patient nowadays knows about as much as the physician does of the drugs he is taking. The patient looks at the prescription and knows all about it. I have made it a practice to tell the patient nothing about the drugs he is taking. As far as working in other drugs, they may be getting the morphin or water habit, but they never know it. I think it is a point of prevention in the morphin habit that a physician is never justified in telling the patient that he is giving the drug in any form whatsoever.

In the cure of these cases the physician regards a case of morphin cured when he stops it and bring the patient down to the point where he is not taking it. The nutrition is very poor, the weight of the individual is below normal, and there is no wonder in these cases that the patients go back to their old habits. The rational treatment is, after the patient is entirely cured, after the morphin is entirely removed, to put him on a systematic course of rest-treatment, a building-up treatment.

Dr. A. J. Pressey, Cleveland—What do I do to stimulate the heart, I am asked. I use strychnin all through the treatment, as a rule. I give small doses, about four times a day, generally. If they need further stimulants for the heart, I prefer nitroglycerin. Digitalin, if continued, causes nausea and disturbs digestion.

What is a cure? A cure for morphinism is exactly what a cure for pneumonia or tonsillitis or any ordinary disease is. When the patient is well and free of the desire for morphin, and no other drugs are required to make him comfortable, he is cured of morphinism. He is as much cured if he should return to the use of it in a month as he would be if he never returned to the use of it. It is not right to say that a person was not cured because he began the use of it again in a month or a year. If you treat a case of pneumonia and the man is well, you would not say he was not cured because he had pneumonia again the next year.

What is the cause of the habit? The causes are many, almost innumerable. Among morphin-users there are many degenerates, persons who seem to require a narcotic to make them feel in a normal condition. If such a person gets a hypodermic of morphin and knows what he has taken, he is very apt to become addicted to the use of it. Very many physicians contract the habit through overwork, or trying to work while suffering physical pain, taking an occasional hypodermic to relieve them in order to be able to continue their work. Patients while suffering from some painful ailment receive some hypodermic and unfortunately find out that it was morphin, and later have other excuses that they may have more morphin. Physicians should never allow patients to know what they are taking, and especially is this true when narcotics are given.

My friend here of the "Tombs," who believes that morphinism is never cured, does not see the favorable class of patients for treatment. Those that appear at the "Tombs" are largely of a degenerate class, and those who have relapsed perhaps repeatedly. No one would expect many, if any, of these could be cured.

As to the reliability of their word, I believe that the majority of the better class of morphin patients will be truthful in regard to all things except the subject of morphin. I believe that I know plenty of persons who use and those who have used morphin whose evidence I would accept in court as soon as that of a person who had never used the drug, but not their word on the subject of morphin.

Then he spoke of curing them by forcing the drug away from them. I have had considerable experience with persons who had been treated in that way, and have never seen a person so treated but soon relapsed. I do not doubt that some have been cured and remained cured, but I do think it is a cruel and inhuman thing to do. Where there is such a violent shock to the nervous system as there must be to produce so severe symptoms as result from sudden withdrawal, nature comes very slowly to the rescue and full recovery is delayed for a long time. I know that many relapse after my treatment. I have one case that I have treated four times. He is a successful physician and does good work, and never relapses until months after he has been cured and at work, and when there seems no excuse whatever for taking morphin.

The treatment must vary according to the conditions of the different patients. While the pathology of morphinism is unknown, we do know that we have a diseased nervous system to deal with, and as we do not know just what that altered condition is, we can not treat it to the best possible advantage, but we can give nerve tonics, try to correct the circulation, and in that way improve nutrition. We know that when the morphin is much reduced the heart becomes very rapid and weak, and that we must support that organ to the best of our ability. Then I try to improve the general health by giving tonics and a good diet. Also, I try to encourage as much sleep as possible. I succeed in keeping my patients in a fairly comfortable condition all the time during treatment by the method I use in reducing the morphin. I have patients come to me taking all the way from 1 to 120 grains of morphin, and in every case—whether taking the smaller or the larger dose—they are taking more than they require to make them comfortable. This surplus I withdraw at once. No one can tell how much that is except as they find out by trying smaller and smaller doses. If I get the dose too small, I increase it until I find the smallest dose that he can use and be nearly comfortable. I then continue him on that dose for one, two, or three days until he has been built up to where he will be very comfortable, then reduce to a smaller dose very gradually. Continue in this way until he is taking so small a dose that he does not know when the last particle is withdrawn. The last amount is seldom larger than 1/120 of a grain, and often much less. I sometimes find patients that I am unable to keep as comfortable as others and reduce them, then I give them a good full dose of morphin, make them perfectly comfortable and afterward put them on a reduced dose for two or three days, or as long as they will tolerate it, then give another full dose, when they can be again reduced. In some cases I have used the rest treatment, sometimes massage, and frequently hot baths.

I find it very difficult to keep patients under treatment as long as they should be after the morphin is withdrawn. A large portion of my patients are physicians, and they are always anxious to get home to their work as soon as possible. No person should go to work until he is well and strong, and has had an opportunity to regain some strength of mind and character. A change of scene and thought would be greatly to their advantage.

SYPHILITIC LOCOLOSIS ALVEOLARIS.*

PYORRHEA ALVEOLARIS.

G. LENOX CURTIS, M. D.
NEW YORK CITY.

For more than twenty years I have given this subject close attention, not only with a view to its cure, but to ascertain the etiology of this disease, which is generally regarded as incurable.

Dr. Farrar says: "I believe locolosis alveolaris is a disease of the peridental membrane aggravated by calcareous deposits on the teeth, which increases the inflammation so greatly that decalcification of the alveolar tissue results, and when this state exists the advance of locolosis increases more rapidly until nature makes a serious effort to expel the tooth, and if successful, the disease subsides and is lost from view. When all the teeth are lost locolosis ceases to be observed, showing that whatever the cause of the socket disease it does not reappear elsewhere."

In an article, "Some Suggestions on the Treatment of Pyorrhea Alveolaris," [1] published last year, I gave my views in regard to its treatment. I propose now to give some of my views on the causes of this old and destructive disease.

Up to about twelve years ago, I had treated several hundred cases of what I then supposed to be pyorrhea alveolaris. But in the light of our later knowledge I am of the opinion that only recurring cases were worthy of that appellation. At that time I boldly resorted to all methods then in vogue, and freely referred my cases in consultation to those whom—from their writings—I believed to know most on the subject. Degeneracy, due to uric acid, and rheumatism were suggested, and as I found the rheumatic and gouty tendency in patients having the disease I inclined to accept these as causes, if not *the* causes. But later, when the treatment did not effectually suppress the disease, I was satisfied there must be something else behind it all which should be learned. Reviewing the history of many of the most obstinate cases, I found that in several I could trace syphilitic association. Believing much information might be gained I followed this trail and have continued so doing from that time. It was difficult to secure sufficient data, however, by which I could prove scientifically that which I suspected, for, as we all know, syphilis has such an insidious undermining effect, and patients are generally so unwilling to admit facts, that the study has many discouraging aspects. It is, however, my opinion that this disease does not show itself only in those persons who have contracted it, but may also be found in the mother as well as her offspring. It was in these cases that I found locolosis or pyorrhea alveolaris to be so well defined that I felt encouraged. But obstacles arose which retarded my speedily reaching a definite conclusion.

It was my hope at this time that I might gain something by turning these cases over to specialists in syphilis, gout, and rheumatism for treatment, but the varied results led to suspicion, and to caution in speech, until I could get sufficient verified data to act more intelligently. In many cases I found that treatment had not been continued sufficiently to eradicate the specific poison, or the secondary effects thereof.

In 1890 I had an opportunity to study blood, and then it was, that I became convinced that the usual method of its physiologic study was inadequate. I now believe the blood carries with it the active principles of most, if not all, disease. Then the generally accepted plan for the examination of blood was through dry and stained specimens. Even to-day that plan is largely followed. Could any but the most tenacious germs stand the baking process which is claimed to be unavoidable? Not only are such specimens exposed to the oxidizing influence of the atmosphere, but to heat of such a temperature that it is injurious to them. It may be said that only the survival of the fittest can furnish the possible opportunity of study, and then they can be recognized only after a course of staining that decorates them in "war paint," chiefs of their tribe.

Kircher,[2] in 1695, claimed the disease to be due to living organisms, but it was not until 1772 that Lostörfer claimed to be able to distinguish by microscopic examination of the blood, the presence of syphilis and other diseases. In 1890 Watkins, after studying various methods of blood preparation, came to the conclusion and published the fact that there was only one method of scientifically examining the blood, namely, doing it in its fresh state, and before any changes had taken place. He also found that by instantaneous photographing of fresh blood, objects which would otherwise be overlooked were revealed and permanently recorded, showing facts that the dry and stained specimens failed to do.

In 1892 my attention was called to Dr. Watkins' method, and it so favorably impressed me that I have since devoted considerable time to it, and now I am so convinced that it is the only road to an accurate diagnosis of disease, that I am still continuing the accumulation of data, with more or less satisfaction, having for my chief guide a sign in the mouth, which I first observed many years ago, but the importance of which I then failed to appreciate. This sign, which I denominate "egg-skin eschar," I find upon the mucous membrane extending along the ramus and the buccal surface of the gums along the molars. Occasionally it is to be found upon the cheek, near Steno's duct and the angle of the mouth. But I will not dwell upon this point, as I referred to it in the discussion of my article above alluded to.

In the early treatment of this disease, when I found the eschar present, as it was in many cases, I learned to associate it with some obstinate forms. Five years ago I began sending patients to Dr. Robert L. Watkins, of New York City, for blood examination, with the view of ascertaining what existed. This I did without giving Dr. Watkins the history of the case. The examination of more than one hundred cases revealed strong evidences of syphilis, and in every instance when the egg-skin eschar was found the blood showed unmistakable proofs of the taint; in fact, in every case where the blood showed this the egg-skin eschar was present. Dr. Watkins has repeatedly pointed out to me the syphilitic spore. Yet I must admit that the majority of my patients declared that there was no foundation for the suspicion of the disease. But when they received treatment for it they were cured. Although some patients were honest in not knowing the history of their trouble, others did finally remember that they had contracted the disease, and others still acknowledged it at once.

So confident do I feel that my views are correct, that I now treat all cases of this kind with antisyphilitic remedies, and I find that a large percentage of them are beneficial. In several cases I have been misled, and diagnosed suppurative gingivitis as pyorrhea alveolaris. This I did because I could not find the egg-skin eschar, and when the blood was examined and seemed to substantiate my suspicions I refrained from giving specific treatment. To settle the question, I placed several patients suffering from suppurative gingivitis under specific treatment. This caused such unfavorable symptoms that I was soon forced to abandon it. In one case, where the alveolar process on the palatal surface of the teeth was nearly destroyed, and where it was practically in a normal condition on the buccal and labial surfaces, I was puzzled to know why this affection was not general. When septic pulps, salivary calculi and syphilis were excluded I concluded the trouble to be caused by the pressure from a vulcanite plate, to which was attached an artificial velum that had been worn twenty years.

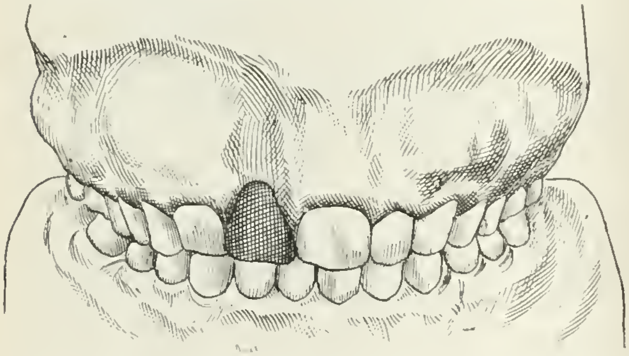
---

*Presented in a symposium on Interstitial Gingivitis, to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] N. Y. Med. Jour., Jan. 14, 1899.

[2] Von Ziemssen: Prac. of Med. vol. III, p. 40.

In another case, the cast of which I have here, the disease was extreme in character. There was great destruction of the interdental process, accompanied by a discharge of pus. Many of the teeth could readily be forced by the finger ⅛ inch farther into the socket. A tumor, osseous in character, extended along nearly the entire length of the alveolar process on the buccal and labial surfaces of the upper alveolar ridge. There was, however, a break in the line of the tumor between the right central and right lateral incisor. The right central incisor had been extracted several years earlier. In this space was an artificial crown, attached to a small bridge-piece, as indicated on the cast.



The cast of the lower jaw showed by the hypertrophied condition of the gum, the extent of the pocket. At first this patient persistently denied ever having syphilis, but the evidence of it was proved by examination of the blood. After I had gained the confidence of the patient, however, he admitted that he had contracted the disease a dozen years before, but had been under treatment for it. He gave as a reason for denying the fact that he did not wish it known to any one except his physician, who had positively stated that he was absolutely cured. The patient now returned to this physician, told him my views as to the cause of the tumefaction, and telling him I said he was still suffering from the taint. The physician made light of the diagnosis, and persuaded the patient not to return to me.

I regret not having an opportunity to finish the treatment of this case, as it would have been an excellent support to my belief that this class of tumors is the result of this dreadful poison.

It is fair to state, however, that within a year the health of the patient so completely failed that he was advised to visit the hot springs for syphilitic treatment.

Where rheumatism is found to be present in a large percentage of cases, I believe it to be a coincidence, though not the cause. I believe that syphilis so reduces the resisting power of the constitution that rheumatism more easily steps in, much the same way that it may while the system is under any degenerating influence. I do not wish it understood that I believe pyorrhea alveolaris exists in every case of syphilis, nor that syphilis is found in every case of pyorrhea. But what I do believe is that some form of syphilis may exist in nearly all obstinate cases of pyorrhea alveolaris that can not otherwise be proved. As proof of the condition I mention, such cases do get well, and remain so when placed under specific treatment until all signs of syphilis cease to appear, not only outwardly, but when the blood fails to show any evidence of it whatever. The value of blood examination, which tells when to commence treatment and when to cease treatment, in this, as in some other diseases, is evident. I also regard it to be of great importance in diagnosing remote causes. Indeed, I predict that the time is not far off when examination of the fresh specimen of the blood will be the principal evidence in proper diagnosis. I have sometimes thought that locolosis or pyorrhea alveolaris may be caused by mercurial poison, but investigation does not bear out this surmise, for I have found this disease where there has been no history of mercury given.

Is it not, therefore, reasonable to conclude that this form of the disease is aggravated, if not caused, by tertiary syphilis?

7 West Fifty-eighth Street.

[Discussion of the Symposium of which this paper is a part will appear after the last paper, next week.]

NEUROTIC AFFECTIONS OF INTERSTITIAL GINGIVITIS.*

J. G. KIERNAN, M.D.
CHICAGO.

The chief function of the nervous system, beside its special function, is that of regulating growth and repair. This function, as Marinesco points out, resides even in the neuron or nerve unit. While this function of regulating growth and repair is often connected with control of the vasomotor system, still, as Collins remarks, there are trophoneuroses in which there are no appreciable vasomotor disturbances, and there are any amount of vasomotor disturbances which are in no sense connected with disturbances of nutrition. The nerves regulating growth and repair are called trophic nerves, and the conditions produced by anomalies of their action are, as already stated, called trophoneuroses. It was in the domain of bone growth that anomalies of the function of the trophic nerves were first observed. Brown-Séquard pointed out certain anomalies in the joints of locomotor ataxics; later similar disturbances were observed in the jaws of patients with this disease. Another great neurosis, paretic dementia, presented similar trophic disturbances, as I pointed out twenty-two years ago.[1] Among these trophoneuroses was one characterized by looseness and falling out of the teeth, alveolar resorption, gingival ulceration and perforation, with, at times, maxillary necrosis. This condition had long been recognized by alienists and neurologists as causing that fall of the teeth which occurs in paretic dementia and locomotor ataxia. As E. S. Talbot[2] remarks, this function of the trophic nerves, however, received but little attention from dentists, albeit its influence has been recognized in dental pathology, in connection with the great neuroses in which gum disorder occurs, followed by loosening of the teeth.

---

*Presented in a symposium on Interstitial Gingivitis, to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Cases illustrative of this condition have lately been described by Drs. Rawl, Baudet[3] and Chagnon.[4] The case of Dr. Chagnon was that of a man aged 34, who, about ten years previous to coming under his care, had contracted syphilis. Two years later he married and had healthy children. In June, 1895, he was admitted to an insane hospital under intense maniacal excitement, which subsided to give place to the usual symptoms of paretic dementia. The psychosis followed its course without any remarkable incident until about September, 1897. At this time Dr. Chagnon found that the two incisors, the canine, two premolars and the first molar of the left upper maxillary were very loose. The teeth on being picked out were absolutely sound. The ulceration which affected the surface of the alveoli following the loss of the teeth did not heal. About the middle of September a sequestrum, in which the work of alveolar resorption was not much advanced, became detached. The palate roof forming the anterior border of the maxillary sinus was part of the sequestrum. Two months later the ulceration had healed. In June, 1899, when Dr. Chagnon reported this case to the Quebec Medico-Psychologic Society, all the teeth in the lower jaw were sound. The two premolars and the right canine of the upper jaw were decayed. The second and third left molars as well as the first right molar were loose, but perfectly sound. There existed no alveolar pyorrhea; neither did any trace of ulceration appear, except a small opening which would not admit a probe.

Conditions like this may occur not only from constitutional neuroses, but from disturbances of the cranial and spinal nerves as well. They are frequently noticed after injuries to these nerves, but they may also occur as a consequence of the great functional neuroses like epilepsy, neurasthenia and hysteria. Their part in dental pathology is two-fold; they may cause an interstitial gingivitis, which pursues its course without bacterial infection, or they may so weaken the strength of the jaws and gums as to make these into an excellent culture-medium for pyogenic microbes. In dealing, therefore, with the question of treatment, the trophic factor should be taken into consideration, more especially as the structures involved, since they are of a transitory type, are peculiarly liable to its operation.

BIBLIOGRAPHY.

1. Journal of Nervous and Mental Diseases, 1878.
2. Interstitial Gingivitis.
3. La Presse Médicale. 1898.
4. American Journal of Insanity, October, 1899.

[Discussion of the Symposium of which this paper is a part will appear after the last paper, next week.]

INTERSTITIAL GINGIVITIS FROM INDIGESTION AUTOINTOXICATION.*

EUGENE S. TALBOT, M. D., D. D. S.
FELLOW OF THE CHICAGO ACADEMY OF MEDICINE
CHICAGO.

In my work upon "Interstitial Gingivitis or So-called Pyorrhea Alveolaris," I divided the etiology into exciting and predisposing, and, again, into local and constitutional causes.

In my article published this year,[1] I discussed one form of the constitutional variety under the heading, "Interstitial Gingivitis Due to Autointoxication." This subject was discussed in a general way. Albu's classification of autointoxication was accepted:

1. Autointoxications from the suppression or disturbance of the functions of an organ, e. g., autointoxication of thyroid gland, pancreas, liver, suprarenal capsules, producing myxedema, diabetes, acute yellow atrophy and Addison's disease. 2. Autointoxications which occur from anomalies in general metabolism without definite localization, such as rheumatism, gout and oxaluria. 3. Autointoxications which are caused by the retention of the physiologic products of metabolism in different organs, such as poisoning due to extensive destruction of the skin by burning, carbolic-acid poisoning, uremia and eclampsia. 4. Autointoxications due to the overproduction of physiologic and pathologic products of the organism, such as ammoniemia, acetonuria, diaceturia, diabetic coma, etc. The most frequent source of this intoxication is the gastrointestinal tract. In this paper I propose to discuss the phase of autointoxication due to indigestion or disturbance of the gastrointestinal tract.

Autointoxication, like all intoxications, comprehends, as W. A. Evans has said: 1, production of the intoxicant; 2, absorption thereof; 3, reaction thereto. These three are embraced when autointoxication is spoken of, which is poisoning of an organism with matter produced by itself. Assimilation, or the making of tissue, is the passing of the simple into the complex, stability into instability, with the storing of the energy. This instability is a necessity of life. Disassimilation, divided into two divisions—death and energy—the last being a modification of death, is the passing of the complex to the simple; the unstable to the stable, with the liberation of the energy.

In the building-up process, the unused portions of the absorbed foods may produce autointoxication. In the breaking-up process, the ash can produce autointoxication. So long as these two processes, tissue-building and tissue-waste, are normal, intoxication can only ensue from faulty action of the destroying organs, of which the liver is the chief, or of the eliminating organs, of which the kidney is a type. This constitutes the first group, those due to faulty elimination. It applies to food-remnants and to tissue-waste, both normal and pathologic.

The second group is due to errors in cell-life. It occurs under three subtypes: 1, by some reason food elements are left unused; 2, the ash from food-burning is unusually toxic or unusually difficult to absorb; 3, the secretion of the cells is toxic.

While it may be stated in accordance with the principles just laid down that, considered from the direct standpoint of the production in the body, there can be no bacteriology of autointoxication; still it must be admitted that it produces culture-mediums in the body which would not otherwise exist and which enhance the virulency of the microbe, and hence increase the toxicity of its ptomain. Indirectly, therefore, autointoxication must be considered a factor in bacterial action. In dealing with the general question of autointoxication it should be remembered that when proteids are placed under the action of gastric and pancreatic juice they are changed into a hemi- and an anti-group. The antigroup is, as J. A. Wesener points out, broken down into antialbumose and a small quantity of antipeptone. This latter is a stable body which does not yield to the digestive juices or even to diluted sulphuric and hydrochloric acids. It is absorbed by the small intestine, but does not replace any waste of the used-up proteid of the body. Antialbumose is changed to serum albumin and is the one that furnished the body with its proteid food. The albumose, when injected subcutaneously, causes death; the blood fails to coagulate, by reason of the fact that the lime salts are precipitated by this body. If for any reason the epithelium of the intestine fails to perform its functions of changing this body into serum albumin, toxic symptoms will arise.

---

*Presented in a symposium on Interstitial Gingivitis, to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] The International Dental Journal, February, 1900.

While uric acid is charged with being the chief factor in autointoxication, its importance has been overestimated. It is a thermometer of the extent of autointoxication rather than its chief factor. Recent investigations, as J. A. Wesener remarks, show that uric acid represents the metabolism of the nucleins of the body, and is in no way related to the albumins taken in as foods, for these last bodies of the group are very poisonous. The necrosis arises as follows: The leucocytes break down easily because the carbon dioxid remains too long in the tissue spaces: the nucleinic acid which is liberated in this way attacks the connective tissue, etc., irritates it, and this forms a good basis for destruction of nucleins.

A factor in autointoxication is non-performance of the process of elimination by the various excretory organs. In the urine alone, as Bouchard has shown, there are present each day, sufficient toxins in a normal individual to cause death if not excreted. This condition is notoriously increased after prolonged nervous explosions like those of epilepsy or hysteria. This was pointed out 30 years ago by Meynert, who showed that the status epilepticus or condition of repeated convulsions was due to accumulation of a proteid or nitrogenous body in the system. This status epilepticus is preceded by an increased amount. The same is true as to the influence of non-elimination from the excretory organs—the bowels, lungs and oral cavity—as well as the non-exercise of its poison-destroying powers by the liver. The non-elimination factor, moreover, interferes with ordinary digestive functions, and hence increases its own extent. The other factor in autointoxication is the production of toxic products in such quantity as to prevent their destruction by organs like the liver and consequent elimination, since a product to be properly eliminated must be reduced to a certain chemical type.

Autointoxication of the gastrointestinal tract takes place during any period in the life of the individual. Especially is this true in degenerates, in disease and in later pregnancy. In these states the eliminating organs do not perform their functions. The amount of bile excreted is an important factor in aiding digestion: 1, It is a solvent, a large amount being necessary; 2, it is an alkaline substance, producing alkalinity of food after it leaves the stomach, thus aiding the pancreatic and intestinal juices to neutralize the acidity of the chyme; 3, a purgative, its presence in the intestine stimulates the peristaltic action; 4, it is an antiseptic, thus preventing the growth of bacteria; 5, its alkalinity causes the emulsification of fats; 6, it assists absorption; Pavy's experiments have shown that moistening an animal membrane with bile accelerates osmosis; 7, when excreted in large quantities bile passes through the intestinal tract, coloring the feces.

The pancreatic juice is likewise an important factor in digestion. It is coagulated readily, being rich in albumin. Owing to its alkalinity, when brought in contact with chyme containing gastric juice, it neutralizes the latter's acidity. Kuhn, Chittenden and others have shown that pancreatin is made up of two or three ferments, each having an individual action: 1, It mixes with the bile, causing emulsification of fats; 2, trypsin, which is analogous to pepsin, acts in neutral or slightly acid solution; 3, amylopsin or diastase, which resembles ptyalin, is more powerful than the other two, and converts the remaining starch into maltose. This, however, is aided by the previous action of ptyalin converting the starch into dextrin. It will be seen, therefore, that secretions of the liver and pancreas prepare the food for absorption after it has left the stomach.

Stockton, Elsmer, Boas, Ewald and others have shown that indigestion may be due to the following: 1. Disorders of the senses of smell and taste; 2, insufficient mastication; 3, alteration of saliva in quantity or quality; 4, absence or excess of hydrochloric acid, absence of pepsin, insufficient muscular power; excess of lactic acid in the stomach; 5, alteration in the biliary or pancreatic secretions; 6, excessive motility or torpidity of intestinal muscles, together with abnormal fermentative processes; 7, torpidity of the liver; 8, general poisoning, toxic influences; 9, altered blood-supply, in amount or quality; 10, nervous irritation, causing some of the symptoms of any of the above conditions. The influence of emotional states in the secreting process, and thereby directly on autointoxication, is illustrated in the fact long ago pointed out by Tuke, that pleasurable emotions increase the amount of gastric juice secreted, the opposite effects being produced by depressing passions.

As Bichat showed decades ago, sudden emotion may produce marked effects on the secretion of bile, and occasion jaundice. Cases are far from infrequent where emotions like jealousy produce mimicry of gall-stone colic in neuropathic individuals. Murchison, Christison and Thompson have traced attacks of biliary colic to jealousy. I have a number of patients in whom grief, worry from family or business troubles and overwork have caused such mental depression as to interfere with the excretory functions of the eliminating organs, and thus produce indigestion autointoxication.

Other liver changes from sudden nervous disturbances, whether of a mental type or not, are not rare. As mental impressions are communicated to the central nervous system purely through mechanical changes in the nerves, such influence must be purely material in operation. As the brain exercises a checking influence on the operations of the liver it is obvious that these mental influences can produce two effects: 1, The mental shock might increase the checking action of the central nervous system on the local ganglia of the liver; 2, the mental shock might destroy the checking action on the liver ganglia, and in consequence these may work too fast and exhaust themselves. Either of these two conditions would interfere with a poison-destroyed action of the liver, and accumulation of waste products would be the result. What is true of the liver is true of the other organs.

No one condition will so change and affect the secretions of the body as to produce autointoxication to such an extent as extremes in temperature. These sudden changes have been most marked in Chicago in the past winter. A change in temperature from 20 to 45 degrees in twelve to twenty-four hours was not uncommon. The result is that trophic changes and metabolic action were most marked. It was with difficulty that the excretory organs, especially the liver, pancreas, skin and kidneys, could adjust themselves in many cases to the freaks of temperature, as the result of which autointoxication was very noticeable, especially in those persons over 30 years of age and those who were suffering from previous indisposition. Sick headache, dizziness, indigestion, a sense of fullness, itching of the skin, eruptions, inflammation of the mucous membrane of the mouth and gums, peeling of the fingers and odor in the axillæ and groins are quite common.

In healthy people a natural movement of the bowels every day may take place and yet decomposing food may be retained in the small intestine. It is not known that the bile prevents decomposition. If, as is frequently the case in degenerates, the liver and gall-bladder are not large enough, or, if in disease, a sufficient quantity of bile is not secreted, fermentation will take place. Again, one may eat more nitrogenous food than can be digested, or than can be taken care of by the bile, in which case decomposition will ensue. After one has obtained his growth this is not infrequently the condition. When fermentation and decomposition of the carbohydrates take place we have the various fatty acids produced. When the albuminous substances decompose, ammonia, sulphuretted hydrogen, indol and skatol, leucin and tyrosin are found. Aaron and others have demonstrated that ptomains and toxins are constantly found in the intestinal canal owing to bacterial action. In many people, fruits, cooked, as well as uncooked, will produce fermentation in the stomach and intestines, thus producing the most violent forms of autointoxication.

It is claimed that the symptoms of autointoxication are manifested, first, in the nervous system; next, in the circulatory; then in the tegumentary and, finally, in the kidneys. From my own studies, one of the first symptoms, I believe, is—especially in the young—sick headache. The relief which follows a thorough evacuation of the bowels is a familiar phenomenon. Some more marked psychic symptoms are depression of spirits, cranky notions, distaste for society and melancholia. In most cases of autointoxication or dyspepsia, as these cases are called, neurasthenia results. In the neurasthenic condition, the skin and mucous-membrane poisoning occurs. The most common of these is urticaria or hives, after eating lobsters and other shell-fish, or strawberries, or after the use of tobacco.

The mucous membrane throughout the alimentary canal, especially that of the mouth, is frequently involved. Changes in secretions, thickening of the mucous membrane, and, finally, inflammation of the gums and alveolar processes are noticed. I have called this interstitial gingivitis. So sensitive are the alveolar processes, gums and mucous membrane, owing to their transitory nature, that their inflammation and absorption might be considered one of the first, if not the first, symptom of autointoxication. Two predisposing factors assist greatly in influencing the disease: previous inflammation and age. When the gums have once become affected by drugs or other causes, indigestion, by producing autointoxication, will quickly set up irritation and inflammation.

People over 30 years of age, especially those of sedentary habits, do not require either an excessive nitrogenous or starchy diet. In such cases the food is not digested, and ptomain poisoning results. Autointoxication with gum and alveolar-process inflammation and absorption takes place.

[Discussion of the Symposium of which this paper is a part will appear after the last paper, next week.]

South African Hospitals.—Evidence taken on the opening day of the Commission on the South African Hospitals pointed out the efficient method in which the army medical service was conducted. A varied array of witnesses from medical, military, and civil life were unanimously in favor of the completeness of the medical arrangements. A full report is given in the *British Med. Journal* of August 4.

THE THERAPEUTIC USES OF THE THYMUS GLAND.*

SOLOMON SOLIS-COHEN, M.D.

PHILADELPHIA.

Mr. President and Gentlemen:—It is always a pleasure to meet my colleagues of the New York County Medical Association. I only regret that what I have to offer for your consideration is not very satisfactory. If at the close of my remarks you shall think that they have been vague and inconclusive, even contradictory, I shall have left on your minds a truthful picture of the state of our knowledge concerning the subject on which you have honored me by asking me to address you.

It has long been known that children are liable to sudden death, attributed in some mysterious way to enlargement of the thymus gland. Authors have written learnedly on the subject, explaining, or rather failing to explain, these cases. In his classic study on diseases of the thymus gland, your honored fellow-townsman, Dr. A. Jacobi,[1] points out how a slight increase in bulk of the tissues occupying the comparatively small space of the mediastinum may produce fatal compression of the trachea.[2] But why should the thymus suddenly enlarge to this fatal point? Some writers attribute the symptoms of thymic asthma to toxemia, whether from hyperthymization or hypothymization. But, again, why this sudden change in the secretory activity of the gland?

Whether these cases are really examples of disease of the thymus or of an unfortunate effort of nature to overcome some other disease, I, at least, do not know. The function of the gland will have to be better known before we can decide; and until we know both the physiology and pathology of the organ better than we now do, we shall lack a sure basis for thymic therapy.

Clinically, too, we are confronted with the contradictory reports of equally competent observers upon the therapeutic action of the thymus gland in various cases of disease. One reason for this is to be found in the very varying nature of the preparations administered. In the beginning the fresh glands of recently slaughtered animals were used. Later, commercial preparations, desiccated powders, tablets, glycerin extracts and solid extracts have been employed.

I wrote to the leading manufacturers of America and England in order to get some idea of the manner in which the preparations on the market are made. Messrs. Burroughs & Wellcome, to my surprise, excused themselves from replying to my query. Messrs. Parke, Davis and Company said they used only the glands from sheep, usually young ones, such as the butchers sell for lamb. Messrs. Armour and Company said that the glands were taken from calves, 3 to 4 weeks old, after these animals had passed the government inspection. Neither of these houses mixes the glands of different kinds of animals. They both courteously and fully described their process of selection and desiccation. The Phospho-Albumen Company replied that they used the thymus gland from young lambs (young sheep) only, and described the process by which they make an extract instead of a desiccated preparation. These three American preparations, as we see, differ from each other either as to the source or method of preparation. If we could have the active agent or agents, our therapy would be more scientific and our observations more definite.

The dose of thymus preparations at present, is

---

*Address to the New York County Medical Association, May 21, 1900.

"enough." Small doses are best, at first, given tentatively, to determine individual reaction and tolerance, but I have seen no bad result from very large doses. The raw or slightly cooked glands have been given in quantities of one-half ounce or more, in single or divided doses, daily or thrice weekly or less often. Of the commercial powders and tablets I have given from 5 to 90 grains daily. To get and keep good results the medicament should be given persistently for long periods.

Its application is not to accidents, such as infections, but to affections of metabolism; and chronic diseases must receive chronic treatment.

Thymus therapy is due, in a measure, to a butcher's happy ignorance.

Mr. David Owen,[3] of Manchester, England, administered, as he thought, large doses of thyroid gland to a patient with exophthalmic goiter, and recovery ensued. As a rule, thyroid feeding injures such patients, though I have myself observed and reported one of the exceptions to this rule on record. At the instance of Dr. Hector Mackenzie, who observed that the quantity of gland substance given by Mr. Owen would require several thyroids, further inquiries were made, and it was found that the butcher had been furnishing thymus—"neck sweetbread"—instead of thyroid gland.

Mr. Owen then deliberately began the use of the thymus gland from the calf. In one of his cases which did not improve, it was found that the thymus gland furnished was from the sheep, and on the substitution of calves' thymus glands, improvement began. The good effects noted were greater or less reduction of the thyroid tumor, great reduction of the tachycardia, and control of the nervous symptoms, together with improvement of the general nutrition.

Another British observer, Mr. Todd,[4] has published a noteworthy case, with sphygmographic tracings and pulse chart absolutely convincing. The case was one of severe exophthalmic goiter, in which rest and all of the approved drugs had been used, notwithstanding which the cardiac symptoms became steadily worse. This patient had finally recovered under the administration of fresh thymus gland from the calf. I call attention to this particular case as one which entirely meets the criticisms of Dr. Hector Mackenzie, of London, Dr. Kinnicutt,[6] of your city, Dr. Parker,[7] of London, and other good observers who have used thymus gland in exophthalmic goiter without noting special benefit; while Watson Williams'[8] patient was apparently made worse by the treatment.

Parker's patients, however, professed to feel much better from the medication, despite the lack of objective improvement. Furthermore, many competent and experienced physicians, in Europe and America—Mikulicz[9] Cunningham,[10] Edes,[11] McKie,[12] Maude,[13] Reinbach,[14] and others—have had favorable results that are not to be attributed either to suggestion or to the well-known tendency of Graves' disease to spontaneous improvement or recession. I have elsewhere published my own[15] good results with the use of thymus gland in the treatment of exophthalmic goiter. Its effect is especially marked upon the nervous symptoms, but Todd's case illustrates its power over the heart, and Mikulicz, Bruns[16] and others have shown its influence upon goiter, both in connection with and apart from Graves' disease. Upon the proptosis its effect is perhaps least.

Recently I suspended the use of thymus gland in this disease, not because it did not give good results, but because the adrenal substance promised even better ones. I have found, however, that some cases present symptoms that can be controlled by thymus gland and not by adrenal gland, while others present symptoms that can be controlled by adrenal but not by thymus. A combination of the two has thus seemed to me better than the use of either alone; but I have not yet had a sufficient number of cases treated in this way for a long enough time to warrant reporting them or drawing conclusions. At one time I thought that adrenal produced less effect upon the goiter, more upon the heart, than thymus; but in other cases the reverse has been noted. The puzzling pathology of exophthalmic goiter gives us no help in theorizing, and empirically this adds but one more to the contradictory observations.

Physiologists do not give us much help as yet as to the nature of the active principle of the thymus gland, or as to its function in the human body. Foster[17] says that from the gland a proteid-like globulin may be extracted, which seems to have some special relation to the formation of fibrin. When injected into the veins it gives rise to extensive vascular clotting. The thymus gland is rich in extractives—xanthin, hypoxanthin, leucin, lactic, succinic and other acids have been found in it. "Its chief function," he states, "seems to be associated with events taking place before birth, or in early life."

Beard[18] has recently revived the hypothesis of Kölliker that the thymus gland is concerned in the production of leucocytes. His argument is founded on observations made on the smooth skate—*Raia batis*—which seemed to show that the earliest production of leucocytes was in that sac developed from the primitive branchial arch, which later on becomes the thymus gland. These cells he believes to be the parents of all the glandular structures. Cases have been reported in which the enlargement of the thymus gland has been associated with leukemia or hyperleucocytosis. These are of many kinds. In some cases tumors, genuine sarcomata are found;[19] in other cases vague hyperplasias, perhaps associated with general lymphatic enlargements, as in the status lymphaticus. In acute leukemia[20] and Hodgkins' disease there have been found tumors of the thymus gland, some of which have been reported as sarcomata, but which later observation seems to have demonstrated to be collections of cells resembling in their nature and arrangement such a process as would be expected from a revival of the involuted thymus.

In exophthalmic goiter the thymus gland is frequently found to be enlarged at death.[21] Owen looks upon this as a compensatory revival. It is also found to be enlarged in acromegaly and in pulmonary hypertrophic osteoarthropathy; perhaps similarly in an effort of nature (reaction) to restore by supplement or antagonism a disturbed metabolic balance.

A number of cases of epilepsy[22] with mania have been reported in which the thymus gland has been found enlarged at death. These cases are supposed to indicate some toxic properties of the excessive thymus secretion, and are thus associated with thymic asthma. But the evidence is susceptible of other interpretation.

Removal of the thymus gland has been attempted by some observers, with contradictory results.

The thymus gland is found to be a necessary organ in the frog, but less so in dogs.

I quote from Norton's[23] excellent summary, verified by reference to his sources.

Tarrelli[24] extirpated the gland from dogs, with the following results:

1. No dog died of the operation.

2. Dogs showed a great voracity, but grew less than dogs in normal condition.

3. The blood showed a diminution of red-cells and hemoglobin, but an increase of leucocytes, which kept on increasing from one to one and a half months after operation; it showed also the presence of eosinophiles.

4. Dogs showed loss of strength four months after the operation.

5. Dogs' hair did not grow as well as in unoperated dogs; it lost its brilliancy, became very rough, and fell out easily.

The author draws no conclusions as to the action of the gland from these cases.

Abelous and Billard,[25] working together on frogs, give the following summary of their experiments:

1. The thymus in the frog is an indispensable organ for life.

2. Its total ablation is followed by severe troubles: *a,* dynamic—weakness, paresis, paralysis; *b,* trophic, discoloration of the skin, cutaneous ulcerations; *c,* alterations in the blood—hydremia, edema, hemorrhages, changes in the corpuscles.

3. Ablation of one thymus does not induce death.

4. We believe that frogs deprived of the thymus die of a true autointoxication, as is shown by the manifest toxicity of their secretions, when injected into frogs lately operated upon.

5. Subcutaneous insertion of the thymus does not prolong life materially, though it may restore the normal color of the skin.

6. Injection of a thymus extract from cattle into frogs causes an augmentation of the excito-reflex power of the spinal cord; at the same time the color of the skin becomes markedly darker, and if discoloration has commenced, the frog takes on its natural color. The effect of these injections seems then to present a true antagonism to the troubles which follow the extirpation of the thymus.

"It is Svehla,[26] however, who has up to the present time done the best experimental work with the thymus gland. He worked with a watery extract of human glands, as well as with glands from other animals. He states that intravenous injection of the thymal extract from man, cattle, dog, and pig, causes in dogs:

"1. A lowering of the blood-pressure, following weakness or paralysis of the vasoconstrictors.

"2. An acceleration of the pulse, due to a direct influence on the heart.

"3. In large doses it causes death of the animal, with appearance of restlessness, followed by collapse and dyspnea. Autopsies showed death in these cases to be due to suffocation."

Minkowski,[27] after feeding dogs with calf thymus or the nuclein obtained therefrom, noted a new substance in the urine, which he calls urotonic acid (imidopseudouric acid), and which he believes to be an oxidation product of the nuclein base special to the gland. It may be twenty-three times greater than the ordinary uric acid in quantity.

A. Clark,[28] of London, recently reported the case of an infant in which the thymus was found absent after death, and in which there had been extravasations of blood during life. This is interesting in connection with the known property of thymus extract to produce clotting when injected into the veins, and suggests some connection of thymic failure with hemophilia, and the use of the gland as a remedy in that affection.

A. E. Wright,[29] of Dublin, recommends for use a physiologic styptic prepared as follows:

Fresh and finely-minced thymus is extracted from twelve to twenty-four hours with ten to twenty times its weight of a solution containing 1 per cent. of carbolic acid and 1 per cent. of sodium chlorid; and to this is added, after straining, 0.5 per cent. of crystallized calcium chlorid. It is then made faintly alkaline, shaken and mixed with the effused blood, in the proportion of about 1 to 10.

Cunningham,[30] of New York City, in his experiments on dogs, found that the thymus extracts were as useful as thyroid extracts in combating or preventing the *cachexia strumipriva,* and as recent observations, especially those by Mendel,[37] seem to demonstrate that there is no iodin in thymus and that the iodin which Baumann[32] thought he had found in minute quantities in large amounts of thymus substance was, in fact, due to contamination by parathyroid substance, it is evident that the good results can not be attributed, as has been done by some, to iodin.

The same remark applies to Reinbach's[14] clinical observations. This observer relates the experience obtained in Mikulicz's clinic with the use of thymus extract in the treatment of ordinary goiters. Fifteen cases were so treated, while for comparison eight were treated with thyroid extract and two with thyreoiodin. It was demonstrated that thymus extract had a distinct influence in diminishing the size of the goiters in some cases, though nearly 50 per cent. were unaffected. Adenomata and cysts were uninfluenced both by thymus and thyroid extracts. No case recovered completely, and most of them required operation, but the remedy did no harm and gave rise to no unpleasant result. This, it is remarked, contrasts favorably with the thyroid treatment, since heart-failure is not uncommon after the exhibition of the latter. On the whole the effect of thymus treatment was thought to be greater than when thyroid extract was employed.

These experiments and experiences, showing a certain similarity between the action of thyroid and thymus substances, need to be harmonized with other observations showing dissimilarity or antagonism. Doubtless further research will show that the secretions of the ductless glands are complex; that there is a difference, physiologic and pharmacologic, between the gland-substance and the secretion; that both cell and cell-product change under diverse conditions; that, as with plants, for example, belladonna and pilocarpus, so with animal tissues, proximate principles largely antagonistic may exist side by side. This being done, we may then be able to find out just why certain substances in the two glands, or even the whole secretions, have under differing conditions opposing or supplementary functions. Cunningham, like Svehla, found that the thymus extracts dedepressed blood-pressure by a vasodilating influence; but according to my clinical experience, the blood-pressure is raised and vasodilation corrected by the administration of the thymus gland. Perhaps different conditions or the use of different active agents are here involved.

This much is certain, that in that group of cases to which I have called professional attention, under the name of vasomotor ataxia,[36] two distinct subclasses may be made; the one exhibiting greater tendency to undue relaxation of the vessels and finding its extreme type in Graves' disease: the other exhibiting a more marked tendency toward undue contraction of the vessels and finding its extreme type in Raynaud's disease. Between these two extremes exist all varieties, often with commingling of diverse tendencies toward vascular instability. Among the phenomena by which the two classes may usually be separated, the temperature-relation, that is, the reaction to heat or to cold, is prominent. Subjects of the one class complain of excessive heat sensations, undue sweating, and the like, even in comparatively mild summer weather, feeling, on the other hand, relatively comfortable in winter. Those of the other class suffer from moderate cold to a degree, and with symptoms, which, in the majority of men, it would require zero weather to produce, while summer is to most of them a time of comparative enjoyment; the exception being the infrequent cases in which a lack of perspiration even in summer is a source of distress. Administration of thymus or adrenal extract to those with undue dilatation of vessels—the summer patients—and of thyroid extract to those with undue constriction and want of perspiration—the winter patients—is often followed by relief of symptoms. Hence I am constrained to believe in a physiologic antagonism between the thyroid and the thymus—at least so far as vascular constriction and dilatation are concerned—in the patients and under the conditions mentioned. While I have observed some gratifying recoveries following the use of thymus substance, with and without the adrenal substance, in these cases, and in urticaria and asthma, and for the correction of the neurovascular disturbances of the menopause, I have also to record many failures; whether the cause of failure lies in the theory of therapy, in the diagnosis, or in further and undiscovered idiosyncrasies of the patient I know not.

Thus far we have dealt with what may be termed physiologic uses of thymus extract in therapeutics. As I have elsewhere pointed out, the therapeutic uses of animal tissues and secretions fall into three categories, which may be termed, respectively:

1. Homologous or direct physiologic organotherapy; in which actual or relative deficiencies in the functions of certain organs of the patient are remedied by the administration of functional substances derived from similar organs of the lower animals. This is best illustrated by the use of the digestive ferments in indigestion, and of the thyroid preparations in myxedema.

2. Physiologic organotherapy of the indirect type; in which the apparent function in the human body of a certain organic product leads to the administration of the like substance from animals for the production of a similar effect; and this, even when disease or deficiency of the given organ or secretion is not to be demonstrated or may not be suspected. The use of adrenal substance locally or internally to produce vasoconstriction is the most conspicuous example of this class.

3. Heterologous organotherapy; in which the pharmacologic properties of substances of animal origin are used for the production of effects having no reference to the physiologic uses or pathologic capabilities of the living gland in the human body. Just as strychnin or arsenic affects the animal metabolism and produces certain toxic or therapeutic results, so do substances of animal origin; and it may be that such uses will be found for all of the animal extracts.

Under this last head, perhaps, come the empiric uses of the thymus gland, to which I shall now direct your attention.

Folloing Mackenzie's[5] suggestion, that the good effect of thymus gland in certain cases of exophthalmic goiter was due purely to its influence upon nutrition, Kinnicutt,[6] and others, gave it to patients with pulmonary tuberculosis, noting during its use an increase in weight, with subsequent loss upon its withdrawal. It has been used with reported good results in rachitis and in marasmus. In one case of rheumatoid arthritis, associated with exophthalmic goiter, under my own care, the joint conditions improved, together with the general condition of the patient. I have since employed it in six cases of uncomplicated rheumatoid arthritis, with relief in one case, and with failure in the others. Macalister,[33] probably the first to use thymus gland deliberately as a therapeutic agent, found it remarkably useful in a case of pseudo-hypertrophic paralysis. Its use in chlorosis, by Bloudel,[34] may either be nutritive or may be brought into relation with the narrowing of the aorta found alike in chlorosis and in cases of the *status lymphaticus* with enlargement of the thymus gland.

Chittenden[35] has shown that the lymphoid cells of the thymus gland contain a much larger proportion of phosphorus—3.5 per cent.—than is to be found in the nucleoproteid of any organ except the pancreas—4.71 per cent. This richness in an easily assimilable element, which certainly is of profound importance in the structural and functional metabolism of the higher tissues, may explain the good effect of thymus therapy in diseases of nutrition. Its good effect in exophthalmic goiter I believe to be connected with its physiologic function, probably falling under the second rather than the first of our categories; but as to this, in common with nearly all other problems relating to the thymus gland, we still await further information from careful, scientific and skilful observations, in which I trust other New York physicians will do as good work as has been done by those of your colleagues whose names I have so frequently mentioned.

1. Jacobi, A.: Trans. Asso. Am. Physicians, 1888, p. 297.
2. Lange, F. M.: Quoted Am. Jour. Med. Sci., July, 1899, p. 119.
3. Owen, D.: British Med. Jour., 1893, vol. ii, p. 1211; ibid., 1895, vol. i, p. 361.
4. Todd, C.: British Med. Jour., 1896, vol. ii, p. 195.
5. Mackenzie, H.: Am. Jour. Med. Sci., 1897, n. s. cxiii, p. 132.
6. Kinnicutt, F. P.: Trans. Congress Amer. Phys. and Surg., 1897, pp. 157, 166. (With tabular references.)
7. Parker: Brit. Med. Jour., 1897, vol. i, p. 528; ibid., Jan. 7, 1899.
8. Williams, W.: Clin. Jour., Lond., 1895-6, vii, p. 93.
9. Mikulicz: Berlin Klin. Woch., 1895, xxxii, pp. 216, 342; Centralbl. f. Chir., 1896, p. 929.
10. Cunningham, R. H.: Med. Record, N. Y., 1895, xvii, 742 (with many references).
11. Edes, R. T.: Boston Med. and Surg. Jour., 1896, cxxxiv, 82.
12. McKie, J. N.: Brit. Med. Jour., 1896, vol. i, p. 656.
13. Maude: Lancet, vol. ii, 1896, p. 173.
14. Reinbach: Mittheilung. a. d. Grenzgeb. d. Med. u. Chir. Jena, 1896, i, 202; ibid., 1898, iii, 309; Abst. Cbl. f. I. Med. Wissenschaft, 1899, p. 276.
15. Cohen, S. S.: Phila. Polyclinic, 1896, vol. v, p. 446; THE JOURNAL, July 10, 1897; Phila. Polyclinic, 1898, vol. vii, No. 38.
16. Bruns: Deutsche Med. Woch., 1894, No. 41.
17. Foster, M.: Text-book of Physiology (Phila.), 1895, p. 470.
18. Beard, J: Lancet, 1899, vol. i, p. 144.
19. Palma: Deutsche Med. Woch., 1892, No. 35, p. 784.
20. Klein, A.: Summary with numerous references, Cbl. f. Allg., Path. u. Path. Anat., 1898, ix, 679 et seq.
21. Soupalt: Bull. Soc. Anat. de Paris, 1897, lxxii, 592; Mackenzie and Edmunds, Trans. Path. Soc., Lond., 1896-7, xlviii, 192; Hektoen, Internat. Med. Mag., 1895-6, iv, 584.
22. Ohlmacher, A. P.: Reprint of paper read at 53d annual meeting Ohio State Med. Soc., Columbus, May 5, 1898.
23. Norton, R.: Phila. Med. Jour., Feb. 5, 1898. (with numerous references).
24. "Tarrelli, Atti. d. xi Cong. Med. Internaz., Roma, 1894, ii, fisiol., 19-20."
25. Abelous and Billard: Compt. rend. du Soc. de Biol., Paris, Arch. de Physiol, Oct. 1896, p. 898.
26. "Svehla: Cbl. f. Phys., 1897-8, p. 477."
27. Minkowski: Therap. Monatshefte, June, 1898, p. 340.
28. Clark, A.: Lancet, 1896, vol. ii, p. 1077.
29. Wright, A. E.: (reference mislaid.)
30. Cunningham, R. H.: Jour. Exper. Med., 1898, iii, p. 225.
31. Mendel: Am. Jour. Physiol., Jan., 1900.
32. Baumann: Munch. Med. Woch., 1896, No. 14.
33. Macalister: Brit. Med. Jour., 1893, vol. i.
34. Bloudel: Bull. Gén. de Thérap., 1897, No. 8, p. 233.
35. Chittenden: Boston Med. and Surg. Jour., Aug. 20, 1896, p. 188.
36. Cohen, S. Solis: Phila. Polyclinic, June 1892, p. 85; N. Y. Medical Jour., March 25, 1893, p. 341; Am. Jour. Med. Sci., Feb., 1894.

MEDICINE AND MEDICAL MEN IN THE UNITED STATES.*

A. JACOBI, M.D.
NEW YORK CITY.

It is the purpose of this address to contribute to your knowledge of transatlantic medicine and medical men. That is why I have to ask the pardon both of my countrymen and of all of you, but mainly of the French gentlemen here assembled, for using—or, perhaps, misusing—a language not my own, but better known to most of you than mine. In this way I hope to serve the ideal of the International Congress, which admits the delegates of medicine from all over the globe, recognize three languages as equivalent, listen to contributions on all possible topics connected with medicine and its numerous tributaries that are offered by the glory-crowned heads of the profession and by those on whose shoulders, now young, will rest the future of medical science and practice, and thus give an example of cosmopolitanism, the universal realization of which must be left to the coming century.

Many millions of the population of the United States are European immigrants or their offspring; commercial interests between the two hemispheres are numerous, and there is a daily intercourse through correspondence, telegrams and travelers; the French and German languages are much studied in America, but while European literature is copiously imported into our country, our own is not so well known in Europe. Even European governments send to us representatives to study economical, mechanical and agricultural questions. But it appears that there are difficulties as regards the international appreciation of what concerns American medicine and medical men. Possibly it is because the intercourse between medical men is not sufficiently extensive and long. When our best men come to Europe it is for the purpose of rest; you find, unfortunately, but few of the great—mostly older—men at the international congresses. That of Washington in 1887 was not much frequented by Europeans for reasons satisfactory to themselves. Our young physicians and students who flock to European universities are not and should not be taken as fair representatives of American medicine. Your own great or well-informed men rarely come to us to see with their own eyes. Books on general American topics, like that of the superficial and clumsy L. Buechner, of Germany, or that of the ignorant and shallow, though elegant Bourget, of France, written after a few weeks' limited observations with narrow opportunities, are more apt to obscure the mental view than enlighten the mind. The spirit of de Tocqueville is no longer alive in the tourist.

THE CLERGY AS MEDICAL ADVISERS.

The first advisers in cases of sickness, all over New England at least, were the clergymen. Indeed, the first news we have of diphtheria in that region came from them. John Rogers and John Fisk are known to have been preachers and doctors, John Foster, of Boston, wrote the first medical treatise published in America in 1677—"Rule to Guide the Common People of New England; How to Treat—Smallpocks or Measles, Etc." What might have been expected when real doctors took possession of the field occupied by the clergy, however, did not occur. For a long time the latter remained staunch friends of the medical practitioner. The Reverend Cotton Mather, in 1721, strongly favored the inoculation of smallpox and defended and protected Dr. Boylston, who was persecuted by the mob of Boston for having a mortality of 2 per cent. among those inoculated, compared with one of 14 per cent. among those suffering from genuine smallpox. It is different now, when there is no trade or profession more fond of sectarian medicine, and medical dilettantism than the clergy. Part of the latter, however, spent all its energy in another direful direction; the witchcraft prosecutions and *auto da fe's* were theirs, and mainly Cotton Mather's, while it is creditable to our medical forefathers that they had nothing to do with them.

EARLY AMERICAN PHYSICIANS.

The first physicians in the colonies came from abroad. Wooton, in 1607, Russell, in 1608, appear to have stayed but a short time, for it is reported that when John Smith was wounded, he had to go to England to be treated. The name of Lamentagne is mentioned in 1637, John Clark, of Boston, in 1638; Child, in 1644. There was but very little opportunity to learn in the seventeenth century. We know of no lectures except those of Dr. Giles Firman, who lectured in Harvard in 1647 on human osteology. At that time medical practice was learned in apprenticeship; young men would serve and study with a practitioner from three to seven years, the same time that Jacob slaved for Rachel, without getting her, after all. This system of apprenticeship was continued with more or less modification until recently. Indeed, most medical schools, until lately, would accept the apprenticeship with a preceptor in lieu of a year's college course. But in the early times those who had the means, and the ambition to learn, went abroad to Leyden, Paris, Padua, or Great Britain. They were mostly classical students; classical studies were, indeed, so much thought of that the Medical Society of New Jersey 120 years ago demanded Latin and some Greek as indispensable for the license to practice medicine. That was, unfortunately, changed; for until a short time ago the admission to a medical school depended solely on the sweet will of the untaught and ignorant ploughboy or drygoods clerk.

EARLY MEDICAL LECTURES AND MEDICAL SCHOOLS.

Our first information in regard to medical lectures refers to those on anatomy. Evidently that subject struck the imagination of chroniclers most forcibly. Dr. Thomas Cadwallader instructed students in Philadelphia between 1745 and 1751, as did Drs. John Bard and Peter Middleton, in 1750, in New York; Dr. William Hunter, in 1752, in Newport, R. I., and Dr. William Shippen, in Philadelphia, from 1762 until 1765, when the Medical College of Philadelphia was founded. He lectured on anatomy and midwifery, in agreement with the time which did not abhor, out of sheer ignorance, the incompatibility of anatomy and obstetrics. Historical justice compels me to add right here that it was a professor of anatomy, our famous poet, Dr. Oliver Wendell Holmes, in Harvard University, who, in 1843, long before the unhappy Semmelweis, proclaimed the contagiousness of puerperal fever, and the incompatibility of the lying-in room and the dissection-table. It was Shippen, the anatomist, who tried to establish a school of midwifery. Again, it is historical justice to proclaim that the injustice of man has not only interfered with the instruction, but in most states, even with the very existence of midwives, in contradistinction to the old Philadelphian. There were two medical schools before the War of Independence—one in Philadelphia, established in 1765, and one in New York, established in 1768. The first degree conferred in medicine was that of Bachelor of Medicine, in 1768; the first degrees of Doctor in Medicine were given in New York to S. Kissam and Robert Tucker, in 1770. Before 1776, when the war suspended them, these two institutions had conferred 51 degrees. The medical school of Harvard was founded in 1782; that of Dartmouth, N. H., 1797, and that of Lexington, Ky., in 1799. Thus, in 1800, there were five medical schools in what then was the United States. In New York the names of the professors were Richard Bailey, John R. B. Rogers, Wright Post, William Hammersley, Sam. L. Mitchell and David Hosack.[1]

---

* Read before the Thirteenth International Medical Congress, Paris, August 6, 1900.

The Medical School of King's College, in New York—the name formerly borne by Columbia—was discontinued, but in 1860 the College of Physicians and Surgeons, which was founded in 1807, simultaneously with the School of Medicine of the University of Maryland, took its place as a nominal, and a few years ago, as an actual, part of the Columbia University. Of the 156 medical schools which exist at the present time, three date from 1765 to 1800, twelve were established between 1801 and 1825, twenty-two between 1826 and 1850, thirty-three between 1857 and 1875, and eighty-six since. How many more have been so good as to disappear from the face of the American earth nobody cares to learn or to know; if we knew we should shed no tears.

In 1899 there were 156 medical schools in the United States, with 24,119 students; the latter have increased 142 per cent. in twenty-one years. Of the 156 schools, 21 call themselves homeopathic, with 1833 students; 7 eclectic, with 582, and 3 physio-medical, with 85 students. I hope nobody will ask me for an explanation of the three last terms, in this year, 1900; for I could not give one. Of the 156, 74 are departments of colleges and universities; 82 are separate institutions, and only 152 grant degrees. In addition to these 156 there are 10 medical schools for graduates, who come to the larger cities, mostly New York, for the purpose of taking courses, chiefly in specialties. In 1899 these 10 schools had 1916 students, of whom 73 were women.

Of the 10 graduate schools 3 are in Illinois, 1 in Louisiana, 4 in New York and 2 in Pennsylvania. Less than 2000 physicians are taught in these institutions annually, most of them in short courses. They employ 300 professors and 381 adjunct professors and instructors. There can be no doubt as to two effects; first, a good many practitioners of the country have a more or less brief opportunity to improve themselves, and, second, many practitioners of the large city bask in the sunshine of the professional dignity. Sometimes it seems as if plain doctors were scarce at present. But there are some left.

At the time of the War of Independence there were probably 3500 physicians amongst the three million inhabitants of the colonies. It is estimated that 400 of these had received medical degrees. In 1798, 16 doctors of New York died of what was called "the plague;" there were 94 in New York in 1800.[2] At present we have probably 120,000 practitioners in the United States.

The ratio of physicians to population is less than 1 to 600 in our country, while in Great Britain it is 1 to 1100, and in Russia, 1 to 8500. Proportionately we have four times as many physicians as France, five times as many as Germany, six times as many as Italy, and six times as many medical schools as either of these countries. Medical teaching, however, will be better, more uniform and more in accordance with the real requirements of the people, when our 156 schools have been reduced to 25, and each of them is connected with a university as its medical department.[3]

Of the 55 political divisions in the United States, including Cuba, the Philippines and Puerto Rico, 21 report no medical schools. Of the 156 medical schools in 34 political divisions, 80 admit both men and women, 7 women only, and 74 are departments of universities or colleges. One requires a college degree for admission, namely, Johns Hopkins, in Baltimore; 12 a school course; 3 a three years'; 12 a two years'; 97 a one year's course; 29 a common school education, and 2 give no reports; 6 have a 9 to 10 months' course, 21 an 8 to 9, 45 a 7 to 8 and 84 less than 7 months' course; 141 maintain a 4 years' course, 10 a 3, 2 a 2 and 2 a 1 years' course. One is unknown.

MEDICAL PRACTICE LAWS.

The earliest law[4] relating exclusively to physicians was passed by Virginia in 1639, but, like the later act of 1736, it was designed mainly to regulate their fees. The act of 1736 made concessions to physicians who held university degrees. In only two of the thirteen colonies were well-considered laws enacted to define the qualifications of physicians. The General Assembly of New York, in 1760, decreed that no person should practice as physician or surgeon in the City of New York till examined in medicine and surgery and admitted by one of His Majesty's Council, the Judges of the Supreme Court, the King's Attorney-General and the Mayor of the City of New York. Such candidates as were approved received certificates conferring the right to practice throughout the whole province. A similar act was passed by the General Assembly of New Jersey in 1772.

In 1840 laws had been enacted by the legislatures of nearly all the states to protect citizens from the imposition of quacks. Between 1840 and 1850, however, most of these laws were repealed, or were not enforced, as a result of the cry that restrictions against unlicensed practitioners were designed only to create a monopoly.

QUACKS AND QUACKERY.

As every people, high or low, cultured or uncultured, has just as good doctors as it deserves, it appears that one-third of those who practice, mainly in Germany, where for thirty years the practice of medicine has, by act of government, been lowered from a profession to a trade, are barbers, weavers, shoemakers, shepherds, waiters, workingmen, tailors, carpenters, etc. With us in America the dilettanti are mostly clergymen, the quacks mostly women, trained nurses, spinsters without occupation, etc. Quackery has been raised to a sort of religious creed, and is practiced and preached with fanaticism, not so much amongst the poor and untaught as amongst the better-to-do classes, the semi-instructed and half-cultured, the well or overfed and mentally unbalanced men and women. It is wonderful to what extent the so-called better classes of society, professional people, journalists, lawyers and the clergy submit to the imposture of frauds or to their own imaginations, based on ignorance or half-knowledge. Nothing is more apt to prove that one-sided information is far from being general culture. That is why we have all sorts of "pathics"—osteopathy, vitapathy, electropathy, hydropathy, divine healers, magnetic healers, christian scientists, faith curists, mind curists, sun curists, Zion curers, etc. In most states, and in New York also, these shams are unchecked; in spite of the apparent strictness of the law, they exist simply because under its wording it is found impossible to determine the exact meaning of "practice of medicine." It is in the cases of these enemies of the human race that the well-directed efforts of legalized county societies of medical men, supported by good lawyers, have often proved ineffective.

---

[1] David Hosack graduated in Philadelphia in 1791 and afterward studied abroad. He brought home with him a cabinet of minerals and a herbarium. He helped found the Historical Society of New York in 1804 and maintained the Elgin Botanical Gardens, between Forty-seventh and Fifty-first streets and Fifth and Sixth avenues, which now form part of the valuable property of Columbia University.—Sidney H. Carney, Medical News, Feb. 17, 1900.

[2] Sidney H. Carney tells us that about that time the gold-headed cane was still pretty universal, but small clothes disappeared rapidly and pantaloons took their place. He also tells us something of their pay. In Bellevue Hospital the attendants on plague cases received twenty shillings daily; at that time the hospital was three miles out of town. A visit amongst the people cost one dollar, a visit and dose of medicine a dollar and twenty-five cents, pills twelve cents; for going a mile out of town one dollar extra was charged; to Brooklyn three, and to Staten Island ten dollars. Venesection cost from one to five dollars.

[3] Henry L. Taylor: Professional Education in the United States, p. 367.

[4] Henry L. Taylor, loc. cit.

MEDICAL SCHOOLS.

Medical schools grow like toadstools. Charters were granted by legislatures indiscriminately. These schools were self-sustaining; they were created by a few doctors who, in any town, combined to foster their own interests or that of a few friends. After the Medical College of Philadelphia, when reorganized in the University of Pennsylvania in 1792, had dropped the requirements of Latin and some Greek, of physics, natural history and botany, no preparatory education was expected of a matriculant. In many schools that is so to this day. These schools rivaled each other in the cheapness of their fees, in the shortness of their terms and in the easiness of their examinations. There was no clinical instruction of any kind fifty years ago, almost none, even in large cities, forty years ago, when physiology, chemistry, pathology, surgery and obstetrics were recognized as legitimate subjects for instruction. The term of lectures was from four to five months, the length of study, two such courses, which were identical, the teacher repeating his instruction twice to the uncouth candidates of medicine. The result of the examination after two such courses was a diploma, and this diploma carried with it the license to practice. Whenever a progressive medical school was anxious to raise the standard of education, it had to fear the loss of students on whom depended its fees, that is, its existence; and so it happened that the University of Pennsylvania had to rescind its good intentions, when, twenty-five years ago, it dared to lengthen its course of studies.

The power to confer degrees differs in the various schools of the forty-five states composing the Union.

Low standards in many professional schools[5] are due to a failure to subject the degree-conferring power to strict state supervision. In New York and Pennsylvania the laws now prevent an abuse of the power to confer degrees. A similar bill, strongly advocated by educators, was defeated in Illinois through the efforts of politicians and others in favor of low standards. In Ohio and Nebraska the statutes require only the nominal endowment of $5000 for a degree-conferring institution. In other states and territories, as a rule, any body of men may form an educational corporation with power to confer degrees without any guaranty whatever that the privilege will not be abused. From all of which you infer that it is impossible to judge of the Union from a single state. It should never be forgotton by Europeans that it takes forty-five states to make the United States, that these states are of different ages, populations, races and cultures; that they have different needs and requirements; that the greatest refinement of the East, the wild naturalism of part of the far West, the abject animalism of part of the South, are covered by the same flag, and that the boundaries of most states include the most various degrees of culture, and of the contrary.

The omnipotence of every medical school which gave the license to practice with its degree of Doctor in Medicine led to the grave evil of furnishing the country with low-grade practitioners. It is true that mainly in the Eastern states a few colleges would gradually improve their methods of teaching and lengthen their curricula, but they were exceptions to the rule. On the contrary, some of the schools in New York opposed bitterly every attempt at progress. Progress is due, not to the schools themselves, but to the influence of the medical profession that forced the schools to submit to public opinion, which insisted upon improvement of medical instruction. As early as 1837, in Philadelphia, and 1839, in the Medical Society of the State of New York, it was resolved that teaching and licensing should be separated.

ORGANIZATION OF MEDICAL ASSOCIATIONS.

This movement resulted in a call for a convention of delegates from all medical schools and societies in the United States. This convention of 1846 led to the formation of the AMERICAN MEDICAL ASSOCIATION, and was the forerunner of many attempts at giving us better doctors and better schools.

The Association of American Medical Colleges that was founded in 1890, the American Institute of Homeopathy, in 1844; the National Confederation of Eclectic Medical Colleges, in 1871, and the Southern Medical College Association, in 1892, deserve credit for earnest efforts in that direction. The greatest difficulty is found, as I have said, in the different standards of the people of our vast territory. Indeed, every century, and every people, has exactly the doctors it deserves, just as it has the rulers it deserves. That is why it is so difficult to arrive at a uniform standard all over the United States, and to arrange a reciprocity between the states which would allow the physician of one state to settle in another.

Much has been accomplished in this respect by a special committee, which reported at the meeting of the Association of Medical Colleges, in June, 1899.

Based upon the replies of fifty-six of the better schools, the following rules were proposed:

1. After July 1, 1900, every matriculant is to have a diploma from a high school or to pass an examination in the branches required by a high school.
2. Before a student can be eligible for the degree of doctor of medicine, he must have attended in a well-equipped medical school four courses of lectures of at least six months each. These courses must embrace at least 3300 hours' actual work in the school including—besides didactic lectures and recitations—500 hours of laboratory work, 150 hours of practical work, one or more obstetric cases personally attended by each student and 750 hours of clinical teaching. At least 45 months must intervene between a student's matriculation and the date of his graduation. All of the work should be fairly apportioned throughout the four years. No school can be considered capable of giving the requisite instruction that can not command each year at least 3000 hospital or dispensary patients for presentation to its classes.

How difficult it is to reach such ends may become visible by the single fact, that it took us, the medical men of the State of New York, as assembled in the medical society of the state—not of the schools, many of which were opposed to us—twenty years' constant exertion, with many defeats, to enforce a minimum of preliminary knowledge before matriculation, and the passing of an independent state examination after the degree of doctor was obtained from a medical school, both for citizens and for foreigners, before the license to practice was awarded. How important that is you may best understand when you are told that during the few years of the existence of the new law, of 4808 physicians examined, 3722, or 77.5 per cent., were successful; of 916 dentists examined, 77.5 per cent., and of 67 veterinarians, 44.7 per cent. were successful in obtaining their licenses. Thus the people were saved from the rubbish of incompetent doctors that, in former years, would have swelled the dangers to the public weal.

---

[5] Professional Education, by James Russell Parsons, Jr.

MEDICAL INSTRUCTION AND INSTRUCTORS.

The course of instruction has undergone great changes. A few years ago the so-called "seven branches of medicine" were taught in didactic lectures, repeated annually, to unprepared young men. There was no laboratory, and but little clinical work. At present the curriculum of all good schools extends over four years, includes systematic and compulsory work in chemical, pathologic, histologic and bacteriologic laboratories, and furnishes clinical instruction, no longer exclusively to large classes with no means of independent examinations on the part of the student. Moreover, the studies are graded, progressive from year to year, and in many schools the students are examined from year to year. This plan is objected to by those who favor absolute freedom of teaching and learning, in accordance with the theory of European continental universities. But the study of medicine should no longer be an individual affair. A school represents, in teaching those who are to practice on the people, the people itself; it should hold itself responsible to the people, and should be prevented from letting loose numbers of unprepared men or women; it should, therefore, make the exact studies without which no practitioner can at present perform his missionary work, compulsory. With advancing years, and after a long experience as a citizen, a practitioner and a teacher, I never forgot the ideals and principles of my youth that centered in the demands of individual freedom, but I was ever of the opinion that the public good should precede personal rights and control individual action. That is why I deplore the waste of a year or more in the life of a student as so many lost opportunities, and as a dereliction of duty.

What is demanded of a medical department of a university is the furnishing of a supply of amply equipped medical men. This does not exclude, however, the other responsibility and privilege of a university, viz.: To furnish opportunities and means for independent research. I have forty years of professional life behind me, and can assure you that the best original workers of after years, in and out of laboratories, were those who most closely attended the prescribed laboratory exercises.

It should also be mentioned as a hopeful sign of the rapid development of American medicine, that more and more men, and also women, have gone into medicine with all the warmth of hearts enlightened by intellects, and not for the money that may be, but rarely is, in it: and that quite often well-to-do men are carried into and kept in the laboratories of medicine by the enthusiasm engendered by the fascination of scientific research. They invest their own in their pathologic, biologic, histologic or chemic labors, and, as good citizens of the Republic, are satisfied with the interest their investment will bear to the domain of science in the service of humanity. Medicine, like politics, will be the purer for the money put into it, instead of being taken out of it.

It is hardly forty years since any systematic poli-clinical instruction was given in the best of our schools. Now, together with obligatory laboratory work, clinical teaching bids fair to assume the leading part in our instruction. But we are far from having European facilities. For what governments do for you, we who have but very few endowed medical schools, have to rely on the efforts of the profession and the benevolence of those who appreciate the good that is done to mankind by medicine and the medical profession.

Until a few years ago all sorts of educational institutions were benefited by philanthropists to the exclusion of medicine. Some change has taken place in that. From 1894 to 1898 the most notable gifts and bequests amounted to $2,631,000 for medical schools, and $16,593,701 for hospitals. The new medical school of Cornell University, situated in New York, has been presented with $1,500,000 by a single benefactor. In the City of New York alone the names of Vanderbilt, Sloane, Carnegie, Ollendorfer, Wœrishoffer, Seth Low, Payne and Pierrepont Morgan are not the only ones that should be mentioned and never forgotten. This, however, is not all. Only two years ago an unknown benefactor presented Columbia University with a fund wherewith to establish a ward in Roosevelt Hospital for the bedside instruction in the diseases of children for the medical students.

Benevolence is even more special than this. Mrs. Caroline Brewer Croft left $100,000—which, however, is reduced by the English heirloom tax—to Harvard University, on the condition that the income thereof should be spent on researches on the etiology and cure of cancer; the same purpose for which the legislature of the State of New York has for some years past spent $10,000 annually, to be used by Roswell Park, of the University of Buffalo. Special hospitals are either endowed or benefited in a similar manner. The Cancer Hospital of New York was established, or strengthened, by money given by Mrs. Collum and Mrs. Astor many years ago. It has, however, changed its destination and name since.

In this way much good has been done, not always well directed, though well meant. It is peculiar to notice, however, to what extremes different elements in the same nation will go. The same medical profession which has to be grateful for spontaneous offerings made in the interest of a scientific education is compelled to fight annually before almost every state legislature, and before the Congress of the United States, the dangerous fanaticism displayed in the antivivisection movement by the old women of both sexes and all ages.

Who were the teachers? In by-gone times a few practitioners would combine to form a school; legislative approval could be had for the asking; they were our "professors." This position gave them prominence in the public and increased their private practice; that is why the salaries, if there were any connected with their places, were commensurate with their possibilities to make money outside. Now and then the anatomist got more because his office took more of his time. Thus it happened that medical teaching was considered subordinate to other occupations, even in good schools. There are but few men of those times who are remembered because they were teachers; my old friend Alonzo Clark, one of the most learned, intelligent and eloquent professors the College of Physicians and Surgeons ever had, was almost forgotten before he died, not twenty years ago, and Austin Flint is better remembered by his textbook than by his personal teaching. That has changed. Teaching has begun to be considered as an end in itself in medicine as it is in other disciplines, mainly since the introduction all over the world of the exact collateral branches of medicine, which each require all the time and all the attention of a teacher, and mainly since the foundation and gradual development of the medical faculty of Johns Hopkins University, in Baltimore.

The systematic study of pathological anatomy and other so-called exact branches of medicine, histology, bacteriology, etc., is comparatively young. After all, they are young all over the world. Fifty-two years ago, when in Germany, and wanting to learn something about pathological anatomy, I had to go to Göttingen to listen to Frerichs, the only man who taught it in Germany, with the exception of Virchow, in Würzburg, and Rokitansky, in Vienna. These studies began in America at a very opportune time. T. Mitchell Prudden and William H. Welch had each a small pathological laboratory in New York in connection with the medical schools to which they belonged more than twenty years ago, but the systematic study and teaching commenced with the first development of the ideal of a university. While formerly we had some good medical schools, that furnished good average doctors for the community, we then approached the era in which we arrived at the knowledge that a university was to be an institution which was not only to impart knowledge, but also to create knowledge by original research. This ideal was first realized by the Johns Hopkins University, at Baltimore, since William H. Welch was called to the chair of pathology. We then had the peculiar spectacle, characteristic for modern medicine, that the newly-established medical school, contrary to what was customary both in America and in Europe, consisted originally in laboratories of physiology and of pathology. From that time on, remarkable changes took place in the configuration of most of our medical schools. Pathological anatomy became of fundamental importance, full professorships of that branch were established in most great schools, and also dozens of laboratories both for teaching and for research. Besides, many of the hospitals were supplied with pathological and clinical laboratories which vie with those of Europe, assistantships and fellowships were increased, and the students were taught to appreciate the new opportunities given and demanded by modern medicine. As far as T. Mitchell Prudden, in New York, is concerned, the volumes of publications emanating from the beautiful laboratory of the College of Physicians and Surgeons prove his enthusiasm and successes; and never was there a more influential teacher than Welch, who in two brief decades succeeded in disseminating exact research all over the United States through his students and followers, who have been called, one by one, to Philadelphia, Chicago, Albany or Boston. Dozens of them combined to celebrate on May 4, 1900, the twenty-fifth anniversary of his graduation as doctor in medicine by a precious volume containing original contributions of the very highest order, an honor to the famous master and an ornament of medical literature. There are in our recent American literature two more dedicatory volumes of similar import, one containing anatomical papers contributed by his pupils in honor of Professor Wilder, of Cornell University, 1893; the other, mostly clinical, written both by pupils and by American and European colleagues in favor of a New York teacher. In the face of such results, and such enthusiasm, and such love of work, who is there that still looks down on American medicine and American medical men?

AMERICAN MEDICAL LITERATURE.

According to E. H. Bradford,[6] while the best physicians of the colonies and the young states acquired their knowledge in Great Britain, their books were English. No books grow on the stumps of the forest primeval. When the War of Independence began in 1774, there was one book, three reprints and twenty pamphlets by American medical men. To-day there are 7000 American books and a countless number of pamphlets; there appear annually 300 books and pamphlets and 5000 journal articles. In one year, 1879-1880, the United States published 10,334, and Great Britain, 7476, books and articles. In the catalogue of Harvard University of 1875-1876, 44 foreign and 13 American medical books were recommended to the students; amongst the latter there was none on medical chemistry, obstetrics and surgery; in the catalogue for 1898-1899 there are recommended 71 foreign and American books.

The first regular publication of a journal occurred in 1790. It carries the following title: *A Journal of the Practice of Medicine and Surgery and Pharmacy in the Military Hospitals of France,* and contains absolutely nothing but translations. For another half century France was, together with Great Britain, almost the exclusive fountain from which the thirst of American medical men was quenched. The first original journal was the *Medical Repository,* whch existed from 1797 to 1824. Not long afterward the first quarterly, then monthly, *American Journal of the Medical Sciences* was founded by Dr. Isaac Hays. These seventy years it has preserved its reputation for its scientific spirit, industry and conscientiousness. Much that was new, much that is new, may be found in its volumes.

Of the large number of quarterlies, or monthlies, I may be permitted to mention the *University Medical Monthly,* of Philadelphia; the *Albany Medical Journal,* of Albany; the *Postgraduate,* of New York, and the *Therapeutic Gazette,* of Philadelphia, not to speak of special journals, such as the *Annals of Surgery,* the *Archives of Pediatrics,* the *American Journal of Obstetrics and Diseases of Women and Children,* the *Archives of Ophthalmology and Otology,* the *Journal of Cutaneous and Genito-Urinary Diseases,* the *Journal of Mental and Nervous Diseases,* and many others, some of which are now and then quoted in Europe, and all of which deserve more attention than they have hitherto commanded.

There are in every nation some publications which in their individual spheres demonstrate the very best that can be accomplished, and by which the intellect and industry of a people should be measured. Such proofs of the achievements in medicine in America are contained in the *American Journal of Experimental Medicine,* edited by Welch, and the *American Journal of Physiology,* by Bowditch and others. They are the pride of those of us that have lived through the most important period of the development of American medicine, and equal any of the European productions of similar claims. I know they have met with the unstinted praise and applause of European masters.

As an unavoidable contrast to so much excellence one can not help noticing the hundreds of medical journals which appear all over the United States. Many are printed with honest intentions, others for the purpose of advertising their editors or of puffing proprietary articles. The growing commercialism of the end of the century grasps every opportunity, and medical, like every other branch of literature, is prostituted in the interest of social, professional or financial egotism. That is why the 300 medical, or alleged, medical, journals of the United States could well be reduced to fifty. If this were done, both medical knowledge and ethics, and the independence of medical journalism would be served to better advantage. Under the present circumstances the medical publications live more on advertisements than on subscribers, and both the publisher and the editor soothe their ethical and scientific conscience, if it ever existed, with the glitter of gold. I have been told mainly in the medical magazines both of France and of Germany, that the same occurs in your countries. I speak, however, of what I know, and I am best informed of what is going on in mine.

---

[6] Boston Medical and Surgical Journal, June 29, 1899.

Among the most important instructors of the medical profession in our country are the great weekly journals which appear mostly in the large cities: New York, Philadelphia, Boston and Chicago. Most of them have a large number of subscribers, and have existed long. *The Boston Medical and Surgical Journal* has reached its 142d, the *New York Medical Journal* its 71st, the *Medical News* its 76th, and the *New York Medical Record* its 57th volume. The Journal of the American Medical Association, which has appeared for eighteen years, takes the same place in relation to the American Medical Association that is occupied by the *British Medical Journal* in relation to the British Medical Association. It was founded to publish the proceedings of the association, which from 1848 till 1882 had published thirty-three volumes, and, by opening its many pages to contributions from other sources, has improved both in material and tone from year to year.

I must not close these remarks on the weekly journals of my country without mentioning the *Philadelphia Medical Journal,* which was founded by a society of medical men that wished it to be independent of the medical publishers both in its finances and in its scientific and ethical management. We in America are peculiarly situated; if you in other countries are no better off, it is your fault, as it is ours. There are very few journals in America that pay anything to the contributor, and when you want reprints you have to pay for them. The policy of a journal, the selection of the advertisements, sometimes even the admission of articles more or less scientific or quackish, is to a greater or lesser extent in the hands of the publisher. It takes an editor of unusual character and prudence either to hold his place or to be removed unceremoniously. But the publisher gets rich; that is what, in his opinion, medical science, art and quackery are made for. This condition of things was to be changed by the newly-established *Philadelphia Medical Journal.* It has succeeded to a certain extent. It furnishes a large weekly edition, with good, original articles, and well-selected and digested extracts of whatever is best in the medical literature of both hemispheres, with a more ethical class of advertisements than most other journals can boast of, with a fearless editor, and with a list of subscribers that has exceeded 10,000 within two years.

Contributions to the literature of medicine, not of equal rank, are furnished by the large societies, particularly of the states. Many of them publish annual reports. The American Medical Association published thirty-three volumes before its transactions were collected in its journal. The New York Academy of Medicine has furnished nineteen volumes since 1847, which are found in many libraries of Europe; the College of Physicians of Philadelphia, twenty-nine since 1787. The very best, certainly among the best, are the productions of fourteen special national associations, which were founded at a period in the life of the American Medical Association, when its results did not satisfy the expectations of those who had no time to spare for entertainments, excursions, medico-political wrangling and other pastimes. These men, most of them of a specialistic turn of mind, and bent upon filling their time with work, congregated into special associations, whose members were recruited from the vast territory of the United States. The oldest of these seceding associations is the "Ophthalmological," which was founded in 1864. The majority have a limited membership. The Association of American Physicians had originally 100, now 125; the Pediatric, 40, now 60 members. The object was to select the working members of the profession only. Thus it has happened that their contributions to literature are very valuable indeed.

The Ophthalmological Association has published until the beginning of this year 8 volumes since 1864; the "Otological," 6 since 1868; the "Neurological," 22 since 1875; the "Gynecological," 23 since 1879; the "Surgical," 16 since 1881; the "Climatological," 14 since 1884; the Association of American Physicians, 13 since 1886; the "Orthopedic," 11 since 1889; the "Pediatric," 10 since 1889, and the "Anatomical," 8 since 1888. The Genito-Urinary Association publishes its transactions in the *Journal of Cutaneous and Genito-Urinary Diseases,* and the "Physiological" in the *American Journal of Physiology.*

In addition to those there are five volumes of unusual excellence, containing the proceedings of the "American Congress of Physicians and Surgeons," whose history is creditable to Mastin, Pepper, Weir Mitchell and others, who founded it. It is as follows: When all of those fourteen special national associations had existed for a greater or less time, and when among the most comprehensive and philosophical minds of the nation the fear of unchecked specialism became more terrifying, it was resolved, amongst universal applause, that the "disjecta membra" should unite once every three years into a congress, whose meetings should be held in Washington, while the selection of the time and place of the two intervening annual meetings of the individual societies was left to their own discretion. In this way the union and unity of medicine was recognized and re-established—a very necessary step in our times, where the appreciation of the principles and purposes of humanitarian and scientific medicine are in danger of being lost sight of in the same degree that the horizons of the specialistic workers, in clinics, shops and laboratories become narrow.

Books are numerous, and of about the same nature as in Europe. Text-books for students on all possible subjects, and written by masters, or those who believe they are, some of them masterpieces, some indifferent, some catechisms, which, with their questions and answers, appear to be compounded by idiots for the use of idiots—*"que c'est un plaisir de se voir imprimé,"* says Molière—they all appear to find a market. It is perhaps invidious to select, but I may here say in a general way, that some of our text-books in medicine. obstetrics, materia medica, diagnosis, embryology and many other branches compare favorably with yours.

Of monographs we have not so many as you; probably for the reason that the number and the variety of our many weekly and monthly journals devour whatever monographic essays have been prepared. Cyclopedias we have like you. It is very fortunate that the publishers, who, as a rule, were the first to give the idea, had no power over their contents. Those edited by Pepper, Keating, Loomis and Thompson, Mann and Stedman deserve as high praise as those published in Europe. A pleasant feature in medical bookmaking is the occasional participation of the Congress of the United States. Indeed, almost every state of the Union publishes frequently, at the expense of the people, papers and books of common interest, mostly geological, geographical and agricultural. Medicine owes to the appropriations of the national Congress, not always given with equal liberality, six volumes of the Medical and Surgical History of the War, two Medical Statistics, seventeen of the Index Catalogue of the Surgeon-General's Library, with its continuations, and the Library itself. The *Index Medicus* was not a government publication; at first printed by an ambitious and enthusiastic publisher, it was afterward secured by a small number of the subscribers willing to pay a big price. Its final collapse after twenty years' strenuous labor on the part of Drs. Billings and Fletcher is not a creditable leaf in the book history of the profession of the United States.

There is, I believe, no country with a greater consumption of journals and books than the United States. There is probably no village doctor anywhere who has not a library, who does not buy books or cyclopedias from time to time, and take one or more journals. What Colonel Stoffel called thirty years ago the "instinct of labor" in the German Government Employer, is applicable in some other way, to the American medical student and practitioner. They waste no time, are industrious workers and voracious readers.

There is probably, however, no country with a book trade in a more wretched condition. In our city of three million inhabitants there is a single book-store in which a fair number of medical books in our own language of different authors and publishers are for inspection and sale. The latter sell their own books on subscription, by the aid of circulars and advertisements, and by agents, who vie with those of wholesale drug manufacturers in making doctors' lives miserable—it is individualism run mad. I see no better remedy than a syndicate of medical men for the purpose of publication and promiscuous sale.

Medical libraries were founded at an early date. The oldest—founded in 1762—is that of the Pennsylvania Hospital, in Philadelphia. The library of the New York Hospital was founded in 1776 and transferred to the New York Academy of Medicine two years ago; it then had 23,000 numbers. That of the College of Physicians, in Philadelphia, established in 1788, has about 56,000 numbers; that of Boston about 30,000. The largest medical library of our, perhaps of any, country, is that at Washington, in charge of the Surgeon-General of the Army; it contains more than 100,000 numbers, well selected, in excellent order and accessible to the medical men of the vast country, who, I know, avail themselves eagerly of the proffered opportunities. It was founded by William A. Hammond during our Civil War, continued and extended by John S. Billings, and is at present in charge of Dr. Huntington. Next in order is that of the New York Academy of Medicine, with about 60,000—or, with duplicates included, 80,000—numbers. It increases rapidly, partly through purchases out of the income of its library fund of $56,000, partly through donations, and partly through the accumulation of 700 medical journals on the shelves of its reading-rooms. Our brethren of the Kings County Medical Society, in Brooklyn, have just finished a new building, in which their rising library has been stored. Smaller medical libraries have been established in at least thirty cities, as far as I know. Large libraries are also in possession of private physicians. A year ago Dr. N. Senn, of Chicago, presented his collection of more than 24,000 books to the Newberry Library, of that city. I am acquainted with one in the possession of a New York physician of about 15,000 numbers.

ETHICS.

The ethical conscience of the physicians of the United States is exhibited in a great many ways. It is considered unethical for a doctor to own a drug store or a part of it; to take a patent on any invention of his own; to recommend over his name a patented instrument, a proprietary food or medicine or mineral water. This is illustrated by what happened to the famous Morton after his successful demonstration of the anesthetic effect of ether in the Massachusetts Hospital. After having extracted a tooth on September 30, 1846, without giving the patient any pain, he applied immediately for patent rights and sold individual office rights. Moreover, he kept his composition, which he called "letheon," a secret. It was then that the profession turned against him and forced him to admit that his "letheon" was sulphuric ether disguised by some aromatic oil. A medical man in America is prohibited ever to advertise his name, or office hours, or his specialty in a newspaper or lay magazine; even to announce his specialty, if any he have, on his cards. If ever his name, his departure from the country or his return is publicly announced, the suspicion is that he instigated the publication. If cases or operations of the same physician appear repeatedly in the public press, it is taken for granted that it did not occur without his knowledge, consent or prompting. All of these things impair a medical man's professional standing; they render him an improper candidate if he applies for membership in a medical society, or make him, if he be a member, the subject of discipline. In regard to all this, part of which may appear too rigorous in the eyes of Europeans, I beg to submit that, as in all democracies, laws and rules are not enjoined by a controlling government, so in their societies and organizations democratic medical men make their own rules and regulations, and see to it that they are obeyed. It is true that it takes democratic men, and gentlemen, to frame such strict rules, and to heed them.

Many of the rules accepted by American medical gentlemen are contained in a book compiled by an Englishman, Percival, in 1807. It was received as the code of ethics of the American Medical Association in 1847 and is still obeyed by those who know the book, or who do not know it, or even by those who never knew of its existence. One of the regulations of the code forbids consultations with homeopaths.

(To be continued.)

Dogs of War.—Scotch collies are trained for ambulance and bearer work in the German army. Their saddle bears a red cross, a flask and first-aid dressings. It is claimed that these red-cross canines will scent wounded men who under ordinary circumstances might be overlooked by litter-bearers and left on the battlefield to die.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, AUGUST 18, 1900.

EXPERIMENTATION ON THE CORD AFTER DECAPITATION.

Opportunity for investigation along this line is scarce. In the experiments made during operations on the skull or spinal column, the results are necessarily clouded by the action of the anesthetic, and still more by the tumor, or compression of the organ for which the operation has been undertaken. In healthy normal conditions experimentation can be made only during the few moments which immediately succeed the severing of the head from the body. Permission for such investigation is almost always withheld by the authorities, and public clamor would certainly be directed against investigation. In spite of this, however, Prof. A. Hoche[1] describes two such experiments made by himself upon decapitated criminals—in the one case three minutes, and in the other two minutes, following decapitation.

The effect of stimuli applied to the fast-cooling body becomes rapidly less as the hemorrhage robs the parts of their blood. The brain loses its power of responding to stimuli almost instantaneously, while the muscles and nerves still react to the electric current. The spinal cord is not influenced quite so rapidly as the brain by the loss of blood, and, therefore, if experiments are made during the first few minutes, results may be obtained. The experiments are undertaken chiefly with a view to determine the physiologic question, whether the substance of the cord itself reacts to stimuli. The question has so often been answered in the negative, because the bodies were experimented upon as long as one-half hour after death, when the anemia and temperature had rendered the cord insensible to stimuli. The investigator also endeavored to ascertain the portion of the cord first affected by the stimulus, whether in the motor columns, the motor nerve-roots, or the centripetal fibers. Hoche performed his work at the site of the decapitation, not desiring to wait, as previously had been done, for the body to be carried to some convenient laboratory.

The electrodes employed in the first case were two metallic points, each 1 mm. in diameter. These were placed, without any pressure, upon the freshly exposed surface of the cord, and a fairly strong induced current was passed. The corpse immediately became animated, the arms were flexed, the hands clenched, the legs stretched out in tonic spasms, while the chest-muscles expanded the thorax as in inspiration. It mattered not at what part of the cut surface of the cord the electrodes were placed. The results were always the same during the first few moments and were always symmetrical. Twelve minutes after decapitation, the result of the same stimulation was entirely different. All the muscles remained perfectly motionless, with the exception of the neck-group, which also became gradually weaker and weaker. The peripheral nerves directly under the skin responded for seventy-five minutes to the current.

In the second case, the work was undertaken two minutes after the head was severed from the body. The electrodes were placed on a common handle about 1 mm. apart. The current was so weak that only the slightest effect could be felt. The electrodes were now placed on the left lateral column of the cord and were sunk into the substance about .5 mm. Contractions in both arms, somewhat stronger on the right side, immediately took place; and faint reactions in the intercostals and abdominal group were also seen. The legs remained motionless. It must be remembered that the stimulation was at the level of the fourth or fifth cervical vertebra. The result remained the same, whether the electrodes were placed on the right or left side, anteriorly or posteriorly, in the white columns or in the gray matter. Nine minutes after the death the reaction slowly lessened, and at sixteen minutes it was entirely gone. The peripheral nerves, however, remained active to the current for a much longer time.

If we compare the results obtained in these two cases we see certain resemblances between them—the most noticeable being the rapid and successive decrease in the sensitiveness of the nervous elements. The substance of the spinal cord remains sensitive to stimuli for twelve to sixteen minutes, the nerve-roots somewhat longer, while the peripheral nerves respond for a considerable time longer than either. These facts accord with the theory of Hitzig, that, beginning with the cerebrum, the sensitiveness of the component parts of the nervous system diminishes toward the periphery—that of the brain ceasing in the moment of death, and that of the peripheral nerves from one to two hours thereafter. Pathologically, those parts retained their activity longest which had their various filaments most thoroughly insulated. Furthermore, both cases agreed, inasmuch as no desired group of muscles could be influenced by choosing a special site of the divided cord for stimulation. It may also be easily deduced that the cause of the various muscular contractions was not due to direct stimulation of the motor pyramidal tracts, for, if that were the case, the leg-muscles would have moved in the second case as well as in the first. Therefore, it must be that the motor tracts lose their power to respond to direct stimulation immediately after death. The only supposition remaining which is at all tenable is that we have to do with a result which is chiefly reflex in character; the greater the current the larger the area over which the contractions occur. Exactly how the effect is produced, however, must be the aim of further experimentation in this field.

---

[1] Berliner Klin. Woch., May 26, 1900.

SYPHILITIC AORTITIS AND ANEURYSM.

The relations of syphilis to the origin of aneurysms have not been definitely determined. The question is most complex. The pathogenesis of arteriosclerosis in general has to be considered, and our understanding of this subject is as yet principally based on theoretic considerations. We would naturally look to anatomic and histologic investigation for proof positive of the etiologic connection between aneurysm and syphilitic aortic lesions. But in the majority of cases arteriosclerosis and arteriosclerotic aneurysms in the syphilitic do not differ macroscopically and microscopically from the same processes in the non-syphilitic. Perhaps certain instances brought forward by Heller, who champions the existence of a pure, syphilitic aortitis that may give rise to aneurysms, constitute an exception to this statement. At the last meeting of the German Pathological Society in Munich, Heller again emphasized the importance of syphilitic aortitis in the etiology of aneurysms.[1] His strongest support is a case, examined in 1884 and described by Döhle,[2] of a pronounced syphilitic, 25 years of age, in whose aorta there were peculiar, circumscribed depressions—beginning aneurysms—in which the aortic wall was greatly thinned and wrinkled. The changes of ordinary arteriosclerosis were absent. There were foci of round cells about the vasa vasorum of these areas, with destruction of the elastic and muscular elements of the media, which in some places was replaced by scar tissue. These changes he regards as the result of a primary syphilitic aortitis. In other and similar cases he claims to have found miliary gummas with giant cells. When the changes are far advanced the aorta may also be greatly thickened, uneven, wrinkled from scars. Malmsten[3] and others have described similar lesions—"sclero-gummous aortitis"—and claimed that they may lead to aneurysms.

At the same meeting Straub[4] reviews his observations on the changes in the aorta in general paralysis. In 82 per cent. of eighty-four cases of general paralysis the aorta presented the changes claimed by Heller and others to be the result of syphilitic aortitis: a chronic proliferative aortitis, limited to the thoracic and the upper part of the abdominal aorta, characterized by a wrinkled, nodular thickening of the intima, radiating cicatricial depressions, and a tendency to obliteration of the openings of the branches; and microscopically by perivascular round-cell infiltration of the media, in some cases with numerous giant cells and gummatous formations. In a few of the cases were aneurysms with peculiar, sharply punched-out orifices. Of seventy-one non-paralytics examined during the same period changes in the aorta like these were observed but seven times, the seven instances all occurring, however, in syphilitics. As corroborative of the syphilitic character of this aortitis Straub cites, among other facts, the almost constant presence in the cerebral arteries of the changes first described by Heubner as syphilitic.

In the discussion Pontick, Ziegler and Orth are inclined to doubt the constant syphilitic nature of the aortitis described by Heller and by Straub because they had met with lesions of similar appearance in persons presumably free from syphilis. Pontick, however, regards the changes in question as different from those of ordinary arteriosclerosis; he favors alcoholism as the cause, but brings no evidence in favor of this view. Chiari is somewhat skeptical as to the mesarteritis being the primary. Baumgarten has not seen the so-called gummous aortitis, and emphasizes the fact that the anatomic picture of syphilitic arteritis may be produced by other factors than syphilis. Hansemann, Beneke, and Babes believe that aneurysms may develop on the basis of syphilitic lesions, Beneke attributing a certain, ill-defined cellular weakness to the action of the syphilitic virus in consequence of which an artery so affected, e. g., the aorta, yields at the point of greatest mechanical pressure. Ziegler and also Babes believe that ordinary microbes, such as streptococci and staphylococci, may produce aortic lesions like those attributed to syphilis.

Taking it all in all, there is a great deal in favor of the existence of a peculiar syphilitic aortitis and consecutive aneurysmal formation, although much of the evidence is somewhat circumstantial in its nature. Perhaps we are not far away from the truth in regard to the rôle of syphilis in the production of certain aneurysms if we say "guilty but not proven."

THE UTILITY OF ALCOHOL AS A DISINFECTANT.

It has been much a matter of discussion whether alcohol is a bactericidal agent, and if it be, in what way it exerts its activity. When alcohol was first proposed for disinfection of the hands it was thought to be effective by acting as a solvent of fat, and thus preparing the way for the necessary intimate contact between the antiseptic solution and the epidermis. Later, bactericidal activity was ascribed to alcohol, and this was thought to depend principally on its dehydrating property. There are some observers, however, who believe that alcohol possesses doubtful, if any, antiseptic qualities. For the purpose of reaching an independent conclusion on this subject, Salzwedel and Eisner[1] undertook an experimental investigation, as a result of which it was found that a number of alcoholic solutions examined exhibited varying degrees of disinfectant activity, as compared with other well-known antiseptics, such as mercuric chlorid, carbolic acid, lysol, sapokresol. Silk threads, with dried bacteria, were employed as test-objects, the conditions encountered in actual practice being duplicated as nearly as possible.

---

[1] Verh. d. deut. path. Gesellschaft, 1900, iii, 346-351.

[2] Dissert., Kiel, 1885.

[3] Cited by Heller, loc. cit.

[4] Verh. d. deut. path. Gesellshaft, 1900, ii, 351-363.

[1] Berlin. Klin. Woch., 1900, No. 23, p. 496.

It was shown that alcohol is with most certainty destructive to staphylococci contained in pus dried on threads, when employed in aqueous solution with a specific gravity of .902 at a temperature of 19 C., that is, about 55 per cent. (by weight) spirit. The disinfectant activity of this solution was not quite equal to that of one to one thousand mercuric-chlorid solution, but, on the other hand, it was not less efficient than 3 per cent. solution of carbolic acid. Lysol and sapokresol in 1 per cent. solution, as well as lysoform up to 4 per cent. solution, were always less active than mercuric chlorid, alcohol, and carbolic acid. It was found that alkalinized spirit is more effective than ordinary alcohol in its action on dry threads, while the addition of mercuric chlorid or carbolic acid had no distinct effect in increasing the disinfectant activity. A generous coating of fat on the threads seemed to favor, while a thin layer rather retarded, the action of the disinfectant. The application of gentle heat—30 C. or below—was thought to facilitate the disinfectant power. The time required for the manifestation of this effect varied with the period of desiccation to which the threads were exposed, the bacteria in fresh pus, for instance, being destroyed by mercuric chlorid, alcohol and carbolic acid in five or six, or even in three, minutes, while if the threads were exposed after an interval of weeks or months, disinfection was, as a rule, not accomplished in less than from eighteen to twenty-four minutes. The results were equally bad when the threads were prepared from pus that had itself stood for a long time. These effects are attributed to inspissation of the medium containing the bacteria, retarding access of the disinfecting agents. Similar results were obtained with bouillon preparations made in the same way. Bacteria dried upon threads and placed for a long time in pure alcohol, and in some instances kept besides in the thermostat or the autoclave, retained their power of multiplication; but bacteria in a moist state, on the other hand, were destroyed in a short time by absolute, cold alcohol. This difference in effect is attributed to the desiccating and coagulating action of alcohol.

It appeared that the spirit capable of penetrating the bacteria with destructive effect should contain from 50 to 55 per cent. of alcohol by weight, although weaker solutions are not without a deleterious influence on the bacteria. The development of staphylococci was inhibited by the addition of 70 per cent. of alcohol by volume to the nutritive medium, the phenomenon being analogous to the process of alcoholic fermentation, where the yeast is destroyed when the percentage of alcohol reaches a definite figure. It was found that the addition of an acid, such as boric, acetic, or hydrochloric, to the alcoholic solution augmented its disinfectant activity, but it was then discovered that the reaction of the threads was neutral or alkaline.

From the experiments outlined it is concluded that in addition to its desiccating action, alcohol exerts an especial toxic influence on bacteria. Although this toxic effect is much less than that of mercuric chlorid and carbolic acid, properly applied, it is, with regard to its disinfectant power, comparable with the latter two, occupying an intermediate position between them.

THE TREATMENT OF TYPHOID FEVER.

From the time, in the early part of the present century, when typhoid fever was first discriminated from a number of other diseases presenting in common with it typhoid symptoms, constant additions have been made to our knowledge of this, one of the best-studied of the infectious diseases. Not much, it is true, has been added to the original description of the anatomic lesions or of the clinical features, but, among other things, it has been made clear that the disease can not arise spontaneously, always requiring for its development the presence of the typhoid bacillus; that it may be unattended with pyrexia, and also with intestinal lesions; and, lastly, we have had developed the serum-reaction, by means of which the diagnosis can be confirmed with almost absolute certainty in the vast majority of cases. It is, therefore, perhaps not unreasonable to hope that we shall eventually come into possession of a specific therapeutic remedy. Recognition of the fact that the disease is largely spread through the agency of water contaminated by typhoid bacilli has also provided the physician with a powerful prophylactic weapon, with whose aid the morbidity has been greatly diminished, while the practice of systematic cold bathing has done much to lower the mortality.

In a discussion of the treatment, Rump,[1] in a recent communication on the subject of typhoid fever, after referring to the absence of any specific remedy, points out that not much is to be expected from intestinal antiseptics. Copious evacuation of the intestinal tract at the beginning of the disease by means of calomel may be secured. In the general management everything should be done that will contribute to a favorable course of the disease, and all injurious influences should be avoided. An airy, well-ventilated room should be provided, with suitable bed-covering, careful cleansing of the skin and the accessible mucous membrane, food appropriate to the state of the intestine, adequate administration of fluid, control of injurious temperature, and careful treatment of complications. Great proteid destruction, in consequence of the fever and possibly also of the action of toxic substances, should, so far as possible, be compensated for by food, especially fats and carbohydrates. The diet should consist of milk—cream—oatmeal soup with or without milk, rice soup, sago soup with or without beef-juice or soluble proteids. Eggs are often well borne in soup or in cognac. After the first afebrile week, zwiebach, eggs, scraped meat and roast fowl may successively be permitted. In case of relapse a liquid diet should be resumed. Sufficient liquid should be administered—from two to three quarts a day. The fever may require treatment with cold water, which exerts a favorable influence also on the circulatory and the nervous system and the functions of the kidneys.

---

[1] Berliner Klin. Woch., 1900, Nos. 23 and 24.

LEGALIZING CLAIRVOYANTS.

It is said that there are between eight and ten thousand clairvoyants in Chicago. Whether this is true or not we are not prepared to say, but judging from the number who advertise in the papers and from the number of signs scattered over the city it is quite probable that the number is not overstated. Some of the leaders among them have presented an ordinance to the city council providing that clairvoyants shall hereafter pay a license fee of $800 a year. This is for the purpose of regulating things so that there shall not be as much "promiscuousness" as now seems to prevail; in other words, they desire to limit the number. What a joke it would be if the city council of the great and enlightened city of Chicago should pass this measure and thus legalize this modernized ancient method of swindling! And stranger things have happened in city councils.

A DIPLOMA-MILL ALL RIGHT IN TEXAS.

At last there is an opening for those individuals who bought diplomas from the so-called Independent Medical College of Chicago and from similar institutions. The diploma-mill parchment is just as good as anything else in the great State of Texas, and we may now expect to see these ready-made doctors rush thither. In our Medicolegal Department this week will be found a decision rendered by the Court of Appeals of Texas, which, divested of its legal verbiage, means that when an institution has been chartered by authority of the laws of a State and its charter gives it the right to give out diplomas, Texas recognizes such as genuine, and the holder can practice medicine in that State without infringing on the laws. Accordingly it makes no difference whether a man has studied medicine, whether he has attended a medical college, or, in fact, whether he knows the first principles of medicine or not, if he can show a parchment from a chartered medical college he is all right in Texas.

INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.

The recent International Congress of the Medical Press appears to have been largely given up to discussion of technical and quasi-legal subjects, such as copyright, the author's property in his ideas and the form of their expression, the classification of medical subjects, exchanges, the ethics of advertisements, etc., the use of *noms de plume* by medical writers, etc. Though the program was rather a full one, it happened that some of the promised papers defaulted, or at least were passed or crowded out. The question of advertising puffs appearing as contributed articles was discussed among other matters, and it appears that they suffer abroad from this evil as much as here. The disclaimer, of one or two of the German delegates, of its existing in Germany was undoubtedly honestly made, but our Teutonic brethren suffer at least in one way, their articles are freely used as advertising puffs of German products in this country, and their countrymen engaged in manufactures are especially active in this direction. Another bad practice noticed by the Congress that seems more common abroad than here, is the use of pseudonyms with the prefix "Doctor" attached, and this was condemned by resolution. On the whole the results of the Congress seem to us somewhat disappointing, as there was very much that might have been brought before it that was not. The proposition of an international medical press association to cultivate fraternal relations to represent the common interests and to formulate regulations seems to be a promising one, though there may be difficulties in the way. It is to be regretted that no Americans took part in the discussions, as we think they might have added to their interest.

AGAIN THE QUESTION OF CANCER.

Czerny[1] considers the etiology of malignant tumors in general for the special purpose of pointing out prominently some of the reasons which favor the parasitic theory. In addition to a predisposition, there must be some active and exciting cause of malignant tumors. It is emphasized that cutaneous carcinomas occur almost exclusively in the face and hands and that the covered parts of the skin are nearly always immune; in the digestive tract localization occurs especially in recesses of various kinds, in scars and ulcers; the well-known frequency of carcinoma in the vicinity of orifices may find its reason in the mechanical lesions, the eczemas, fissures, and scars, as well as the uncleanliness of these regions; the genitalia, both male and female, furnish numerous conditions, which may be regarded as of predisposing moment. Czerny lays stress on pedantic cleanliness, especially of some regions, as a probable preventive measure against carcinoma. As regards sarcoma, it is recalled that many forms of this tumor resemble much inflammatory new formations and that a tumor of such varying nature probably does not depend on a single agent, but on several different causes. So far, it can not be said that transplantation experiments lend much support to the parasitic theory of malignant tumors. Undoubted cancerous diseases may undergo a spontaneous retrogression—a fact which should stimulate the search for a specific treatment. Czerny's general conclusion is that such facts as those referred to above speak in favor of cancers being caused by external agencies and that the parasitic theory, though resting on a slender basis, has just as much justification as the other hypothesis and carries with it greater hope for prophylactic and therapeutic measures.

ALLEGED ARMY MEDICAL ABUSE.

A lady, Miss Margaret Astor Chanler, whose name suggests an amateur in philanthropy, according to the press reports, has sent to the War Department a severe criticism of the Army Medical Service in the Philippines, charging that there is a lack of surgeons, a lack of nurses, of medical supplies, etc., and asking that she be allowed at once 500 bed sheets for distribution. Copies of her complaint have been sent also to various persons of social prominence and thus a foundation for a sensational investigation is laid. The Surgeon-General of the Army, to whom the communication was referred by the Secretary of War, has, it is said, prepared a complete refutation both of the medical service in general and of the specific charges in particular. The original communications of Miss Chanler and Dr. Sternberg's reply have not been given to the public *in extenso,* but the correspondence is said to be spirited. We would be sorry to believe that there are any serious abuses in the army medical arrangements in the far East, but we can easily imagine that one going predisposed to find fault might find a pretext. In the matter of sheets, which seems to be one of the special points of criticism, there might readily be an apparent defectiveness and yet no very serious hardship to anyone, certainly not to a seasoned soldier convalescent. As the charges were made, it is said, only two days after the lady's arrival at Manila, it might possibly be inferred that they are not based on any very wide observation or well-considered experience. In any case, we believe that the medical department will make a good showing in reply to them and we trust that they are only the undigested impressions of a dilettante amateur nurse, too ready to make charges on insufficient evidence. So far as learned, the critic does not specify real abuse other than possibly a deficiency of medical and nursing attendance, which might easily be temporarily unavoidable under special conditions.

---

[1] Beiträge zur Klin. Chir., 1899, xxv, 213.

CLUB AND LODGE PRACTICE.

In our abstracts of foreign literature in this issue is noticed a paper by a leading Belgian physician, Dr. Cuylits, which was one of the features of the recent Congress of Professional Medicine. In it he lays down a plan to harmonize the interests of the medical profession and certain tendencies of modern life that is at least worthy of consideration. The present is an age of combinations of every kind, all self-interested and liable to be in conflict with other interests. Among these organizations are those created for the sole purpose of preying upon the medical profession, to secure its services at the least possible remuneration. The idea of justice to the doctors never enters into the consideration of these "benevolent" societies; they are not even intelligently selfish, for they do not recognize the fact that a product can not be continuously furnished at too cheap a rate without the quality of suffering in the long run. This evil of club or lodge practice has not yet been fully felt in this country, but it is upon us and has a fertile soil on which to grow. If one-half of the population of Belgium are thus receiving medical care gratuitously, or very nearly so, what are not the possibilities in a country like this, where the medical competition is so much greater and where the profession is in such a disorganized condition? The remedy proposed by Dr. Cuylits—a minimum medical tariff allowed by the profession to members of the benefit societies that admit none capable of paying more, the individual physician's liberty of declining such practice moreover being unrestricted—is worth considering in regions where club practice has already a standing, as in Belgium and Great Britain. In this country, however, it will be better to discourage its beginnings rather than to compromise with it. There is nothing unethical in physicians organizing for their own protection against such attempts to exploit them to their disadvantage, and it is suicidal not to do it where the danger threatens.

GLYCOSACHTHEMIA.

Glycosachthemia is the name proposed by Prichard and Colbeck[1] for the condition of the system due to overloading with carbohydrates and their resultant defective metabolism. We have long assumed that the gouty or lithemic state is due to defective metabolism of nitrogenous substances, but, hitherto, as they remark, the symptoms associated with defective metabolism of nitrogenous bodies have received no distinctive name, except in the extreme cases of glycosuria and diabetes. They think it unnatural, however, that an organism phylogenetically, and actually to a large extent, carnivorous, should be subject only to the evil effects of such diet and not to effects of the excess in other directions certainly not less foreign to its nature. The authors trace up the carbohydrates in the system and take up a single group of the neutralized cleavage products that result, the lactates, as an example, and follow out the pathologic processes that are likely to ensue if the eliminative organs are too severely taxed or any of them are disabled in their normal functions. The symptoms they thus deduce are practically those of rickets in the infant, of rheumatism in the youth and the adult, and diabetes in advanced life. They claim that clinical evidence favors their theory, that it is usually easy to prove a previous excess of carbohydrate food in rickets and of similar indulgence in rheumatism and diabetes. Further support is claimed from the therapeutics of these disorders as the effective measures are those that would be rationally prescribed for carbohydrate saturation. The observations which they have themselves been able to make are clearly in its favor, though they have not yet been able to accumulate sufficient clinical facts to carry much weight. In conclusion, they remark that while they have endeavored to clearly distinguish between lithemia and the condition here described, they have not attempted to indicate the effects of the possible reactions and interactions of their respective metabolites, which must occur in diseased conditions. Their article is a suggestive one, and while the chemistry of the complicated animal laboratory is often vague and speculative and lends itself readily to theory, it appears possible that the ideas here offered may be fruitful. Whether glycosachthemia will take rank with lithemia as a morbid entity and be as prolific of medical literature is doubtful, although it is a question for the future to decide.

Medical News.

THE BRITISH MEDICAL ASSOCIATION will meet next year at Cheltenham, under the presidency of Dr. G. B. Ferguson of that city.

THE AGENT at the Devil's Lake Indian Reservation in North Dakota has telegraphed the Department of the Interior that smallpox has broken out among the Indians and that there are now twenty-four cases on the reservation.

THE BOARD OF CONTROL of the National Red Cross Association, at a meeting in Washington, August 11, discussed the attitude of the Association in case of a declaration of war between China and the allied powers.

---

[1] The Lancet, July 28.

It is probable in this contingency that the association will co-operate with the Red Cross Association of Japan.

Medical men in the employ of the Russian government were forbidden to attend the Polish Congress of Physicians and Naturalists, soon to meet at Waraw. In reply to a protest from the committee of organization of the congress, the war department explained that military medical officers must remain at their posts owing to the pending military operations, and can not be spared to attend any congress at present.

The centenary festival of the Royal College of Surgeons, of England, was celebrated in London July 25 to 27 under the presidency of Sir William MacCormac. Honorary fellowship was conferred on thirty-four eminent surgeons of Europe and America. The honor was acknowledged, on behalf of themselves and their respective national colleagues, by Professors von Bergmann, Durante, W. W. Keen, Lannelongue and Pachoutine. Professor Keen, among other well-selected and pointed remarks, said: "We come to you as representatives of four of our great institutions of learning—from Harvard, hoary with the snows of nearly three centuries, to Johns Hopkins in the lusty youth of less than three decades. As President of the College of Physicians of Philadelphia, I represent also the oldest institution in America at all similar to your own, a corporation which includes surgeons as well as physicians, and which was already in its teens when the Royal College of Surgeons was founded. On behalf of these and all our medical institutions we bring you our heartiest greetings on this festal occasion in the name of sound learning and accurate scholarship. . . . To show you how swift has been our progress and yet how young we are, I need but recall the fact that this college was nearly forty years old before the name of Chicago, now a city of nearly two million people, ever appeared upon the map; and when you were founded, beyond the fringe of civilization on the Atlantic coast the only inhabitants of the vast region from the Alleghanies to the Golden Gate were the buffalo, the bear, and the savage Indian. But though so young, we come not empty-handed. Three great medical advances mark the past hundred years—vaccination, anesthesia and antisepsis. The first and third of these are yours, but the second—anesthesia—is the gift, better than Magian gold and frankincense and myrrh, which to-day America lays on the altar of science. Before that historic date, Oct. 16, 1846, the poor victims of the knife were bound hand and foot and held in the grasp of sturdy men, but hand and cord could not repress the fearful outcries which filled the air. But at Warren's touch the thongs fell off; he spoke, and the stormy billows of this Gennesaret of pain were stilled; the peaceful blessed sleep of ether hushed every cry of pain. Then first was moden surgery made possible, and what was made possible by our Warren was made safe and successful by your Lister—no, not your Lister, but our Lister, for his name belongs to no age and no country, but to humanity. It is therefore with a special fitness that to-day you have conferred your Honorary Fellowship upon the distinguished grandson of him who first demonstrated the blessings of ether to the suffering world."

Leper Colony in the Philippines.—General McArthur has convened a board, consisting of Major Louis M. Maus, surgeon, U. S. A.; Capt. George P. Ahern, Ninth Infantry, and Capt. W. E. Horton, assistant quarmaster, to select an island in the Philippine archipelago for the segregation of lepers, to prepare plans and estimates for suitable buildings thereon and estimates of salaries for the necessary officials and employees. The board is also charged with fixing the ration and other allowances for the support of such leper colony. This action was taken in view of the large number of people in the Philippines afflicted with leprosy, who are reported as a menace to public health.

PENNSYLVANIA.

Two Pittsburg physicians, Drs. R. M. Sands and R. C. Clark, are making a European tour by way of the Azores.

During the past week the number of children sent to the country by the Children's Country Week Association was about 400. They were taken to the different suburban towns.

Henry Hoffman, who is said to have been the oldest resident in Pennsylvania, died at his home in Hazleton on August 8, aged 105 years. He was a woodchopper by occupation.

From August 7 till August 11 the heat which prevailed all over Pennsylvania was most oppressive. In Pittsburg on August 9, 5 deaths resulted from this cause and on the 11th two heat prostrations occurred. The government thermometer registered 98 F. on that day, the highest on record. Other deaths occurred in Reading and Linfield.

The 10,500 soldiers now in camp at Mt. Gretna were threatened a few days ago with a water famine, caused by vandals, who cut the pipes and twisted the spigots, permitting the water to run to waste. Owing to the intense heat which prevailed there, some of the drills were abandoned. On August 7, 200 prostrations were reported. No deaths have so far occurred.

The constitutionality of the Act of Assembly of this State regarding the sale of oleomargarin has been questioned and the Supreme Court of the United States will be called upon to decide the question. This action has been taken by counsel representing a number of offenders against this law, and who have been recently tried and convicted in Philadelphia. The special clause in this act which has been questioned is that which prohibits "the sale of oleomargarin if it contains any coloring matter, and is not free from ingredients which make it look like butter." This clause, it is claimed, is in conflict with the Constitution of the United States.

Philadelphia.

Dr. L. Webster Fox will spend the summer in the woods of Maine.

Dr. Wendell Reber is spending a few weeks at Grand Pré, Nova Scotia.

Messrs. Drexel and Company announce that the total amount of money received by their firm up to August 7 for the Indian Famine Fund is $4,098.16.

During the year the Ayer Clinical Laboratory has been opened and in charge of Dr. Henry W. Cattell, assisted by a corps of workers. The electric plant which has supplanted gas has proved cheaper and more satisfactory.

The report of the Pennsylvania Hospital shows that during the last twelve months 35,195 patients have been treated in the institution; that its income was $754,464.69, and its expenses about $100,000 less.

The number of deaths occurring in this city during the week ending August 11 was 452, an increase of 13 over the previous week, and an increase of 7 over the corresponding period of last year. The principal causes of death were: Apoplexy, 12; cancer, 20; cholera infantum, 47; tuberculosis, 56; suicide, 4; diphtheria, 46 cases, 7 deaths; scarlet fever, 29 cases, 2 deaths.

Members of the Building Committee of the City Hall of Philadelphia are making an estimate of what it would cost to install an ice-water supply from a central source to extend to all the different rooms of that building. The proposed plant is estimated to cool 50,000 gallons of water a day and is expected to cost $45,728.50, exclusive of labor. According to this plan there would be four-inch pipes to carry the water to the seventh floor and one-inch pipes to distribute the water to the different rooms.

During the past week there appears to have been a mild epidemic of catarrhal conjunctivitis or, according to the papers, "pink eye." The disease is attributed primarily to the hot weather and draughts and dust encountered on the trolley cars, which produce cold. The dust is supposed to act as the exciting cause of the conjunctivitis.

The Sanitarium Association reports that during the 44 working days there have been 115,652 persons seeking admission. This is an average of 2628 per day. The adults numbered 15,891; infants, 13,128, and children over 2 years, 86,633. Of bathers there were 14,654 boys, 16,446 girls, and 2466 infants; 61 mothers and infants were admitted to the hospital.

Two ambulance collisions occurred in one day during the past week. The first was that of the St. Joseph's Hospital and was caused by the horses plunging into an excavation in a street crossing and throwing the resident physician, Dr. Butler, to the ground, slightly injuring him. The ambulance was badly damaged. On the same day, while the ambulance of the Germantown Hospital was returning home with a patient, a trolley car filled with children plunged into the ambulance, throwing the horses, which afterward attempted to run away, but were caught by a patrolman.

The 149th annual report of the Pennsylvania Hospital has been issued and is as follows: New patients received in the wards, 4,079; total number treated in the wards, 4,345; patients remaining May, 1900, 274. Patients admitted to receiving ward, 19,174. Number of cases treated in dispensary: surgical, 9,893; medical, 2,466; eye and ear, 2,092; nose and throat, 918; gynecological, 329; mental and nervous, 49; orthopedic, 8; total, 15,755. Total number treated in receiving wards and dispensaries, 35,195. The ambulances have made 1,401 calls during the year. During the past year there were 435 more admitted to the wards of the house and 3,412 more treated in the receiving wards than last year.

ILLINOIS.

Dr. Adams, of Ann Arbor, will succeed Dr. Guy W. O. Mitchenor in his practice in Kansas, Edgar County.

The City Chemist has analyzed the drinking water used at the Midlothian Club, and has found the main supply to be of good quality, and consequently not the cause of the recent cases of alleged typhoid fever.

Dr. John G. Byrne, who served with the Second Illinois Infantry, U.S.V., in the Spanish-American war, and afterward became an acting assistant-surgeon in the army, is reported to have received a wound in the arm at Sinaloan, Luzon, P. I., on July 26.

COUNTY ORGANIZATION.

The spirit of organization is evidently prevailing in this State. Seven new county societies have been established during the last nine months, and as many more it is expected will be organized soon. The officers of the state society are anxious to have an active society in every county in the state.

THE REGENT CASE.

Dr. Michael N. Regent, on August 10, was found guilty of conspiracy to obtain money by false pretenses and was sentenced to imprisonment in the penitentiary and a fine of $1,000. This opens up a history of fraud in fraternal insurance. It is reported that other fraternal insurance societies have been defrauded in a similar way, and that when the prisoner's present indeterminate sentence is concluded he will be held on other charges. Dr. Regent is said originally to have borne the name of Regentovitch, but was authorized to drop the two last syllables of his name, thereby de-Russianizing it. He is a graduate of an electic college of 1888. The crime of which he has been convicted was a fraud on the Knights and Ladies of Security, a fraternal society of which he was medical examiner. In January, 1898, James O'Grady, uncle of a co-defendant, an aged and infirm man, was proposed for membership in Illinois Council. He was examined and passed by Dr. Regent, duly admitted, and a policy issued. On November 28 his death was reported, death proofs filed and the claim paid. O'Grady was still alive and had no knowledge that he had been a member of the order or that his death had been reported. On account of a quarrel over the division of spoils, the matter became public and one of the conspirators, O'Grady's niece, turned State's evidence.

HEALTH DEPARTMENT.

The records of the department show that in the matter of prophecies it is far and away ahead of the official forecaster, for in the bulletin of June 25 it was announced that "there is reason to apprehend that a heated term of unusual intensity will follow"—and it did. The heat instead of being localized in this region, however, was general, even the Lake Superior region sharing in it. The heat wave, which began its march in Australia in 1899, reached the Argentine Republic in January last, in the spring reached continental Europe and Great Britain, and then came to this section via North Dakota. The progress of this heat wave was marked by higher temperature than had been previously recorded, and consequently by an increase in the heat accidents. In Buenos Ayres, for instance, 410 deaths occurred in three days and the temperature in the shade ranged for several weeks from 107 to 117 F. In the heated term, now happily passed, the temperature exceeded 90 F. for eight successive days. The deaths for the week were, however, only 18 in excess of the previously recorded highest mortality, which was for the week ended July 15, 1899. The department attributes this comparatively low mortality to the coolness of the last weeks in July, which retarded the rise of ground temperature, upon which depend so largely the zymotic and hot-weather diseases, especially of infants and children.

The mortality for the week ended August 11 was 577, or 93 more than the preceding week, and 87 more than the corresponding week of 1899. The annual death-rate per thousand was 17.18. Of males, 309, and of females, 268 died. Under 1 year, 190 died; between 1 and 5 years, 85, and over 60 years, 94. The principal causes of death were: Acute intestinal diseases, 172; consumption, 56; nervous diseases, 47; heart diseases 29; cancer, 24; violence, 22; Bright's disease, 18; pneumonia, 18; sunstroke, 14; suicide, 9; typhoid fever, 9; apoplexy, 8.

During the week 611 births were reported; 319 males and 292 females. In the contagious disease division, 16 cases of scarlet fever and 15 of diphtheria were reported. At the stockyards 26,170 pounds of meat were condemned. Specimens of milk numbering 112 were brought to the laboratory, 5.92 per cent. of which were found to be below grade.

MARYLAND.

Thirty-one cases of smallpox have been treated at the quarantine hospital during the spring and summer without a death.

Dr. L. McLane Tiffany, after spending two months at his country place, Mt. Curtis, eastern shore of Virginia, has gone to Beverley Farms, Mass.

There were 137 deaths here in the 5 days from August 5 to 9, inclusive; of these, 43 per cent. were due directly to the excessive heat, which was higher here than at any other place in the country.

In view of the prevalence of typhoid fever, 11 new cases having been reported, the Health Commissioner has given a warning to the citizens to boil the drinking water and filter it through absorbent cotton.

Out of 178 applicants for appointment as patrolmen on the police force, 89 have been rejected by the Board of Police Surgeons. About 25 per cent. failed on account of height, weight, and chest measurement; 2 per cent. on account of eyesight. The principal diseases found were heart disease, Bright's disease, varicose veins, and consumption. Four had flat feet. One, thought to be perfectly sound, showed tubercle bacilli in his sputa. There are many applicants for the vacancy caused by the resignation of Dr. William B. Burch.

ALLEGED CRUELTY IN A SANITARIUM.

The grand jury is investigating a case of alleged cruelty to a young white woman at Dr. Flora A. Brewster's asylum. Dr. Percy M. Wade, of Spring Grove Asylum for the Insane, who has been in charge of 500 patients there for the past ten years, says they have neither chain, handcuffs, muffler, nor even a strait-jacket. But one man is ever confined to his room, and it is necessary in his case because he is given to running away. Among all the criminal insane there are none treated with mechanical restraint. Such patients are treated much like children. There are two attendants in wards of 30 patients, and one in those of 10. In the ward of criminal insane, with 28 cases there are three attendants. At night they sleep 5 to 10 in a room, with an attendant, not in the room, but near at hand. If a patient needs constant watching, an attendant looks after him exclusively. For private cases the charge is $7 per week, and at the Sheppard Asylum a good room can be obtained for $10 per week. Outdoor life is encouraged and many patients work on the farm. Amusements are provided and are looked forward to by the patients with pleasant anticipation.

Dr. Edward N. Brush gives similar testimony at the Sheppard and Enoch Pratt Hospital. He has never seen a strait-jacket except in pictures and has never seen a patient, either male or female, chained. Some medical superintendents have gone to the extent of adopting a rule of absolutely no restraint, but the more conservative agree that restraint is sometimes necessary and humane. If restraint be necessary for the hands it should be an endless sleeve, which confines the hands in front in an easy position; this and the padded cell for frenzied patients are all that are necessary. It is never necessary to have more than one attendant to a patient, except in very violent cases. At the Sheppard there is about one attendant to four patients, but the number could easily be diminished.

Dr. Flora A. Brewster was presented by the grand jury on the 10th inst. for violating the State lunacy law by treating an insane patient without license in her private sanitarium. Dr. Brewster was released on $500 bail. The case will be before the grand jury again when the question of indicting comes up.

MICHIGAN.

Dr. John L. Williams, of Shawnee, Wis., who had practiced for twenty-eight years in that city, has located in Menominee.

Dr. Lewis F. Bleazby, of Detroit, has been appointed acting assistant-surgeon in the army and has started for his post of duty in China.

The medical men of Detroit held a meeting at the Cadillac House on August 16 to organize, if possible, a business association to include physicians of all schools recognized by the medical practice act.

"Doc" **Naegele**, who had charge of the anatomical laboratory of the University of Michigan for more than half a century, and who made himself an excellent practical anatomist, died at Ann Arbor July 28.

MORTALITY FOR JULY.

There were 2,509 deaths reported to the secretary of state for the month of July, corresponding to a death rate of 12.4 per 1,000 estimated population. This number is 216 more than the number of deaths for the preceding month and 110 more than the number registered for July, 1899. There were 561 deaths of infants under 1 year of age, 141 of children aged from 1 to 4 years and 611 of persons aged 65 years and over. Important causes of death were reported as follows: Consumption, 134; other forms of tuberculosis, 42; typhoid fever, 36; diphtheria and croup, 10; scarlet fever, 18; measles, 14; whooping cough, 28; pneumonia, 84; diarrheal diseases of children under 5 years of age, 278; cerebrospinal meningitis, 24; cancer, 108; accidents and violence, 197. A considerable increase was shown in the proportion of deaths of infants under 1 year of age corresponding to an increase in the number of deaths from diarrheal diseases. All the other causes of death were nearly stationary or showed slight amounts of decrease except pneumonia, which was only about 50 per cent. of that of the preceding month. There were 2918 deaths in Indiana for the month of July, corresponding to a death-rate of 13 per 1000, indicating a considerably greater increase of mortality with the approach of warm weather than attained in Michigan.

OHIO.

Dr. W. C. Mabry, formerly of Cleveland, has been made an acting assistant-surgeon in the army, and will probably be ordered to China.

Dr. A. W. Dummers, Columbus, who was recently appointed an acting assistant-surgeon in the army, has been ordered to Manila via San Francisco.

Dr. F. C. Griffiths, Mount Carmel, is on his way to the Philippine Islands, where he has been ordered as acting assistant-surgeon in the army.

The East Side physicians of Columbus are attempting to form a protective association against the professionals and amateurs who avoid paying bills for medical services.

Dr. J. F. Edwards, Portsmouth, has been appointed acting assistant-surgeon in the army, and has been ordered to report for duty with the 7th Infantry, now on its way to China.

Dr. W. E. Lower, Cleveland, has received an appointment as acting assistant-surgeon in the army and has been notified to report at San Francisco for duty with the United States forces in China.

The young physicians of Columbus are considering the advisability of forming a young physicians' academy of medicine, wherein they can hold informal discussions untrammeled by the older members of the profession.

The heat in Ohio exceeded all records on August 11, when 99 F. was registered in Toledo. Three deaths from sunstroke or heat prostration are reported from that city, 2 from Fremont, 2 from Sandusky, and 1 from Marblehead Junction.

MASSACHUSETTS.

Dr. E. S. Smith has been appointed town physician of Springfield.

Dr. James W. Holland, Springfield, has been appointed acting assistant-surgeon, U. S. Army.

Dr. Bernard F. McGrath, Beverley, sailed for Europe August 9. He expects to be absent a year.

The committee on sewage disposal at Pittsfield presented its plans of intermittent filtration to the state board for its approval.

Dr. D. B. Manchester, Beverley, has gone to Europe for a year's study, and on his return will practice in New York State.

Dr. H. W. Hill, bacteriologist of the board of health, has, according to report, completed an examination of two cultures received from Johns Hopkins University, sent to Baltimore from the University of California, and which were taken from a Chinaman who was supposed to have the bubonic plague. Dr. Hill developed the cultures and inoculated a white rat. The rat died in three days. Afterward the bacilli were taken from the tissue, and the results obtained were typical of bubonic plague. Dr. Hill has forwarded to the University of California his opinion that the bacilli are those of bubonic plague.

NEW JERSEY.

At a meeting of the Burlington Board of Health, held on August 10, the following officers were elected: President, F. S. Carter; treasurer, Dr. G. B. Cassady; secretary and solicitor, Franklin C. Woolman; inspector, William M. Jeffries.

The Public Bath Commission, of Camden, has recently made a visit to the bathhouses of Philadelphia and was so much impressed with their usefulness that it will recommend to the council the erection of a bathhouse for Camden to cost about $6,000. The exact site for this house has not been chosen.

The Trenton Board of Health adopted resolutions declaring tuberculosis an infectious disease and is considering an ordinance compelling physicians to report cases such as is done in the case of smallpox and diphtheria. It has been cited by one of the members that ordinances of a compulsory nature in other states have done but little good and some opposition has been encountered. The Board of Health has agreed that the signs warning people against expectorating in public thoroughfares have not been effective and an ordinance has been introduced making this a criminal offense.

The Orange physicians are charged with being delinquent in making reports of contagious diseases to the local board of health. The births for July were 39 and the deaths 44.

The Governor has appointed Dr. H. W. Elmer, Bridgeton, a member of the State Board of Health to succeed Dr. Franklin D. Gauntt, deceased. Dr. Elmer was graduated from the medical department of the University of Pennsylvania in 1870.

CALIFORNIA.

All except two of the medical inspectors of the state were discharged by order of the state board of health. The two remaining are on duty in Chinatown, San Francisco. The board decided not to declare quarantine against Jackson, Amador county, as the smallpox there is of a mild type and as the cases are segregated.

Extensive sanitary improvements have been made at the Presidio General Hospital which will make it one of the most completely equipped military hospitals in the country. The changes include a complete system of ventilating, steam heating, electric-light plant, laundry, disinfecting apparatus, ice-making machine and refrigerator.

The report of the Los Angeles health office for July shows 134 births. The mortality for the month was 166, the chief causes of death being: specific infectious diseases 31; digestive diseases, 22; respiratory diseases, 21; nervous diseases, 15; constitutional diseases, 16; intoxicants, violence and accidents, 11. The apparent excess of deaths over births is probably due to the failure of physicians and midwives to report births to the health office.

MINNESOTA.

The state examining board caused the arrest of B. F. Felson, Minneapolis, who is charged with practicing medicine without a license.

The third annual commencement of the attendants' and nurses' class at the School for the Feeble-Minded at Faribault, was held on July 27.

The postmaster of St. Paul has put a veto on the appointment of a special post-office physician. Even the fact that Minneapolis is so supplied does not suffice to swerve him.

The house physician and the head nurse of the City Hospital, Minneapolis, who were arraigned for breaking quarantine by Dr. Charles Norred, quarantine officer, were released because of the uncertainty of the officer's exact status.

Hennepin County Medical Society decided, at a meeting August 3, to accept the offer of the Andrus building, of quarters on the tenth floor. This will entail the removal of the library of the society from the public library and rental of the entire eighth floor and the balance of the tenth floor to physicians, dentists or pharmacists.

NEW YORK.

The medical building for the Cornell College of Medicine at Ithaca, which is in process of erection, will cost about $100,000 and will be a model of its kind. When completed Cornell will have facilities for instruction in medicine second to none in the country. A large attendance is already assured.

New York City.

Dr. S. A. Knopf is rusticating in Maine.

Dr. Holbrook Curtis has gone to Europe for the summer.

Dr. Emil Mayer is taking his vacation yachting off the Maine coast and on the northern waters.

The Trustees of St. Catherine's Hospital are endeavoring to raise $12,000, the balance of $30,000 necessary to complete an annex to the building.

On Saturday, August 11 the temperature reached 95, but had ranged above 90 for almost the entire week. On that day 30 persons died from sunstroke or heat exhaustion. During the week the patients between six months and two years of age at the Bellevue Hospital dispensary alone averaged 65 a day.

MONTANA.

Helena has a record for health not excelled in the United States, so says Health Officer Leslie Sulgrove. The June death-rate is said to have been only 1 to the 1000 of population. Of the 13 deaths reported, 6 were males and 7 females; 2 were under 1 year of age, 1 under 5 years and 1 between 50 and 70 years. Consumption caused two deaths.

The Attorney-General, in reply to a question respecting the status of osteopaths, has rendered the following decision: "An osteopath in practicing his calling is liable for the payment of a license. An osteopath, I believe, is amenable to the medical law of this state, and could be prevented from engaging in the practice of osteopathy unless a license was secured to do so from the medical board. The fact, however, that such a license is not secured does not relieve the practitioner from complying with the provisions of the license law."

KENTUCKY.

Dr. Henry E. Tuley, Louisville, is spending his vacation with his family at Woodmont, Conn.

Dr. Thornton Perkins, Louisville, has received an appointment as acting assistant-surgeon in the army.

Drs. H. H. Grant, J. M. Mathews and L. S. McMurtry are in New York City with President-elect C. A. L. Reed of The American Medical Association.

The President of the Lexington Board of Health, Dr. Frank O. Young, was made defendant in a suit for malicious persecution and false arrest filed by Dr. A. P. Taylor, August 3. Dr. Taylor claims $10,000 damages.

INDIANA.

Dr. T. J. Spillman, Jr., has moved from Andersonville to Connersville.

At a meeting of the Terre Haute board of health, a final report was made on the smallpox epidemic and the results thereof. It was announced that all expenses due to the epidemic had been paid.

The Death of four infants at the Orphans' Home at Indianapolis has caused the city board of health to ask the coroner to investigate the matter. The deaths are claimed to have been due to formaldehyde used as a preservative in milk.

KANSAS.

Dr. Nathaniel M. Smith, of Chase, has removed to Marion.

The School of Medicine of Kansas University at Lawrence will occupy the old chemistry building, which is now being remodeled and refitted. It is to be known as "Medical Hall."

Dr. Swan, secretary of the State Board of Health, reports that the smallpox epidemic is practically stamped out. Three cases still exist in Sumner county and two in Shawnee county, but no apprehension regarding the spread of the disease is felt.

MISSOURI.

Dr. Ernest F. Robinson has returned from his army service in the Philippines and will take up the practice of medicine in Kansas City.

The addition to University Medical College, Kansas City, will be completed by October 1. It will be four stories high and will contain the dispensary, a large amphitheater, and chemical, pathologic, and microscopic laboratories.

NEW HAMPSHIRE.

In Manchester, Dr. F. G. La Fontaine was arraigned for practicing medicine without a license from the State Regent. There is a large French population in the city; Dr. La Fontaine is French and his patients are French, and still he was obliged to take an examination in English, an unfamiliar language. He is a graduate of Laval University Medical Department, a highly esteemed Montreal institution.

DISTRICT OF COLUMBIA.

MORE THAN fifty bids have been received by the District Commissioners for a site for the new municipal hospital in Washington, for which $100,000 was appropriated by Congress.

WASHINGTON was the hottest city in the United States on August 11, the official thermometer at the weather bureau registering 101 F. The humidity was fortunately exceedingly low so that few prostrations were reported.

IOWA.

A NEW HOSPITAL, known as the W. C. Graham Protestant Hospital, will soon be opened in Keokuk, in the old Mercy Hospital building. The philanthropy of Mrs. Helen M. Comstock has made the organization of this hospital possible. It will be under the control of Drs. F. B. Dorsey and P. J. Payne, of Keokuk, and Dr. D. D. Nice, of Bowen, Ill., who comprise the board of medical directors.

OKLAHOMA.

DR. W. P. BAKER, of Guthrie, surgeon-general of the territorial militia, a West Point graduate, and a veteran of the Spanish-American war, has been appointed acting assistant-surgeon in the army, and will leave for China in a few days.

LOUISIANA.

THE FOLLOWING New Orleans physicians are taking their summer outings in Europe: Thomas A. Dabney; Felix A. Larne; Felix Formento and C. W. Heitzman.

COLORADO.

DR. C. J. AMMERMAN has been appointed local surgeon of the Colorado Midland Railroad at Colorado City, vice Dr. C. J. Turpin, resigned.

WASHINGTON.

DR. HAMILTON STILLSON, of Seattle, is spending the summer months in Zurich, Switzerland.

CANADA.

THE steamer *Chieftain* of the Calvin Company, Kingston, is under quarantine restrictions at Quebec, a member of the crew having smallpox.

DR. HUGH FLEMING, of the Ottawa Bearer Company, has been appointed A. D. C. to the new Commander of the Canadian Militia, Major-General O'Grady-Haly.

A TELEGRAM from Winnipeg states that smallpox has broken out at the half-breed reserve, south of Killarney, near the United States boundary. Drs. J. T. White and Riddell, of that city, have been appointed medical inspectors at Killarney and Cartwright, respectively.

MEDICAL MILITIA MATTERS IN THE MARITIME PROVINCES.

The undermentioned medical officers are authorized to join the course of instruction to commence at Halifax on August 30: Major J. W. Bridges, A. M. S.; Lieut. A. A. Schoffner, A. M. S.; Surgeon-Major D. A. Campbell, 63d Rifles; Lieut. J. Ross, A. M. S.; Surgeon-Major M. A. Curry, 66th P. L. F.; Surgeon-Major O'Neill, late 17th Field Battery; Surgeon-Major J. Hayes, 93rd Regt.; Capt. J. A. Spoungle, A. M. S.; Capt. H. G. Johnston, A. M. S.; Lieut. E. D. Farrell (supernumerary); Surgeon-Lieut. C. D. Murray, 1st Regt. C. A. (supernumerary); and Surgeon-Lieut. E. A. Kirkpatrick, 66th P. L. F.

THE RECENT HOT SPELL IN TORONTO.

Not for 61 years, with one single exception, has Toronto experienced such extreme high temperature as that which obtained during the past week. Its effects were especially seen in the mortality-rate among children and the aged. From August 4 up to August 9, 72 deaths were reported. In one day, August 9, 25 deaths were reported, of whom 9 were children and 4 over 80 years of age. The normal death-rate in Toronto is 9 per week.

ANNUAL REPORT OF TORONTO'S HEALTH OFFICER.

In the annual report of the Medical Health Officer, which has just been issued from the hands of the printers, much valuable information is given with regard to the health of the city. During the year 598 samples of milk were collected and analyzed. There were 225 cases of typhoid, 1913 of scarlet fever and 458 of diphtheria reported during the year, of which 34, 55, and 82 respectively resulted fatally. The total number of patients of all kinds admitted to the Civic Hospital numbered 804. This included 458 of scarlet fever, 334 of diphtheria, 8 of smallpox, 1 of chicken-pox and 3 of measles. The number of deaths during the year was 58, but 6 who died were moribund when brought to the hospital and expired immediately. The death-rate, including those moribund when admitted, was 6.16 per cent., and excluding them it was 5.48 per cent. The report on diphtheria prepared by Professor Shuttleworth, the city bacteriologist, goes very fully into the nature and duration of this disease; and as evidence that susceptibility is influenced by age, he points out that of the 238 cases of true diphtheria the ages were as follows: 5 years and under, 32.6 per cent.; 5 to 10 years, 29.6 per cent.; 10 to 15 years, 12.7 per cent.; over 15 years, 25 per cent. Thus the oft-repeated statement that children under five years of age are more susceptible here receives confirmation. The deaths were: Under 5 years, 24; 5 to 10 years, 5; 10 to 15 years, 3; and over 15 years, 4. Referring to the invasion of smallpox, the report states that the city has been invaded five times, but the health officer considers "that the two secrets of success in handling this disease in a densely populated community are, first, the capability of accurately diagnosing the disease, and second, the prompt, complete and absolute isolation of those infected and of those who have been exposed to infection."

THE NATIONAL SANITARIUM ASSOCIATION.

Mr. W. J. Gage, the treasurer of this association, has written the mayor of the city that he is authorized to submit to the Council of the City of Toronto, the following proposals: The association above mentioned will undertake to devote the sum of $20,000 toward the erection and equipment of a Toronto Free Sanitarium for the treatment of consumptives, provided the city will give an equal amount for the same purpose. If the city accepts this offer, work will be commenced at once, with a capital of $44,000, as by the legislation of the last session of the provincial parliament $4000 would be available from the exchequer of the Province of Ontario.

London Letter.

THE BRITISH MEDICAL ASSOCIATION.

The sixth-eighth annual meeting of the British Medical Association was opened at the historic old town of Ipswich—famous as the birthplace of Cardinal Wolsley—under the presidency of Dr. William Alfred Elliston. In his address the president alluded to the great progress made by the Association since it met twenty-six years ago in another East Anglian town, Norwich. Then it numbered only 6000 members, now it reaches over 18,000, of whom 4000 are colonial. [A full abstract of the address was published in THE JOURNAL, August 4, p. 290.]

The Address in Medicine was delivered by Dr. Pye-Smith, of Guy's Hospital, who took for his subject "Medicine As a Science and Medicine As an Art." He said: "It has been disputed whether medicine should be regarded as a science or an art; but there is no doubt that the original meaning of medicine, and of the corresponding terms in other languages, is the art of healing. It is the knowledge how to act, not how things happen. Nevertheless, as navigation is founded on astronomy, meteorology and physics; as agriculture rests on botany and geology, so medicine depends on pathology. While medical science without art is inefficient, medical art without science is not only unprogressive but ultimately becomes quackery. The profession has suffered from lack of the inquiring skeptical spirit, and has often been led too easily by authority. The reckless abuse of venesection has led to almost complete disuse of a valuable means of treatment, and the misuse of mercury in syphilis has led to the denial of its unquestionable efficiency. How closely natural science is related to preventive medicine is shown by the history of Jenner, who was a naturalist, and of Pasteur, who was a chemist. The cretinoid condition in adults, discovered by the clinical acumen of Sir William Gull, unintentionally produced by the surgical skill of Kocher and reproduced in animals by Horsley, is now cured by the eminently scientific method of thyroid administration, due to Dr. G. Murray and Dr. Hector Mackenzie. A source of failure in therapeutics is the legion of new remedies of which the eulogiums fill waste-paper baskets. It takes a man long years to learn how to prescribe opium. Why throw away this priceless knowledge to dabble in quack remedies, the very praises of which inspire distrust?

The Address in Surgery, on "The Surgeon in the Nineteenth Century," was delivered by Mr. Frederick Treves. [A full abstract was printed in The Journal, August 4, p. 293.]

In the Section of Pathology, Prof. Klein delivered an address on "Bacteriology in Relation to Pathology." For more than a century inflammation has occupied a host of active minds and was being analyzed in all its elements. It as admitted that with the exception of traumatic agencies, the chief, if not the sole, cause of the changes are microbes, which lead to the abnormal interaction between the vessels and the tissues. Then toxins set up the inflammation. Koch's tuberculin, the diphtheria toxin, the toxins of many other microbes produced in the test-tube and then injected, produce typical inflammation. The same has been shown of the dead protoplasm of many microbes, tubercle, cholera vibrio, bacillus pestis, and others. The greater or lesser number of leucocytes in inflammatory foci is explained by bacteriology. Some inflammations are characterized by copious transudations with few leucocytes, others are associated with their copious accumulation as in suppuration. These facts are explained by chemotaxis. Some microbes or their toxins powerfully attract leucocytes from the blood, others have no such effect or even the reverse—negative chemotaxis. Singularly, necrosis is an effect of toxins. Roux and Yersin have shown that the diphtheria toxin has a powerful necrotic action. Progressive necrosis is due to the action of microbes. In non-microbic necrosis, the necrosis is local and circumscribed, being due to direct action of the noxious agent, thermic, chemical or traumatic, and its action is limited to the parts actually attacked. But in both forms the necrosis appears of the same essential character, namely, coagulation of the protoplasm of the cells, inclusive of the vessels. Until recently it was considered that specificity of cell secretion was one of the fundamental phenomena of normal tissues. Behring, Kitasato, Brieger, Roux, Ehrlich, and others, have shown that under the activity of many pathogenic microbes and their toxins a curious series of secretions takes place, which are as specific as normal ones—specific antitoxins and specific agglutinins. It was further shown that not only bacteria, but also organic substances, such as abrin, ricin, venin, are capable of stimulating the cells to a like production of specific antitoxin.

A discussion, "Influenza, As It Affects the Nervous System," took place in the Section of Medicine; Dr. J. S. Bury opened this discussion. Four types of influenza can be recognized, according to the organ chiefly affected, affecting: 1, mucous membranes; 2, the gastrointestinal tract; 3, the heart; 4, the nervous system exclusively. In all forms the nervous system is profoundly affected, as is evidenced by the pain in the head and back, hyperesthesia, delirium and depression—all symptoms of the effect of toxin on the nervous system. When ordinary nervous symptoms appear absent, careful observation will show others—undue dyspnœa in pneumonic cases and tachycardia and bradycardia in heart cases. There are two chief groups of nervous affections—those developing during the febrile stage, such as meninigitis and encephalitis, and those arising later, in which as a rule no organic charges are found: In the first group he distinguishes a comatose and a delirious type. The former is very serious and often ends fatally. In one case hemorrhagic meningoencephalitis was found post-mortem. Cerebal embolism, thrombosis and abscess are also found. The delirious type is common in children. The cord may be attacked with the brain or independently. Every known form of nervous affection—of brain, cord, or nerves—has followed influenza. The peculiarity of the influenza toxin as distinguished from that of diphtheria, is that it affects nervous tissue haphazard and not so much in groups.

Mr. R. J. Godlee said that "Subdiaphragmatic Abscess" is not a disease, but merely a bye-product of some other disease. The extra- and the intra-peritoneal varieties present very different symptoms. None of the symptoms can be described as pathognomonic. In the early stages there may be hiccough, a stitch in the side and friction. The stethoscope is useful in diagnosis. The abscess may give rise to dulness in the lower chest and may be accompanied by cardiac displacement. It may be diagnosed from pleurisy from the fact that the movements of the chest are not impaired and that the upper limit of dulness is not so well defined, and that respiration may be heard below this. In emaciated persons the lower border of the right lung can frequently be seen ascending and descending, which would be quite against the presence of pleurisy. If gas is present—"subdiaphragmatic pneumothorax"—the bell sound may be readily elicited. The tympanitic note may reach upward even as far as the second rib, and yet the respiratory movements of the chest may not be interfered with. The causes of the abscess are: 1, gastric rupture of gastric ulcer with localization of the pus; 2, intestinal rupture of a duodenal ulcer; 3, cecal and appendicular disease; 4, suppuration of hydatid cyst of liver or spleen; 5, abscesses of liver; 6, perinephral abscess; 7, subcutaneous injuries; the abscesses sometimes follow a blow, which probably causes rupture of a pre-existing ulcer; 8, wounds; 9, metastases; 10, caries or necrosis of ribs; 11, thoracic suppuration spreading downward; 12, various causes—actinomycosis, tuberculosis; peritonitis and disease of the pancreas.

"Nasal Obstruction as a Factor in Catarrah of the Throat, Nose and Ear," was discussed by Dr. Scanes Spicer. It is not uncommon to have cases of nasal obstruction of the most trifling kind sent for the adenoid operation, in which the adenoid hyperplasia is absent or insignificant. In most cases of adenoids the postnasal hyperplasia is only a part and often a small part in the pathological condition of the so-called adenoid child. Fractured and deflected bones and cartilages, turbinal enlargements, hypertrophied tonsils pushing up and growing behind the soft palate, stunted nostrils and even vaulted palate, are often far more important features in the case. The failure to recognize this is the cause of the unsatisfactory results which sometimes ensue, if the practitioner has undertaken to bring about a cure by simply removing adenoids. In many children with nasal obstruction no formal adenoid operation need be done with an anesthetic—and its risks are not negligible unless under special circumstances. Many hundreds of adenoid operations are done unnecessarily every year in this country when adenoids are not present, or, if present, are only an insignificant element in the obstruction, which depends mainly upon other causes. The result is failure or only partial success in removing the symptoms of obstruction. An operation for adenoids is often regarded as the termination of the case. It is only the first step toward recovery. The respiratory tract being clear, it has to be used and developed. Respiratory exercises for the expansion of the chest, the removal of articulation and resonance defects, regulation of vaulted palate and crowded teeth, and other defects, may require careful attention.

FRACTURES.

Mr. Howard Marsh, F.R.C.S., president of the Section of Surgery, in his opening address made the following remarks regarding fractures:

The subject of fractures, while so old and familiar that it may appear too hackneyed and barren to be worthy of notice, has, nevertheless, lately felt the influence of modern advance. The Roentgen process secures an accuracy of diagnosis which formerly was often impossible. The aseptic method makes operative interference safe so that when necessary it can be adopted without hesitation. To secure the best results, treatment must be applied not only to the fractured bone itself, but to the neighboring joint and the muscles and other structures of the limb.

TEACHING OF PHARMACOLOGY.

Walter G. Smith, M. D., president of the Section of Pharmacology and Therapeutics, took the above as his subject for the opening address of the section. Comparing the teaching of materia medica and therapeutics of thirty years ago with that of the present time, three features stand out prominently: 1, the retrogression of descriptive materia medica in its restricted meaning; 2, the establishment of special forces in practical pharmacy at the medical schools conducted in suitable laboratories; 3, the development of the scientific investigation of the modes of action of drugs.

A modern course of lectures on materia medica should most certainly be founded on physiology, but practical demonstration of the physico-chemic properties of drugs is still necessary. Simple experiments can be shown in illustration of the more important physiologic and therapeutic properties of drugs, general principles can be laid down, alliances pointed out and broad features sketched, which connect together large numbers of drugs.

The flood-tide of discovery of new synthetic chemic remedies has washed on shore a few treasures but much rubbish of a pseudo-scientific sort. The physician is daily worried with samples and advertisements from competing firms announcing new drugs or novel combinations, and he is tormented during his consulting hours by the visits of agents representing these articles. This most objectionable practice is on the increase and should be stamped out by the medical profession.

TROPICAL DISEASES.

Col. Kenneth MacLeod, M.D., president of the Section of Tropical Diseases, in his opening address, discussed the scope and aim of the work of the section. The Secretary of State for the Colonies has realized more clearly than any of his predecessors the importance of acquiring an education as regards tropical pathology and hygiene. The government of India is also aroused and is taking action in the same direction by encouraging research, training men in bacteriologic method, establishing laboratories, appointing commissions and promoting special investigation.

A knowledge of the pathology and pathogenesis of disease obviously must precede and guide preventive and curative effort. The recent history of malariology is a signal illustration of the dependence of sanitary and therapeutic endeavor on pathologic discovery. Koch has been attacking the plasmodium in the human subject. Sambon and Low are endeavoring to cut the morbific circuit outside of the body. The results of the proceedings of these gentlemen should contribute an important aid to the solution of the question whether the Anopheles is the only medium of malarial infection, and if so, whether this occurs invariably by inoculation.

In the South African war, sun-stroke and sun-fever were very common, but it has been impossible to obtain information whether any considerable number of these cases presented the phenomena of epidemic or communicable "siriasis." Enteric fever is always in grim evidence during war. Perhaps the most urgent question of the hour is how to mitigate its prevalence in the British army, in which in time of peace it causes one-third of the total mortality. The fact of the immunity of the native population in India to typhoid fever is most remarkable. It has been attributed to habituation to minute doses of the contagion, to protection conferred by attacks during infancy and childhood, and to racial resistance acquired in the course of generation through both these influences. Whether a similar immunity can be engendered in European subjects, by a process of inoculation such as that devised by Professor Wright, is a question the reply to which is awaited with eager anxiety. Similar procedures for creating immunity against cholera and plague initiated by Professor Haffkine have been attended with satisfactory results in India.

Dysentery has been very rife in South Africa, but has been as a rule of a mild type and amenable to treatment. In some camps it has been apparently infectious, but we have much to learn concerning the pathology and causation of this disease. In addition to imperfect conservancy, foul water, bad food, alternations of temperature, exposure and fatigue, a muco-enteritis apparently caused by the swallowing of irritative particles of grit has been observed which has been termed "dust colic."

The persistence of plague in India and its appearance for the first time south of the equator are events which deserve special notice. It is curious to note that while in India natives appear to be readily susceptible to the infection of plague, Europeans exhibit a comparative immunity to this disease. The same immunity—a sanitary immunity—is also observable in some places as regards cholera.

The work of this section is not only with exclusively tropical diseases but includes diseases originally tropical which may prevail for a time in extratropical localities and diseases which are not especially tropical but which are liable to be aggravated in prevalence or severity by tropical conditions.

(To be continued.)

Deaths and Obituaries.

Philip Smith Postell, M.D., died August 3, at Plaquemine, La., half an hour after an apoplectic seizure. He was born in Charleston, S. C., in 1836; graduated from the Medical College of the State of South Carolina, at Charleston, in 1858, and served throughout the Civil War as surgeon of the Thirty-fourth Mississippi Infantry, C. V. S. At the close of the war he settled in New Orleans, but removed in 1868 to Plaquemine. He was prominent in medical and educational matters.

Theodore Krauss, M.D., of Saginaw, Mich., died at his home on August 5, at the age of 75 years. He was born in Hesse-Darmstadt, Germany, in 1825, studied at and graduated from the University of Giessen in 1851. He afterward took a post-graduate course at Heidelberg University. He came to America in 1858 and settled in Saginaw in 1862. He was one of the oldest and best-known physicians in the Saginaw Valley.

George G. Shannon, M.D., of Tulare, Cal., died at San Francisco, Cal., August 5, from hemorrhage of the lungs. He was a graduate of the medical department, University of Michigan, and settled in Illinois, but was forced to go to California on account of ill health, and located in Tulare in 1878. He was, at the time of his death, vice-president of the Medical Society of Tulare County.

Calvin A. S. Proser, M.D., of Boise, Idaho, died from ether pneumonia on August 3, aged 36 years. He was a native of Toronto, Ont., but received his medical education in New York, graduating from Bellevue Hospital Medical College in 1887. He practiced a short time in Chicago, but was forced on account of ill health to go to Marquis, Iowa, and thence for the same reason to Boise.

W. C. Leuce, M.D., of Jonesboro, Ill., died August 1, from Bright's disease, aged 56 years. He was graduated from the medical department of the University of Louisville, in 1872. He was a recognized authority on the diseases of southern Illinois, and was superintendent of the Illinois Southern Hospital for the Insane at Anna, during Governor Altgeld's administration.

John F. Burus, M.D., died from meningitis at St. John's Hospital, Long Island City, N. Y., on August 9, aged 35 years. He was graduated from the New York University in 1890. He was visiting surgeon in St. John's Hospital, New York, and Maternity Hospital, and was one time associate superintendent of the Fort Hamilton Asylum.

Isaac M. Getchell, M.D., city physician of Brewer, Me., died August 5, fifty-two hours after receiving an injury from a fall, by which his neck was broken. He was 53 years old, and was a member of the class of 1877, Medical School of Maine.

David S. Mills, M.D., of Pine Bluff, Ark., died August 3, from typhoid fever, at the age of 71 years. He was born in Tennessee, and was one of the earliest settlers in Pine Bluff. He was graduated from Memphis (Tenn.) Medical College in 1852.

G. L. Robinson, M.D., of Lebanon, Tenn., died August 4, at his home, at the age of 79. He was graduated from the medical department of the University of Louisville in 1850, and then settled in Lebanon. He served during the Civil War as surgeon of the Seventh Tennessee Infantry.

Cyrus B. Schreiner, M.D., of Mount Lebanon, Pa., committed suicide by cutting his throat while despondent, on July 28. He had been ill for several months, and had given up all hope of recovery. He was 47 years old and was graduated from Long Island Hospital Medical College in 1877.

N. M. Cluck, M.D., an old and respected practitioner of Reagan, Tex., died from paralysis August 1. He was graduated from the medical department of the University of Nashville, Tenn., in 1876.

Elias B. Harris, M.D., a graduate of New York University, 1847, who was well known, particularly during the earlier gold discoveries in California, died in San Francisco, August 7, aged 75 years.

T. R. Wilson, M.D., of Pilot Point, Tex., died from tuberculosis, July 28. He was a graduate of the medical department of the University of Nashville, Tenn., in 1869, and settled in Pilot Point in 1895.

Preston B. Young, M.D., of Farmington, N. H., was found dead in his office on July 31. He was of a famous family of physicians and well upheld its traditions. He was graduated in 1888 from the New York University.

Henry L. Donnelly, M.D., a prominent physician of Latrobe, Pa., died on August 3, from Bright's disease. He was a graduate of Jefferson Medical College in the class of 1853, and served through the Civil War, being mustered out as captain.

John L. Spitzmesser, M.D., of Franklin, Ind., a pioneer physician in that region, died August 8, at the age of 65 years.

Cortland Van Rensselaer Creed, M.D., a graduate of Yale medical school in 1857, died in New Haven, Conn., August 8, aged 63 years.

Charles H. Kelley, M.D., one of the oldest residents of Newark, N. J., died at South Butler, N. Y., July 28, at the age of 75 years.

Sanford G. Riley, M.D., of Hamilton, Ga., died in Atlanta, August 1, at the age of 64. He was graduated from Atlanta Medical College in 1879.

Miscellany.

Intoxication by Alcohol and Ether.—A new beverage, composed of ether and slightly diluted alcohol, which is said to have originated in Galicia, is now being used with disastrous results in many countries of continental Europe.

Schools of Tropical Medicine.—The Liverpool School is coming into prominence by its dispatch of three different expeditions to the tropics for the scientific study of the etiology of malaria, dysentery and yellow fever. The *Lancet* informs us that the government will require a two-months' course at either the Liverpool or London school, for medical officers sent to the African protectorates.

Surgical Epilation Without Razor.—Queirel has found calcium sulphydrate extremely useful in removing hair from the field of surgical operations, according to the *Semaine Méd.* of July 4. It is applied in a thin layer like a paste and rinsed off with tepid water in five minutes, rubbing lightly with a cloth. The hairs wash off with it, leaving the surface smooth, without irritation or inconvenience of any kind, except the rather unpleasant odor of the hydrosulphate, which can be disguised if wished. The hair soon starts to grow again.

Index of Current Medical Literature.—Some time ago The Journal of The American Medical Association adopted a new feature, which must undoubtedly have proved of value to its readers. The title-page, in addition to the usual announcement of original articles, contains a short abstract or analysis of each article. In its department of current medical literature The Journal gives us abstracts or notices of the original papers published in the chief medical periodicals of this and other countries. The index of Vol. xxxiv, recently completed, contains another important innovation. By cataloguing the articles which originally appeared in its own pages, together with those which it has selected or abstracted from its numerous exchanges, it furnishes us, in effect, with an index medicus of American medical literature. This is a laborious enterprise and should be highly appreciated by its readers. Those who, in the past, were accustomed to consult the "Index Medicus" in reviewing the literature of any subject are well aware how much that publication has been missed and will gladly welcome such an index as The Journal has prepared.—*Medical Bulletin* (August).

Societies.

Coming Meetings.

American Academy of Railway Surgeons, St. Paul, Minn., Sept. 5-6.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

American Electro-Therapeutic Association, New York, N. Y., Sept. 25-27.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

The St. Joseph County (Ind.) Medical Society met at South Bend, August 3. Dr. F. J. Lent presented the paper of the evening, on "Adenoids."

The Blair County (Pa.) Medical Society held its annual summer meeting at Wopsononock, at which a revised constitution and bylaws was adopted.

The Medical Association of the Lake Keuka Region held its second annual meeting at Grove Springs Hotel, Lake Keuka, N. Y., August 14 and 15.

The Jackson County (Md.) Medical Society met at Seymour, August 2. Dr. J. K. Ritter read a paper on the "Medical and Surgical Diseases of the Rectum."

The Pan-Handle (Texas) Medical Association will hold its next quarterly meeting at Quanah, September 4 and 5, under the presidency of Dr. David R. Fly, of Amorilla. Dr. Benjamin F. Hart is secretary.

The South-eastern Nebraska Medical Association met at Wymore, July 26, for its quarterly session. The physicians of Wymore entertained their visitors, but did not join the society as it was expected they would.

The Jay County (Ind.) Medical Society held a meeting at Portland on August 10, at which Drs. Richardson and Taylor, Fort Recovery, O., reported some cases of appendicitis and Dr. R. P. Murray, Dunkirk, read a paper on "Obstruction of the Bowels."

The Cecil County (Md.) Medical Society met August 2, at Perryville. Dr. W. T. Skinner, Glasgow, Del., discussed typhoid fever with especial reference to the temperature range, and Dr. A. Robbins, of Newark, state bacteriologist of Delaware, demonstrated the Widal test.

The Decatur (Ill.) Medical Society met on July 26. The papers of the evening were "The Practice of Medicine Fifty Years Ago and Now," by Dr. W. J. Chenoweth, of Decatur; "The Bubonic Plague," by Dr. S. R. May, of Mt. Zion, and "Infantile Diarrhea" by Dr. E. A. Morgan.

The York County (Pa.) Medical Society held its monthly meeting at York City. Dr. Wesley C. Stick, of Glenville occupied the chair. Delegates to the state medical society were elected, after which Dr. J. Clarkson Smith read a paper on "Uric-Acid Diathesis," and Dr. J. C. May, a paper on "Sciatica."

The Berkshire (Mass.) District Medical Society will hold its annual summer meeting at Dr. Paddock's cottage, Pontoosuc Lake, August 30. The topic of the meeting is "Quarantine, Disinfection and Care on the Part of Officials who Have Charge of Infectious and Contagious Diseases." It is hoped to secure uniform rules for quarantine, etc., of these diseases.

The Lehigh Valley Medical Association held its twentieth annual meeting at Reading, Pa., August 16, in conjunction with the meeting of the Berks County Medical Society. Dr. J. Milton Duff, Pittsburg, delivered an address on "Modern Obstetrics;" Dr. I. Cleaver, Reading, the retiring president, considered the "Relation of the Medical Profession and the Physical Culture of Children," and Dr. P. A. Harris, of Paterson, N. J, described "Certain Pathologic Conditions of the Fallopian Tubes of Interest to the General Practitioner."

Brazilian Congress of Medicine and Surgery.—The fourth annual congress of the physicians and surgeons of Brazil convened at Rio Janeiro, June 17, with a large attendance, including many non-professional senators and other prominent government officials and scientists. The date coincided with the four hundredth anniversary of the discovery of Brazil. Dr. Guedes de Mello presided. Chapot-Prevost described his operation on the united twins, mentioned in The Journal, Sept. 16, 1899. Many valuable communications on tropical diseases were presented. Committees were appointed to report at the next congress on the establishment of a sanatorium; on the organization of a congress to arrest the spread of syphilis; on the foundation of a maternity. Another committee was appointed to confer with the public authorities on means to prevent purulent ophthalmia and consequent blindness, and a fifth to solicit from the Legislature measures to complete the constitutional principles of professional liberty.

Mississippi Valley Medical Association.—The next meeting of this Association will be held at Asheville, N. C., October 9-11, under the presidency of Dr. Harold N. Moyer, of Chicago.

The following addresses have been announced: I. N. Love, St. Louis, will deliver the "Address in Medicine," and C. A. Wheaton, St. Paul, the "Address in Surgery."

Papers will be read as follows: L. W. Beardsley, St. Louis, "Canthoplasty in Ophthalmic Practice;" Andrew Timberman, Columbus, O., "The Etiologic Relation of Eye-Strain to Epilepsy;" Otto J. Stein, Chicago, "Middle-Ear Disease in its Relationship to the Cranial Cavity;" George F. Keiper, LaFayette, Ind., "Some Observations Gleaned from Some Recent Cases of Mastoiditis;" Alex. C. Weiner, Chicago, "Treatment of Tuberculosis of the Spine;" A. J. Ochsner, Chicago, "Relation of Appendicitis to Gall-Stones;" B. Brindley Eads, Chicago, "Ventral Hernia Following Laparotomy;" George W. Crile, Cleveland, "Technique for Removal of Tumors of the Neck; George W. Cale, Jr., Springfield, Mo., "A Case of Intermittent Hydrops of the Knee;" James B. Bullitt, Louisville, "Hernia in Man and Animals;" Thomas H. Manley, New York, "Notes on Fractures Contiguous with or Involving the Articulations of the Larger Bone Shafts;" John L. Jelks, Memphis, "The Treatment of Peri-Rectal Abscesses;" Sterling B. Taylor, Columbus, "Obstipation;" J. Rawson Pennington, Chicago, "Simple Operation for Hemorrhoids; Enucleation;" A. B. Cooke, Nashville, "Revelations of the Proctoscope in Health and Disease;" H. O. Walker, Detroit, "Vaginal versus Abdominal Hysterectomy;" R. S. Sutton, Pittsburgh, "Cancer of the Uterus and its Treatment;" C. S. Bacon, Chicago, "The Prevention and Management of Infection of the Breast During Lactation;" J. H. Taylor, Indianapolis, "The Girl at Twelve;" Yeatman Wardlow, Columbus, "Ectopic Gestation;" Emil Ries, Chicago, "Pathology of Chronic Gonorrhea of the Male Sexual Organs; A. Ravogli, Cincinnati, "The Gonococci in the Gonorrheal Secretions;" R. A. Bate, Louisville, "Asthma;" T. D. Crothers, Hartford, "The Curability of Inebriety by Medical Treatment; William O'Neal Mendenhall, Richmond, Ind., "The Determination of Sex;" Frank P. Norbury Jacksonville, Ill., "Pulmbonary Tuberculosis in Infancy and Childhood;" W. H. Bates, New York, "Further Observations on the Clinical Application of the Suprarenal Capsule;" Albert E. Sterne, Indianapolis, "The Association of Diseases;" William Porter, St. Louis, "The Growing Necessity for Sanatoria for the Tubercular;" I. H. Goss, Athens, Ga. "Erichsen's Disease: Does it Exist? Various Injuries Due to Accident:" William F. Barclay, Pittsburgh, "The Philosophy of the Science and Art of Medicine;" J. E. Allaben, Rockford, Ill., "Treatment of Adherent Cysts of the Ovary and Broad Ligament by Incision and Drainage;" L. H. Warner, Brooklyn, "Differential Leucocytosis;" J. G. Carpenter, Stamford, Ky., "Suprapubic Cystotomy for Traumatism, with Median Perineal Drainage."

The First International Congress of the Medical Press.

Paris, July 26-28, 1900.

The leading address delivered at this Congress was by Landouzy, who extolled the medical press. By the federation of its multiple organs it is the universal university, the most powerful and effective of all postgraduate means of instruction. It gives wings to the words of the masters and spreads abroad to the four corners of the globe the Pasteur doctrines, Lister's dressings, new remedies, etc., in less hours than it took months in the days of our fathers. It is to the honor of the medical press that the study of the material interests of the profession, although so legitimate and so urgent, yet did not come in the order of its preoccupations until after the study of its intellectual interests. It is to the honor of the medical press that it sought first to impress a professional ideal, a combination of scientific loyalty, love of truth, independence of character, a broad and tolerant spirit of solidarity and disinterestedness. Nevertheless it is now time that the respectable material interests of physicians should no longer be misunderstood. It is only justice for the medical press to take in hand the interests of a profession which, without attracting attention or being thanked for it, has always shown itself more solicitous of its duties than of its rights. Proclaiming that medicine is the most social of professions—its aim being essentially humanitarian—let us no longer hesitate to claim for it the cessation of the abuses which in every land demand of physicians the very best of themselves for the relief of suffering humanity, while the physician by the nature of his calling is charitable and most easily imposed upon. It is scarcely an exaggeration to call the present methods the systematic exploitation of the medical profession by the state, the commmunity, the lodges and sickness-insurance societies. The vast question of public medical charities is one of the subjects now most engrossing the studies and critiques of the medical press in all countries. This gathering can not fail to cast light on several of the problems whose solution is of far greater importance after all to the public than to the medical press. Our journals should place themselves at the service of the righteous claims our confrères are even now discussing over the way in the First International Congress of Professional Medicine. The medical press owes it to itself to discuss all these professional questions with the same interest as strictly scientific questions. It should step into the arena as the advocate of every professional claim it considers just, whether the claims refer to intellectual or to moral or material interests. They may all be summarized in the motto: truth in science; honesty in art, and security in the profession. Most of the claims of the medical corps seem the more legitimate, as in a well-organized society—a society which glories, and justly, in its benevolent and charitable, its mutual benefit institutions—simple justice requires that the physician should have a professional standing in conformity with the humanitarian duties he imposes upon himself. Duties accomplished and services rendered should place society under obligations to the physician. It is for the medical press to persuade the powers that be and the public at large that in medicine is to be found the means to make men better. It is for the medical press to convince one and all that if the physician is in truth the arbiter and engineer of health a more equitable position should be accorded to him in our justice-demanding society. It is for the medical press to never weary of the task of persuading the authorities and the public that there can never be too large appropriations for charitable assistance and the preservation of the health of the people. Entirely aside from reasons dictated by humanity, society—in each of its members—has motives of personal interest in improving the health of our neighbor, in rendering his diseases less frequent and hastening to cure them. It is for the medical press to consider how best to reconcile the charges incumbent on the state, on the community and on individuals, so that the burden would rest lightly on all and not too heavily on any one. To solve these infinitely great and infinitely difficult problems the medical press of the world must work with untiring zeal, remembering the words of Renaudot, the first medical journalist in France: "The rich must aid the poor, for the harmony of a state ceases when one part grows out of proportion to the rest while another atrophies."

International Congress of Professional Medicine.

Paris, July 23, 1900.

About four hundred physicians and fifty ladies were present at the opening session of the first International Congress of Professional Medicine and Medical Deontology, Paris, July 23. The secretary, J. Glover, observed in his address that for the first time a liberal corporation which makes less noise in the world than the rest, perhaps, but which yet plays one of the most beautiful parts, and whose independent character gives it an absolutely exceptional place in respect to society, has assembled to discuss its duties, chiefly, but also, a little, its rights. It is an ungrateful, arduous task, so delicate is the epidermis of the medical corps and so exquisitely sensitive its nerves, and also so complex is the economic position of the physician in the organization of modern society.

Dr. Landes, president of the Union des Syndicats Medicaux de France, emphasized the value of the capital represented by the physician as he enters on his medical career. This includes not only the special pecuniary expenses of his long and onerous studies but the sum of the disbursements required for the material life of a man already past the middle of average life, and besides—most important of all—the intrinsic value of the man himself, resulting from his moral and scientific capacity, the capital of his accumulated labor. The young physician, therefore, represents a dual capital, a financial and an intellectual value, the total corresponding to a higher figure than that possessed by a man entering upon any other career. And yet the latter protects his capital to the fullest extent, which the former seldom or never does. The manufacturer insures his plant, the merchant his goods, the farmer his buildings, etc., but the physician seldom realizes that all his capital is vested in his own person and that the welfare of his family depends solely upon his health and life.

Jendrassik described the benefits of an organization such as the Hungarian Medical Association, which was founded in Hungary three years ago, and now comprises five-sixths of all the members of the profession in the country. This organization pays a certain sum to the family of a deceased member; has made a special study of legislation affecting physicians in any way; has established a minimum rate for fees and has founded a special journal to keep its members in touch with its work. The resolutions proposed by Cuylits in his address on "Lodge Practice," mentioned on page 460 of this issue, were adopted by the Congress in full, with the exception of the last, which was modified to the effect that the "superintending physician on the board of mutuality" should be a representative of the local medical association.

In discussing the question of hospital abuse, the Congress adopted a resolution that notices should be placarded in the hospitals and dispensaries and outside that they are for the exclusive benefit of the poor, with mention of the necessary formalities. Thiery further advocated that tickets good for one year should be given to needy patients whose circumstances have been investigated by a special committee appointed in each precinct, and that these tickets or information in regard to pecuniary resources of each applicant should be exacted. The latter resolutions were not voted on, as conditions vary so widely in different localities that no general rule will apply to all.

Descouts presented resolutions which were also adopted, affirming that it is the task of medical societies—not individuals—to prosecute persons illegally practicing medicine, and that a special fund must be created for this end, supported by subscriptions proportionate to the needs and consecrated exclusively to this purpose.

The "Abuse of Medico-Pharmaceutic Advertising" was discussed and the resolutions proposed by Richard-Lesay, of Lille, were adopted, as follows: 1. The Congress declares its disapproval of advertising in any way, shape or manner on the part of the medical profession. 2. No pharmaceutic specialty should be allowed to be sold without the formula appended. 3. The rights of medico-pharmaceutic advertising should be much curtailed, allowing them to announce and advertise in medical publications of all kinds, books, reviews, journals, etc., but in medical publications only. 4. Consultations, remedies and treatment are not matters for advertising and are prohibited to any person engaged in the practice of medicine, pharmacy or any branch of the healing art. Lesay's fifth resolution urged the application of legislation to the illegal practice of medicine, imposing a penalty on every unqualified person who by notices, circulars, proclamations or advertising, informs the public that he treats diseases.

Grasset delivered the leading address on "Deontology." He affirmed that ignorance of the principles of deontology is one of the chief factors in the present medical crisis, inasmuch as it discredits physicians and depreciates the profession. He urged the necessity of a general code of deontology and the advisability of a supreme council of professional medicine with moral penalties. Among the acts he condemned are accepting cheques from drug firms for lending one's name to launch a new preparation, or from manufacturers of orthopedic appliances or proprietors of water cures. No physician should be a shareholder in a tuberculosis sanatorium. Sanatoria should be multiplied, but the executive board should be shareholders outside the ranks of practitioners, medical journalists or professors. Some authors have maintained that it is wrong for a physician to speak of his patients as if they were his private property. This view is, however, not generally held. Before accepting a patient as a successor to a confrère, the first physician must be notified of his deposition by the family. As a general principle No. 2 should insist that the family ask for the bill of No. 1 and express intention to pay it. But it is not necessary to wait until payment has been made before commencing to treat the patient. The physician should always accept a consultation, and with the preferred consultant. In respect to homeopaths the question is a difficult one to decide, for if certain ones are frauds others are honest. Dichotomy is to be absolutely condemned.

The Congress voted the resolution to have a Code of Deontology prepared and a supreme council organized with the right to inflict penalties of a professional order. It thus accepted Grasset's views, but extended them to include professional penalties. The latter measure was especially advocated by the Germans. The Congress has thus gone on record as favoring a disciplinary supreme authority, although each country is left free to organize the supreme council and frame its constitution as it thinks best. The *Semaine Méd.* comments that this resolution will probably long remain a dead letter. In order to hasten its consummation the Congress decided—for France alone, of course—that a permanent committee be organized to consist of the board of the present congress and the boards of the Union des Syndicats Médicaux, the Ass. Gén. des Méd. de France, the Syndicat de la Seine and the General Council of the Medical Societies of Paris. This permanent committee is to draw up a Code of Deontology on the bases set forth in Grasset's address, to determine its application in debatable cases submitted by local associations, and to organize another congress of professional medicine. The *Semaine Med.* observes that the morality of the medical corps depends far more on the example afforded by the leaders in the profession than on the vagaries in the ranks. It views with considerable distrust the creation of a disciplinary order as "big with menaces to the individual liberty of the man of art. And if—as is scarcely probable—such a measure should ever be realized, the medical corps may some day begin to lament—like the frogs in the fable—that they had ever asked for a king."

The receptions and other festivities of the Congress were everywhere decorated with the motto adopted: "Optima Medicorum Concordis." The United States was represented among the honorary presidents by Richardson; Great Britain by Wakely and Bruce; Germany by Schwalbe; Austria by Benedikt; Denmark by Bosch; Belgium by Van Dam; Brazil by Moncorvo; Spain by Pascual; Russia by Chapiroff, and France by Brouardel, Cézilly, Lande and Lannelongue. It is proposed to hold another congress in three years, probably in Belgium.

Colorado State Medical Society.

Thirtieth Annual Convention, Denver, June 19-21, 1900.

INFLUENCE OF MYTH AND SUPERSTITION ON MEDICINE.

Dr. W. W. Reed said that there are now few country neighborhoods that do not have some who are believers in the healing powers of the seventh son of the seventh son. There are in his neighborhood two persons who claim to be able to check a hemorrhage of either man or beast by repeating a certain verse. Why this state of affairs continues is strange; why should a man, who in the conduct of his social, financial, political and religious affairs uses the utmost sagacity and intelligence, when it comes to matters of disease, look for the absurd and the supernatural? He thinks that this is largely due to the fact that medicine in its very incipiency had the misfortune to fall into the hands of the priesthood, who used it largely as a means to work upon the credulity of the people. Charms, mysterious rites and superstitious ceremonies were used in order to impress the human mind, and these have left an influence so strong that it will be many centuries before the effect is eradicated. He advocates the education of the public with regard to the science of medicine and the principles upon which it rests.

RATIONAL TREATMENT OF ABORTION IN COUNTRY PRACTICE.

Dr. J. W. Cline said that in the country, the physician has to assume the responsibility of being anesthetizer, nurse and porter in the midst of uncleanly surroundings, and that "if it is impossible to realize the ideal, we must idealize the real." In inevitable abortion, he gives the patient a dram of ergot and a hypodermic injection of 1/20 gr. of strychnin; cleanses the vagina with bichlorid solution and packs it with iodoform gauze. He orders occasional doses of ergot thereafter. At the second visit, he prepares hot solutions of bichlorid and normal salt, and after removing with placental forceps all that can be removed, he uses a moderately sharp curette. The uterus is douched with bichlorid and then swabbed with Churchill's tincture of iodin, followed by a douche of normal salt solution. He emphasized the advantages of using placental forceps instead of the fingers.

HEADACHE DUE TO EYE-STRAIN.

Dr. E. W. Stevens said that the area affected by disorders of the eye may be defined by a line starting in the region of the nose and following the lower margin of the bony orbit; thence running back from the orbital process of the frontal bone to the upper part of the insertion of the ear, and then dipping to form a curved line ending below the occipital protuberance. The area thus bounded may be further subdivided as follows: The fronto-nasal area, where the pain is said to be an aching over the middle of the forehead to the left or right of the middle line over the supraorbital notch. This area becomes tender in affections of the substance of the cornea, the anterior chamber of the eye, the upper part of the nose and the upper incisor teeth. The midorbital area, where the pain is at the back of the eye "over the front of the hair." This is usually due to refractive error. Contrary to most statements on the headaches of hyperopia and hyperopic astigmatism, he finds that they belong to the morning headaches. Headaches made worse by new work, or those that disappear under the use of atropin are almost always due to eye-strain.

DYSMENORRHEA.

Dr. Minnie C. T. Love considers electricity the best treatment for dysmenorrhea. The action of galvanism is almost entirely nutritional, stimulating the lymphatics, increasing the circulation, and acting as a nerve sedative. She recited the histories of fourteen cases, in all of which electricity had proved a remedial measure of great efficacy in various forms of the disease.

MEDICAL AND SURGICAL EXPERIENCES IN EQUATORIAL AFRICA.

Dr. Albert L. Bennett said that he opened his medical work in Congo Français in 1898, among the great and powerful tribe of anthropophagi, known as Fang. His residence and hospital was about fifteen miles north of the equator. The first man of these people who took an anesthetic was the village witch-doctor. The operation was a slight one for removal of tubercular glands, but the natives present escaped to town and started the rumor that he killed the medicine man, and was then "cutting him up." Fortunately by the time a large hostile crowd had reached the hospital the patient was out of the anesthetic, and was then able to tell the crowd what a brave man he was. After that everybody wanted "sleep medicine" for the slightest pain, or for domestic trouble. An African chief owning from ten to a hundred wives is not infrequently a much-worried man and eminently deserving of pity. Nervous diseases are extremely rare, doubtless due to their having no care for the morrow. One case, however, deserves attention: Male, 55 years old, having considerable fame as a witch-doctor, owing to the fact that he "picks up fire" without feeling pain. He was greatly emaciated, heart action rapid. The left shoulder presented a large mass of the muscle having sloughed away, leaving a large running sore, which gave forth a most offensive odor. Only the little finger of the right hand remained, the others having been burnt off, the stumps being fairly healed. The history of the case was peculiar. He was found sleeping in the fire into which he had rolled while asleep. Since that time he was looked upon as a great "ngang an" (witch-doctor), whom fire did not hurt. When making medicine, "biang," he would pick up burning wood and hot ashes. The muscles of the legs and arms were in a state of atrophy; reflexes exaggerated; sense of touch and smell normal, but the thermic sensation was absolutely lost. He died six months after of myelitis and secondary hemorrhage.

The leading symptoms of malarial infection near the equator are headache, nervousness, aching pain in all joints, ophthalmia, and sometimes a most exasperating coryza. He is of the opinion that arsenic is of more value than quinin in the treatment of malarial infection near the equator. Methylene blue is useful in chronic cases only.

Surgical cases are scarce, except senile cataract. During the two years of his sojourn, he had not seen a single case of trachoma. In closing his paper, he reported a case of ligature of the innominate for aneurysm of the right common carotid involving the subclavian. The specimen was exhibited.

DEGENERATIVE RESULTS OF DEFECTIVE HEREDITY.

Dr. Charles Denison said that autoinfection from rebreathing respired air causes a lethargy and enfeeblement of the nervous system, which in turn has a deleterious influence, especially on the respiratory system. The will power is also dwarfed by the depressing influences of deficient ventilation and the mind rendered unable to properly appreciate the force of either argument, precept or teaching. The only way to compass the great difficulty is through the systematic incorporation of good ventilation and physical training. He prefers the term "consumption" to "tuberculosis," and defines consumption as a degenerative or slow death, due to the vitiation of the blood, generally produced by deficient ventilation of the lungs, a prominent and advanced sign of which is the bacillus of tuberculosis. The phases of our civilization which aid degeneration and also tuberculosis are: 1. The advance in the healing art, which suspends the law of natural selection and permits the weak to propagate their kind. 2. The stimulation of the intellect and the nervous system to such an extreme as to injure the physical—reproductive—powers and favor sterility. 3. Indoor and inactive life, which is the accompaniment of the present social condition. 4. The self-supporting women, who decrease matrimony and exhaust vital power. 5. The present unaided effort of natural selection.

He formulated the following rule of marriage selection to avoid consumptive offspring: Find the proportion of all the mother's, father's and their married brothers' and sisters' children who were living at 5 years of age; if less than 80 per cent. are alive, there is reason to suspect a weak strain in the lineage; if less than 60 per cent., there is strong proof of degeneracy, etc. If the father or mother or any two of his or her grandparents, uncles, etc., died of consumption, cancer or scrofula, the proof of some defective biology is still more evident. Double this tendency to degeneration by uniting two family lineages equivalent to the above, even if one of the parties is ever so little defective, and a sin will be committed by such marriage. The only concession possible which would permit of such marriages is the non-bearing of children, that this line may end with the lives of the contracting parties. It is asserted that "love is blind," and that, no matter what is said young men will make fools of themselves in choosing a wife, and girls will repeatedly "decline" proper offers of marriage only to pick up a "stick of a man" in the end. Under a proper system of education, and with a discreet enlightenment of the young as to their responsibilities, "love will go where it is sent" and it will be sent to the right place.

DIGESTIVE DISTURBANCES IN PULMONARY TUBERCULOSIS.

Dr. C. B. Vanzant read a paper on "The Causes of and Importance of Digestive Disturbances in Pulmonary Tuberculosis." He considered the subject from the following standpoints. 1. Are dyspeptics more prone to develop tuberculosis than others? 2. Are tuberculous subjects more prone to develop digestive disorders than others? He arrives at an affirmative conclusion regarding the predisposition to one disease when the other is in existence. He laid great stress on the rôle which the diminished HCl of the gastric juice plays in the production of all kinds of fermentative changes, giving rise to toxins, ptomains and toxalbumin, which ultimately reach the lungs and there embarrass respiration. And, conversely, pulmonary tuberculosis predisposes to secondary indigestion by the disturbance of the gastric glands, due to profound anemia, hectic fever and neurasthenia. Dilatation of the stomach is an occasional condition of phthisis. From his observation he believes that a bad digestion is the heaviest burden a pulmonary patient can carry, and that if unrelieved, it will undo climatic, hygienic, medicinal and every other influence that can be brought to bear.

SCARLET FEVER AND QUARANTINE.

Dr. W. A. Kickland formulated his views on the above subject as follows: 1. Cases of scarlet fever should be released from quarantine whenever desquamation is complete. 2. All children, before release from quarantine, should be anointed in the evening with a salve composed of carbolic acid, 2 c.c.; ol. eucalypt., 5 c.c.; and olive-oil, 100; followed in the morning by a thorough soap and water bath. This should be repeated for four successive days. 3. No domestic animals should be allowed in the house during the infective period. 4. There should be some means of compensating the quarantined family for time lost, as the public shuts them up for its own protection. 5. Health officers should be appointed whose compensation should be sufficient to justify them in giving their entire time to the work. They should visit every case of scarlet fever and raise the quarantine whenever they consider it safe.

INFECTION BY THE YEAST FUNGUS.

Dr. C. G. Hickey read a paper entitled "Some Pathological Conditions Characterized by the Presence of the Yeast Fungus," in which he gave an account of three cases of throat infection, in at least one, and probably in all three of which, none of the ordinary pathogenic bacteria, but numerous yeast-cells were in nearly pure culture. In a family of four, the wife had sore throat, from which she recovered, the husband had a fever attack, with intense aching across the back, chill and fever, temperature 101 F., dense exudate, deposit grayish in color, firm and not easily removed, leaving an irritable bleeding surface. The culture report was negative and recovery slow. One of the children then had a high fever, accompanied with vomiting and exudate in the throat; on the same day an eruption appeared, beginning on the chest and spreading over the body. The rash was small, papular, mostly discrete, and could be felt under the skin before it showed on the surface. There was a mild, convulsive seizure on the second day; the throat was not painful, and there was no glandular enlargement. Two cultures which were made proved negative as to diphtheria, but showed the presence of numerous yeast-cells, and the exudate showed a tendency to return. The second child had similar symptoms, but less severe in type. No culture was taken.

GUAIACOL IN DYSURIA.

Dr. Jesse Hawes discussed "The Local Use of Guaiacol in the Treatment of Frequent and Painful Urination." He said that this agent is applicable only in those cases in which the cause of the symptom is located in the extreme inner portion of the urethra. The diagnosis of deep urethritis having been made, guaiacol is applied through a speculum to the affected mucous membrane. It acts as an anesthetic and stimulant, and does not give rise to strangury as does silver nitrate. The patient retains the urine for hours after the application.

SIGNIFICANCE OF THE FORM OF TUBERCLE BACILLUS.

Dr. Henry Sewall read a paper, entitled "A Preliminary Note on the Relation of the Form of the Tubercle Bacillus to the Clinical Aspect of Pulmonary Tuberculosis," in which he stated that he undertook the solution of this problem at the suggestion of Dr. Wm. Welch, of the Johns Hopkins Hospital, and that the work was done under exceptional advantages at the Adirondack Cottage Sanitarium, where more than seventy patients were subjects of the inquiry. He had found that the form of the bacilli has great significance in the discrimination of these classes. The short, deeply-staining rod or chain of rods has fearful import: A rather thick, well-staining, homogeneous rod of moderate length is the usual form in many active cases. The long rods, particularly if irregularly broken, betoken a milder process. The chain of sporeless heads characterizes the very chronic cases, which make us wonder at their tenacious hold of life. If there is a benignant form of bacillus it is a rather long, slender rod, ill-staining, or staining irregularly, as if the body of the microbe were irregularly corroded on the sides. It is found in cases while apparently passing on to cure. Sputa of the same individuals, examined month after month, apparently vary in the bacillary character with the state of the patient as regards the disease.

DIABETES MELLITUS.

Dr. R. F. Graham reported the following cases: A woman, weighing 165 pounds, had diabetes for twenty years. She drank from ten to twenty quarts of water daily. Her brother had died at the age of 25, from diabetes mellitus. She passed ten pints of urine, with a specific gravity of 1006; acid; with no albumin, and no sugar. She had borne three children, in the urine of one of whom, a daughter, aged 20 years, sugar was discovered; the specific gravity was always normal, and the amount of sugar 1 per cent.

The second of the three children suffered from eczema and was circumcised on account of a tight prepuce. His urine irritated the wound and excoriation traveled over pubes, scrotum, buttocks and thighs. The urine was acid, contained no albumin, and .25 per cent. sugar. Two years afterward the urine did not contain any sugar, the specific gravity was 1007, was feebly acid, and contained no albumin. It is evident that heredity is well marked.

PULMONARY EMBOLISM WITH REPORT OF CASES.

Dr. F. E. Waxham said that pulmonary embolism or infarction is due to the plugging of a pulmonary artery by a thrombus and the consequent extravasation of blood into the pulmonary tissue. The author believed the condition much more common than generally supposed, and cited a fatal case, occurring suddenly during the puerperal state, also one during an attack of phlebitis and reported in full, a case terminating favorably after sudden and desperate symptoms occurring a few days after an operation for varicose veins. The reported cases show by far the most common cause to be the dislodgment of a thrombus from the uterine sinuses during the puerperal state. The prognosis is generally unfavorable. Of thirty-five cases collected by Sperling twenty-seven were fatal, and of eighteen collected by the author, nine ended fatally. The symptoms vary according to the size and situation of the infarction. Small infarctions give rise to few or no symptoms, and the diagnosis is extremely doubtful. Well-marked cases are attended by sudden and intense dyspnea. rapid and shallow respiration; weak, rapid and thready pulse; pallor, anxiety, cool, moist skin, restlessness, short, painful cough and the expectoration of pure blood in small masses, followed by mucoid expectoration streaked with blood. When situated near the pleural surface and of considerable size, dulness, bronchial respiration, and increased fremitus can be detected. Suddenly fatal cases are often attended by frantic efforts at respiration, intense dyspnea and collapse, sometimes convulsions. When the symptoms enumerated occur suddenly during the puerperal state. during an attack of acute or chronic endocarditis or after operations upon veins, or during an attack of phlebitis we can be well assured of the diagnosis. The author submitted a tabulated record of reported cases.

DISLOCATION AND FRACTURE OF HUMERUS.

Dr. C. B. Lyman presented a paper entitled "Dislocation of the Humerus Complicated by Fracture at or Near the Surgical Neck," of which he said that he had found only 119 cases reported. The injury is an important one on account of the difficulties encountered in treatment and the very serious impairment of function resulting in a majority of cases. The subcoracoid variety makes up 75 per cent. of all cases. The seat of fracture was in the surgical neck in 73 per cent. of these, and the anatomical neck in 22 per cent. He reported the following cases: 1. A tree fell on a man, striking the right shoulder, and producing dislocation of the shoulder and fracture of surgical neck of the humerus. Attempt at reduction by the attending physician was unsuccessful. Splints were applied for ten weeks, but only partial union was secured. One year afterward, he cut down upon the fragments, resected the ends, and secured them by means of silver wiring and plaster-of-paris dressing from neck to hand. Perfect union was secured and also free motion of the bone in its new position underneath the coracoid process. The man works now as line repairer in a telephone company.

2. A miner fell down a shaft in a mine, fifty feet, striking timbers on the way, and causing numerous contusions over the body and dislocation of the right shoulder-joint. Attempts at reduction failed. Seven days after the accident the man came under his observation, and subcoracoid dislocation of humerus was found. He cut down upon the fracture and grasped the lower end of the upper fragment with forceps, and by exerting traction in a line at right angles to the body, succeeded with a slight pull in reducing the dislocation. The fracture was adjusted and held in position with silver wire.

3. A man thrown from a wagon, on examination showed the head of the left humerus lying underneath the coracoid process, and from mobility of his arm there was apparently a false joint below the glenoid cavity. Attempts were made to reduce the dislocation under ether by pressure and traction, without success. The procedure as previously described was used and recovery followed.

(To be continued.)

Therapeutics.

Tinea Sycosis—Barber's Itch.

℞.	Acidi tannici			
	Sulphuris precipitati āā	gr. xlv	3	
	Zinci oxidi	ʒiss	6	
	Amyli, āā	ʒiv	16	
	Vaselini	℥i	32	

M. Sig. To be used twice daily.

℞.	Acidi carbolici	gr. v-x		3-6
	Acidi tannici pulv.	ʒss	2	
	Glyceriti tannini	ʒss	2	
	Sulphuris precipitati	ʒss-ii	2-8	
	Unguenti aquæ rosæ	℥i	32	

M. Sig. To be thoroughly applied as early in the evening as possible and left on as much of the time as possible.

This ointment is very highly recommended by L. D. Bulkley, of New York City. It may be strengthened in chronic cases by the addition of unguentum hydrargyri oxidi rubri, ʒi to ʒii.

Soft Chancre.

℞.	Acidi borici	gr. xv	1
	Aquæ	℥i	32
	Alcoholis	℥ii	64

M. Sig. To be used for cleansing purposes when a balanitis is present; then apply the following paste for the destruction of the chancre:

℞.	Zinci chloridi	gr. xv	1
	Zinci oxidi	ʒiiss	10
	Aquæ destil., q. s. to make a paste.		

M. Ft. unguentum. Sig. Apply to the chancre and leave in place for twenty-four hours.

The above treatment is recommended by MM. Hallopeau and Lerride in their book on dermatology.

—*Journal des Practiciens.*

Melazyo, in the *Bulletin Medical de Quebec*, for May, recommends dusting the surface of the chancre with finely pulverized nitrate of lead—plumbi nitras—a crust is formed which becomes detached after thirty-six hours, leaving a simple wound which heals promptly.

CHANCROIDS.

℞.	Acidi borici		
	Zinci sulphatis, āā	ʒi	4
	Tinct. opii	℥ii	64
	Aquæ rosæ, q. s. ad	℥iv	128

M. Ft. lotio. Sig. As a local application two or three times a day.

Chronic Laryngitis.

℞.	Thymol	gr. xv	1	
	Eucalyptol	gr. xx	1	33
	Creosoti	ʒii	8	
	Ol. gaultheriæ	ʒi	4	
	Ol. pini sylvestris	ʒv	20	

M. Sig. Inhale five or six drops four or five times a day.

Goiter.

℞.	Iodini (crystals)	gr. ii		12
	Potassii iodidi	gr. iv		25
	Alcoholis	ʒi	4	
	Syrupi simplicis	ʒi	4	
	Aquæ destil.	℥ii	64	

M. Sig. One teaspoonful in water one hour after eating, three times a day.

Pediculosis Pubis.

℞.	Hydrargyri chloridi corrosivi	gr. i		06
	Aluminis	gr. xx	1	33
	Amyli	ʒii	8	
	Aquæ q. s. ad	℥iv	128	

M. Sig. Apply locally three or four times a day.

Ringworm—Tinea Circinata.

℞.	Hydrargyri ammoniati		
	Sulphuris loti, āā	ʒi	4
	Vaselini	℥i	32

M. Sig. Apply locally to the affected part night and morning.

Warts—Verrucae.

℞.	Acidi salicylici		
	Alcoholis, āā	ʒi	4
	Aetheris sulphurici	ʒii	8
	Collodion, q. s. ad	℥i	32

M. Sig. To be painted upon the warts daily.

It is the consensus of opinion that some preparation containing salicylic acid is the best for the removal of warts.

℞.	Paroformi	gr. xlv	3
	Collodion, q. s. ad	℥i	32

M. Sig. Apply locally to the warts night and morning.

Dr. Mense, in the *Medical Review*, recommends paraform on account of its penetrative power. It is a white crystalline solid with the formula $(HCOH)_3$ and is sometimes recommended as an antiseptic in doses of .5 to 1 gm. in diseases of the intestinal tract.

℞.	Tinct. iodini	℥i	32

Sig. Take ten drops in a wineglass of water three times a day.

This preparation of iodin is regarded by Murrell, of London, as the best remedy in ulcer of the stomach.

Paralysis Agitans.

℞. Tablets hyoscinæ hydrobromatis, āā...gr. 1/200

No. xv. Sig. One tablet, hypodermatically once or twice daily.

Erb has had success with this preparation in so diminishing the tremor of paralysis agitans that the patient is able to work. In this connection it is well to bear in mind that the other alkaloid of hyoscyamus is hyoscyamina hydrobromas, which can be given in double the sized dose of hyoscin.

Fetid Breath.

℞.	Sodii bicarbonatis		
	Saccharin		
	Acidi salicylici, āā	ʒss	2
	Alcoholis, q. s. ad	℥iii	96

M. Sig. One teaspoonful in a glass of water as a mouth wash.

Sweating of the Hands.

R.	Sodii boratis (borax)	ʒiv	16	
	Acidi borici	ʒi	4	
	Acidi salicylici	ʒiv	16	
	Glycerini			
	Alcoholis diluti, āā	℥ii	64	

M. Sig. Apply with friction three or four tims a day.

—*Journal de Méd de Paris.*

Chronic Parenchymatous Nephritis.

R.	Tinct. cantharidis	m. xxiv	1	5
	Liq. ferri et ammonii acetatis, q. s. ad	℥iii	96	

M. Sig. One teaspoonful every four hours as a diuretic.

Salinger recommends this prescription as a valuable diuretic and curable remedy in chronic parenchymatous nephritis. He records cases in which the amount of urine per diem was greatly increased. He emphasizes the importance of giving the cantharides, in small doses, so as not to produce irritation.

Cracked Nipples.

R.	Potassii permanganatis	gr. xlv	3	
	Aquæ destil., q. s. ad	℥iii	96	

M. Sig. Apply to the nipples several times a day.

Dr. Arthur Giles recommends this preparation in case of cracked nipples, and states the parts heal under this treatment in about eight days. The nipples should be washed in warm water after each nursing.

R.	Orthoformi	gr. xlv	3	
	Lanolini, q. s. ad	℥i	32	

M. Ft. unguentum. Sig. To be applied locally to the nipples night and morning.

To Cleanse the Mouth.

R.	Tinct. myrrhæ			
	Tinct. capsici, āā	ʒi	4	
	Aquæ destil., q. s. ad	℥iv	128	

M. Sig. Use as a mouth wash four or five time a day.

Stomatitis.

R.	Acidi borici	ʒiii	12	
	Tinct. benzoini	ʒiss	6	
	Aquæ destil	℥i	32	
	Syrupi simplicis, q. s. ad	℥iv	128	

M. Sig. Locally in the mouth four or five times during the day.

R.	Potassii chloratis	gr. xv	1	
	Aquæ destil	℥iiss	80	
	Syrupi rubi idæi, q. s. ad	℥iii	96	

M. Sig. One teaspoonful to be taken internally every two hours.

Laxative for Children.

R.	Pulveris rhei	gr. xxiv	1	50
	Sodii bicarbonatis	ʒi	4	
	Pulveris ipecacuanhæ	gr. iv		25
	Syrup simplicis, q. s. ad	℥iv	128	

M. Sig. One teaspoonful every three hours until the bowels move.

For a child of 6 years, or older.

Gastralgia.

R.	Codeinæ phosphatis	gr. 1/4		015
	Bismuthi subnitratis	gr. v		30
	Sacchari lactis	gr. iii		18

M. Sig. At one dose. To be repeated every two hours until relieved.

Leucorrhea.

R.	Acidi tannici	ʒv	20	
	Alcoholis	ʒiii	12	
	Creosoti	ʒii	8	
	Aquæ, q. s. ad	℥iv	128	

M. Sig. Teaspoonful to a quart of warm water as a douche three times a day.

Toothache.

R.	Chloroformi			
	Linim. aconiti			
	Tinct. capsici, āā	m. xxx	2	
	Ol. caryophylli			
	Camphoræ, āā	m. xx	1	33

M. Sig. Apply a few drops on pledget of cotton.

—*Bulletin Gen. de Thérapie.*

Eczema of the Scalp.

R.	Acidi salicylici	gr. vi		36
	Menthol	gr. xii		72
	Ol. lini			
	Aquæ calcis, āā	℥i	32	

M. Sig. Apply externally to the scalp night and morning.

—*Steinhardt.*

Itching of Jaundice.

R.	Icthyoli	ʒii	8	
	Spiritus vini recti	℥ii	64	
	Aetheris, q. s. ad	℥iv	128	

M. Ft. lotio. Sig. To be used externally for the itching.

Painful Menstruation.

R.	Codeinæ	gr. ii		12
	Chloralis hydratis			
	Sodii bromidi, āā	ʒss	2	
	Aquæ camphoræ	℥ii	64	

M. Sig. One dessertspoonful in water upon retiring at night.

Styptic for Bleeding Gums.

R.	Tinct. krameriæ	ʒi	4	
	Chloroformi	m. viii		5
	Acidi tannici			
	Menthol, āā	gr. iv		24
	Aquæ destil	℥ii	64	

M. Sig. Apply locally.

—*Viau, in Med. Record.*

Epistaxis.

R.	Alumnol	ʒi	4	
	Aquæ destil., q. s. ad	℥ii	64	

M. Sig. Use as a spray to check the hemorrhage.

Alumnol is obtained by a reaction between a barium compound and aluminum sulphate. It is a white powder, very soluble in water or glycerin. It is incompatible with alkaline solutions, the hydrate of alumina being precipitated.

Poison from Rhus Toxicodendron—Poison Vine.

R.	Sodii sulphitis	ʒi	4	
	Glycerini	℥ss	16	
	Aquæ camphoræ, q. s. ad	℥iv	128	

M. Ft. lotio. Sig. Apply locally to the affected part by means of sterilized gauze.

Medicolegal.

No Set Form of Words Required.—According to the Court of Criminal Appeals of Texas, in Winfrey vs. State, no set form of words should be required in a dying declaration to show that the declarant was under belief of speedily impending death. The court, it holds, must draw a rational conclusion from all that was said, taken in connection with such surrounding circumstances as must have been known to the declarant, as to whether he was in such a condition of mind as would render his declaration competent.

Can Show Dog Bite to be Worse than Cut.—The Supreme Court of Iowa holds in Sanders vs. O'Callaghan that in an action brought to recover damages for injuries resulting from the bite of a dog it may be shown by medical experts that the wound made by a dog is more painful to a patient than one made by a clean instrument. Likewise, it holds that it may be shown that the two classes of wounds would be treated differently, and that such witnesses may be asked as to what is the usual and ordinary effect of a dog bite, even when there is no evidence that any poison was injected thereby, it being shown that the wound in question was slow of healing.

Held to Have Had Testamentary Capacity.—In re Hewitt's Will it is stated that the will was executed according to legal forms in one of the intervals between the periodic attacks of drunkenness to which the testatrix was subject, and at a time when she had been sober for about three or four weeks. The evidence was substantially uncontradicted that during her intervals of sobriety she appeared to be rational, and conversed intelligently on many subjects. But to sustain the contest several reputable physicians were called as witnesses. One of these never knew the testatrix, and judged of her mental capacity from an autopsy made by him on her remains. The others saw her only while she was greatly intoxicated, or suffering acutely from alcoholic excesses. The conclusion from all the evidence reached by the Surrogate's Court of New York County, New York, is that at the time the will was executed the testatrix was of sufficient testamentary capacity. The opinions of the medical experts as to what her condition probably would be at other times than when she was intoxicated or suffering from alcoholic excesses, it holds, could not be suffered to override direct evidence of what that condition then actually was.

Examiner's Knowledge of Prior Application.—An applicant for fraternal benefit insurance, who warranted every statement made by him in his application to be true, stated therein that he had never before applied for membership in that order. The application was approved by the medical examiner-in-chief. But when suit was brought by the beneficiary to recover the insurance the association set up a breach of warranty, and showed that about five years before the date of the application the insured had made a previous application to a different subordinate branch, and that such application had been rejected by the medical examiner-in-chief. To meet this line of defense, it was argued that the examiner-in-chief at the time he approved the application for the certificate in suit knew, or was chargeable with knowledge, of the prior application and rejection; that his knowledge was to be deemed the knowledge of the association; and that, therefore, the latter, having issued the certificate and received the assessments thereon with full knowledge of facts that would render it void, should not be permitted to defeat a recovery by proving such facts. This view was adopted by the trial court. The third appellate division of the Supreme Court of New York, however, rejects it, and reverses the judgment of the court below rendered in the beneficiary's favor. Even assuming that the medical examiner-in-chief knew, when he approved the second application, the circumstances of the previous transaction, the court holds, Desmond vs. Supreme Council, Catholic Benevolent Legion, that his knowledge was not chargeable to the association, and that it had the right to avail itself of the defense of breach of warranty. Of course, it is left to be inferred, it might be otherwise, if his action had been more than a preliminary step in the transaction, and if it had been a part of his duty to issue or deliver the certificate.

Waiver of Privilege in Action for Services.—In an action brought by a physician to recover for medical services a counterclaim for damages was set up, the defendant and his wife testified as to his symptoms and treatment during his entire sickness, and he called as witnesses two surgeons who testified that they were called, and found him suffering from a disease other than that for which the plaintiff had been treating him, and performed two operations upon him, after which he speedily recovered. Then the plaintiff called as witnesses two physicians who had been called in consultation, by the defendant's consent, but at different times, before the two surgeons mentioned were called in. The evidence of these two physicians as to their interviews with the defendant, and what they then learned, was strenuously objected to by him as privileged and inadmissible under the statute. But not so thinks Judge Dunmore. He holds, Hennessy vs. Kelley, in Oneida County Court, New York, that, as applied to the facts of this case, the decisions seem to be that the defendant had the right to insist that all the physicians who attended him should remain silent as to his ailments, and as to any personal communications between him and them of a confidential nature. But when he testified in his own behalf as to the way he had been treated by the different physicians, gave conversations, between him and them, uncovered the maladies from which he was suffering, both by his own testimony and that of other witnesses, including that of two of the physicians who attended him, he waived the privilege as to the remaining physicians in reference to the matters disclosed. He then uncovered and made public what before was private and confidential. It amounted to a consent on his part that all who were present and participated in the various transactions disclosed might speak freely as to what took place. When a waiver is once made, it is general, and not special, and its effect can not be limited to a particular purpose or a particular person. After the information has once been made public, no further injury can be inflicted upon such rights and interests of the patient as the statute was intended to protect, by its repetition at another time or by another person. The rule contended for by the defendant, the court says, would leave a physician absolutely at the mercy of an unscrupulous patient.

Unvaccinated Pupils in Schools.—Section 24 of chapter 45 of the session laws of Utah of 1899 provides: "Local boards of health shall have jurisdiction in all matters pertaining to the preservation of the health of those in attendance upon the public and private schools in the city, to which end it is hereby made the duty of each of the local boards of health: To exclude from said schools any person, including teachers, suffering with any contagious or infectious disease, whether acute or chronic, or liable to convey such disease to those in attendance," etc. Does this confer authority upon such a board of health to prescribe and enforce a rule excluding unvaccinated pupils from school during the prevalence of smallpox, and so long as the emergency continues? The Supreme Court of Utah holds that it does, in the mandamus case of the State, on the relation of John E. Cox vs. the Board of Education of Salt Lake City. That is to say, it holds that authority to exclude those who are "liable to convey" such infectious disease as smallpox to those in attendance on the public schools empowers a local board of health to exclude all unvaccinated pupils from the public schools while the disease of smallpox is prevalent and an emergency on account thereof exists. More than that, it pronounces it a reasonable regulation in aid of the promotion of the public health for such board of health to prohibit all unvaccinated pupils from attending and meeting together in the public schools at such a time. In other words, it holds that, where no attempt is made on the part of the board of health to compel vaccination, but during the emergency an option is given the pupil, who is liable to convey the disease into the schools, to be vaccinated or remain away from the schools until the danger from smallpox is past, the order is justified under the police power inherent in the state, and such power is delegated by statute. However, the court says that compulsory vaccination is not authorized by the statute, and that this holding must not be construed as empowering the board to require compulsory vaccination without the consent of the patient. On the other hand, it holds that, although the constitution of the State of Utah is silent on the subject of controlling contagious diseases, no one person has the legal right to infect another with smallpox, and that the statute can not be construed as conferring that right upon any person or class of people. All boards of health, it also says, have general power under the statute to promptly and effectually protect all persons from impending pestilence and disease. But the exercise of the power is controlled, and, when called upon, the board must show that its acts are justified by the facts in the case.

Not Liable for Injury from Examination.—In the case of Pearl vs. the West End Street Railway Company it was sought to charge the company with the alleged results of a doctor's examination of the plaintiff. The plaintiff had had an accident, and had sued the company, whereupon the latter forthwith sent a doctor to examine him. The plaintiff's trouble was in his left leg, and the doctor, after directing him to stand upon his right leg told him to stand upon his left leg. The man said that he could not, and his own doctor also said that he could not bear his weight on that leg. The examining doctor then told him to "try standing on his left leg." He tried it, fell, and here attributed subsequent hysterical trouble to that cause. Under these circumstances, the Supreme Judicial Court of Massachusetts holds that a verdict was properly directed in favor of the company. It says that it would be a strong thing to say that the evidence warranted finding any one responsible for the accident except the plaintiff himself. The doctor's request that he should try standing on his left leg was not medical advice or direction upon a matter as to which the plaintiff had put himself in the doctor's hands. On the contrary, it came from one who avowedly was in an adverse interest, and who had no authority of any kind. Furthermore, it recognized in its very words that perhaps the man was right in thinking that he could not stand in that way. It only called on him for an experiment in a region of admitted doubt. How far the experiment should go necessarily was left to the man himself when he should make it. If he carried it too far, the doctor was not to blame. Moreover, the court holds, the doctor was not an agent or servant of the company in making his examination. He was an independent contractor. There is, the court continues, no more distinct calling than that of the doctor, and none in which the employee is more distinctly free from the control or direction of his employer. In this case, the doctor was informing himself, according to the suggestions of his own judgment, in order to advise and perhaps to testify for the company. And, it must be assumed, in the absence of other evidence than his profession and purpose, the court adds, that what he should do and how he should do it was left wholly to him. Nor does it consider material the exclusion of evidence that went to the general skill of the doctor's examination, the ground of the claim being a specific fact, definitely stated. Besides all of which, it rejects, as not maintainable, an argument drawn from the liability of a litigant for his attorney. The liability of client for attorney, it explains, is the result of a special series of events, and can not be allowed to found a general rule.

Texas View of an Accredited Medical College.—The Court of Criminal Appeals of Texas finds error in the conviction, in the case of Aldenhoven vs. State, of a holder of a diploma from the Independent Medical College of unlawfully practicing medicine in Gonzales county, for pay, without first having obtained a certificate of professional qualification from the authorized board of medical examiners, and without having a diploma from some accredited medical college chartered by the legislature of the state, or its authority, in which the same is situated. At the trial, the state introduced as witnesses several physicians who testified that the Independent Medical College was not on the list of accredited medical colleges. This was objected to because it was the opinion of the witnesses, and because their opinion was based upon hearsay, and not upon proper information, they having stated that their authority for saying that said medical college was not an accredited one was Polk's Medical Register, a book published by a private concern, and not by any state or medical board created by any state. The court holds that the objection was well taken. It holds that this testimony was clearly inadmissible for any purpose. It says that it was the opinion of witnesses, and was hearsay of hearsay. It was not shown that Polk's Medical Register was any other than hearsay, and the mere fact that it was a book purporting to give a list of accredited medical colleges, the court continues, would not make it admissible. Furthermore, the court holds that the opinion of witnesses as to whether this particular college was an accredited medical college was not admissible, since the state statute itself defines the term "accredited medical college." It refers to article 438 of the penal code of Texas, which provides for the punishment by fine, "if any person shall practice for pay, or as a regular practitioner, medicine, in this state, in any of its branches or departments, or offer or attempt to practice without first having obtained a certificate of professional qualification from some authorized board of medical examiners or without having a diploma from some accredited medical college, chartered by the legislature of the state or its authority, in which the same is situated." Under this article, the court holds, a person is not required to have a certificate of qualification from authorized medical examiners, and also a diploma; in order to free him from a prosecution, but if he has either, he is not subject to prosecution. And the latter clause of the article, the court takes it, is a clear definition as to what the statute means by the term "accredited medical college;" that is, an accredited medical college, within the terms of this article, means a college "chartered by the legislature of the state, or its authority, in which the same is situated." Hence, the court holds, if a party has a diploma from such a college, then he will not be subject to a prosecution for violating this article, and, if he has not, he can be so prosecuted.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), August 4.

1 *Cancer of the Stomach and Intestines. B. Farquhar Curtis.
2 *Hydrotherapy in Pneumonia. Simon Baruch.
3 *Use of Hypnotism in General Practice. E. H. Martin.
4 *Some Points Bearing on the Medicinal Treatment of Appendicitis. Charles Rosewater.

Philadelphia Medical Journal, August 4.

5 *Morbid Conditions Caused by the Bacillus Aerogenes Capsulatus. Wm. H. Welch.
7 Case of Conjunctival Burn; Recovery Without Symblepharon. Witt G. Wilcox.
7 Case of Conjunctival Burn; Recovery Without Symblepharon. Howard F. Hansell.
8 *Congenital Tuberculosis. Benjamin F. Lyle.
9 Antistreptococcic Serum—Case in which It Was Used with Apparently Remarkable Results. D. H. Galloway.

New York Medical Journal, August 4.

10 *Treatment of Metacarpal Fracture. Carl Beck.
11 Present State of the Galvano-Caustic Operation of Bottini for Ischuria. (Concluded.) Granville McGowan.
12 *Appendicitis: When to Operate. J. H. Carstens.
13 *Hysteria; Its Nature and Etiology. Charles Louis Mix.
14 Vulvovaginitis in Children. Herman B. Sheffield.
15 Case of Enlargement of the Liver and Spleen Succeeding. Chronic Catarrhal Cholangeitis. Stanley S. Cornell.
16 Glandular Complications of Acute Follicular and Acute Suppurative Amygdalitis when Accompanied with La Grippe. Wendell C. Phillips.

Medical News (N. Y.), August 4.

17 *Treatment of Summer Diarrhea in Infants. Charles G. Kerley.
18 *On Methods of Closure of Abdominal Incisions. Maurice H. Richardson.
19 *The Consumptive in Los Angeles. Wm. H. Dukeman.

Cincinnati Lancet-Clinic, August 4.

20 *Extravasation of Urine. S. P. Kramer.
21 *Should Military Medical Science be Taught in Our Medical Colleges? Edmund C. Brush.
22 Valedictory Address at the Training School for Nurses of the Jewish Hospital. Henry W. Bettmann.

Boston Medical and Surgical Journal, August 2.

23 *Asphalt Pavements; Their Nature and Desirability. Clifford Richardson.
24 *Transportation of Disease by Dust. Harold C. Ernst.
25 *Effects of Dust upon the Lungs. Vincent Y. Bowditch.
26 Effects of Dust on the Upper Respiratory Tract. Samuel W. Langmaid.
27 *Recurrent Luxation of the Ulnar Nerve. E. J. Cotton.

St. Louis Medical Review, July 21.

28 *The Researches of Apathy and Bethe and Their Effect upon the Conception of the Neuron. Sidney I. Schwab.
29 How Food May be a Causative Factor of Disease. Samuel E. Earp.

Medical Fortnightly (St. Louis, Mo.), July 25.

30 Illustrations of Vasectomy, or Obliteration of the Seminal Ducts Relative to Hypertrophy of the Prostate and Bladder Atony. Reginald Harrison.
31 Pus. David W. Reid.

American Practitioner and News (Louisville, Ky.), July 1.

32 Compound Fracture: With Report of a Case. W. C. Simmons.
33 Mastoiditis: With Case in Point. D. C. Bowen.
34 *Some Advances in Minor Surgery. A. J. Slaton.
35 *Mucous Disease. Philip F. Barbour.

Medical Age (Detroit), July 25.

36 Some Deformities Corrected, Etc. (Continued.) Daniel La Ferte.
37 Acute Diseases of the Suprarenal Capsule. D. C. Brockman.
38 Therapeutic Use of Guaiamar—A Plea for its Further Use in Phthisis Pulmonalis. Jerome T. Gardner.

Buffalo Medical Journal, August.

39 *Puerperal Infection. Matthew D. Mann.
40 *Modern Treatment of Prostatic Hypertrophy. Herman Mynter.
41 *Early and Late Operations for Appendicitis. Eugene A. Smith.
42 Symptomatology of Early Ectopic Gestation. Maud J. Frye.
43 The Recent Epidemic of Measles in Buffalo. F. C. Gram.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), August.

44 President's Address before the American Dermatological Association. H. W. Stelwagon.

Quarterly Journal of Inebriety (Hartford, Conn.), July.

45 History of Experimental Investigations Concerning the Influence of Alcohol and Alcoholic Drinks on the Functions and Structures of the Living Animal Body by American Investigators. N. S. Davis.

46 *Dipsomania and Its Treatment by Suggestion. J. Milne Bramwell.
47 *Some Injuries from the Use of Opium in Infancy. T. D. Crothers.
48 The Effect of Small Doses of Alcohol on the Brain. Victor Horsley.
49 Is Alcohol a Food? (A Reply to Prof. W. O. Atwater.) Winfield S. Hall.

Peoria Medical Journal, July.

50 Medicolegal Status of Abortion. O. B. Will.
51 Reminiscences of Capital Surgery under Difficulties; with Remuneration in Each Case. John I. Skelly.

Medicine (Detroit), August.

52 *Examination of the Sputum for Tubercle Bacilli. Carl Weidner.
53 *Ankle Sprains. Edward H. Ochsner.
54 Conjunctivitis and Its Treatment; With Special Reference to the Use of Nuclein Solution Five Per Cent. in Conjunctivitis Lymphatica. J. Ivimey Dowling.
55 *Treatment of Abortion. Henry B. Stehman.
56 *Chloretone as a Hypnotic and Local Anesthetic. Freeman F. Ward.

Toledo Medical and Surgical Reporter, August.

57 Actual Experience with Wounds Inflicted by Modern Military Projectiles vs. Theory. Charles B. Nancrede.
58 Treatment of Typhoid Fever in Adults. R. S. Walker.

American Journal of The Medical Sciences (Philadelphia), August.

59 *Clinical Notes of Cases of Pernicious Anemia. Frederick P. Henry.
60 *Pernicious Anemia: A Study of One Hundred and Ten Cases. Richard C. Cabot.
61 *Experimental Research Showing that Uric Acid Secretion is Not Regularly Diminished in the Period Preceding Epileptic Seizures. James J. Putnam and Franz Pfaff.
62 *Minor Forms of Cardiac Dilatation. Beverley Robinson.
63. Endothelioma of the Skin Developing in the Scar-Tissue of Lupus Vulgaris; Angiosarcoma of the Skin. J. A. Fordyce.
64 *A Comparative Study of Digitalis and Its Derivatives. John P. Arnold and Horatio C. Wood, Jr.
65 Multilocular Cystoma of the Pancreas. Reginald H. Fitz.

Illinois Medical Journal, August.

66 *Ankle Sprains. Edw. H. Ochsner.
67 *Two Cases of Intestinal Obstruction following Vaginal Hysterectomy and One After Pelvic Abscess, with a Secondary Operation in Each Case. A. Goldspohn.
68 *Is Pneumonia Contagious? J. T. M'Anally.
69 *Have We Smallpox? H. C. Mitchell.
70 *Appendicitis—Perineal Operation in the Male and Vaginal Incision in the Female. E. M. Sutton.
71 *California as a Health Resort. John H. Hollister.
72 *Diagnosis of Tumors of the Spinal Cord and Its Membranes. Frank P. Norbury.

Ophthalmic Record (Chicago), July.

73 *An Insurance Case in Which Ossification of the Choroid Led to the Identification of the Body. Robert L. Randolph.
74 Glaucoma with Extensive Retinal Hemorrhages from Homatropin. H. Gifford.
75 *Vision and Seasickness. Arthur F. Sumner.
76 *Tobacco Amblyopia. Henry A. Polkinhorn.

Columbus Medical Journal, July.

77 *Diagnosis of the Attitude of the Fetus in Utero by External Examination. E. Gustav Zinke.
78 Plea for the Earlier Use of the Obstetrical Forceps. J. M. Fassig.
79 Hydrophobia. Albert Cooper.
80 The "Optician" and the Medical Registration Act. Chas. A. Hough.
81 Acute Mastoiditis Following Infectious Diseases. J. W. Murphy.

Western Medical Review (Lincoln, Neb.), July 16.

82 *Mountain Fever. E. Stuver.
83 *Psychic Shock or Insult: Its Relation to Certain Mental and Physical Conditions. Jay G. Roberts.
84 *Is Altitude an Etiologic Factor in Insanity. Charles H. Soller.
85 *Case of Cystic Teratoma Complicated with Hemorrhage. E. Hornibrook.
86 Bilateral Nephropexy and Operation for Chronic Appendicitis Through Right Lumbar Incision. J. Cameron Anderson.

Memphis Medical Monthly, August.

87 Five Years' Experience with the Antiseptic Treatment of Typhoid Fever. J. A. Crook.
88 Plea for the Extraperitoneal Method of Dealing with Fibroid Uteri. J. P. Runyan.
89 Pus in the Pelvis. John L. Jelks.
90 Conservative Treatment of Appendicitis. J. P. Runyan.
91 Injection vs. Enucleation. S. E. Pincus.
92 Puerperal Convulsions—Report of Two Cases. W. M. Lambert.
93 A Tapeworm of Unusual Length. M. O. Shivers.

Pennsylvania Medical Monthly (Pittsburg), July.

94 *Brain Tumors—A Report of Seventeen Cases, with an Analysis of the Surgical Treatment in Twenty-four Cases. Theodore Diller.
95 Report of Cases of Brain Surgery. I. P. Klingensmith.
96 Gunshot Wound of the Intestine. R. S. McKee.
97 Obstetric Forceps and the High Operation. J. S. Miller.
98 Causation and Symptoms of Appendicitis. R. W. Stewart.
99 Treatment of Appendicitis. J. J. Buchanan.

Alabama Medical Journal, July.

100 Diagnostic Value of Endoscopy and Cystoscopy. James E. Dedman.
101 Prevention. R. C. Bankston.
102 History of Outbreak of Smallpox at Alabama City. Erasmus T. Camp.
103 Notes on Some of the Newer Remedies. H. A. Moody.

Merck's Archives (N. Y.), July.

104 *Cannabis Indica.. H. Edwin Lewis.
105 A Therapeutic Study of Iodin. A. G. Minshall.
106 *Value of Ergot to the General Practitioner and Gynecologist. J. H. Jackson.

Medical and Surgical Monitor (Indianapolis, Ind.), July 13.

107 Clinical Remarks on Diagnosis. Joseph Eastman.
108 *The Nuclear Structure of Bacterial Cells. Walter E. King.
109 The Importance of Chemistry in the Medical Course. John F. Benham.
110 Concomitant Measles, Chickenpox and Smallpox. Otto Lerch.
111 Report of a Case of Dermatitis Exfoliativa Recurrens. A. R. Robertson.
112 Typhoid Fever in Childhood, with a Report of Three Cases. E. D. Fenner.
113 Two Cases of Severe Blepharospasm and Facial Chorea Relieved by the Use of Spectacles. Drs. Bruns and Robin.
114 Treatment of Acute Jaundice. J. C. Wilson.
115 Interesting Examples of Traumatic Neuroses. F. X. Dercum.

International Journal of Surgery (N. Y.), August.

116 Treatment of Fractures. (Continued.) W. L. Estes.
117 Notes of Progress in Surgical Gynecology. A Brief Review. Franklin Staples.
118 *Modern Pathology and Treatment of Appendicitis. Pinckney French.
119 Regional Minor Surgery. (Continued.) George G. Van Schaick.
120 *Plea for the Better Study of Diseases of Women by the General Practitioner. W. B. Pigg.
121 Infiltration Anesthesia. Wm. Lohmann.
122 Preparation of Patient for Surgical Operation. Charles W. Oviatt.
123 Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
124 Recurrent Appendicitis—Tuberculous Disease of the Knee-Joint. Charles McBurney.

Journal of Medicine and Science (Portland, Me.), July.

125 Some Aspects of Evolution. W. A. V. Wiren.
126 *Digestive Enzymes vs. Bacteria. G. M. Randall.
127 Masso-Therapeutics. E. H. Judkins.
128 Purulent Galactophoritis. F. W. Larrabee.

Southern Practitioner (Nashville, Tenn.), August.

129 Ductless Glands. Geo. H. Price.

Medical Examiner and Practitioner (N. Y.), July.

130 *Pathology and Etiology of Acute Articular Rheumatism. J. C. Young.
131 Causes and Pathology of Gout. E. W. Lambert.
132 *Experience of the Union Central Life Insurance Company with Female Risks. John L. Davis.
133 Should the Fact that an Applicant has had Dropsy Necessarily Debar Him from Insurance. Theodore L. Hatch.

Medical Review of Reviews (N. Y.), July 25.

134 *Submucous Ligature for Rectal Hemorrhoids and Prolapse. B. Merrill Ricketts.

AMERICAN.

1. **Cancer of the Stomach and Intestine.**—The outcome of operations for the cure of cancer of the stomach is difficult to state, but is certainly encouraging. The dangers of resection seem to be lessening, and the limitations that were put upon the operation by surgeons formerly are being removed by modern experience. The size of the tumor seems to be of comparatively less importance, as the whole stomach has been extirpated, and the presence of adhesions with modern methods only prolongs the operation. The presence of enlarged glands is not an absolute contraindication, for it has been found sometimes that they are not carcinomatous. It is important that an early diagnosis should be made for the safety of the patient, and where no tumor is found this is sometimes difficult. If, as Hemmeter, says, rapid emaciation takes place, with stomach symptoms, absence of hydrochloric acid, with presence of lactic acid, while the power of digesting albumin has been reduced under 30 per cent. of the normal, the Oppler-Boas bacillus is found and no improvement occurs from medical treatment for several weeks, it may be assumed that cancer

is present. The modern indications for operation are: 1, presence of tumor; 2, dilatation of stomach; 3, obstructive vomiting; 4, chemical changes in the gastric contents, even where the symptoms are slight; 5, hematemesis; 6, severe gastric pain. All these might indicate only benign disease, but even in that case, operation might be advisable. Curtis reports three cases of operation with benefit and calls attention to the relations of chronic ulcer to carcinoma. It is probable that if a thorough study of the cases is made, severe gastric lesions will be found to have existed long before malignant disease commenced. He believes that operation should be advised even if the diagnosis is not altogether certain and that it will probably reveal in any case some definite conditions which can be relieved. Even if the case is of long duration, and seems unfavorable, there is still a possibility that laparotomy may bring out something to the patient's advantage and improve his chances. Carcinoma of the intestine is next taken up and the differential diagnosis is to be made from obstinate chronic suppuration or constipation, alternated with diarrhea. Though it must be remembered that chronic diarrhea with mucopurulent discharge may be only a symptom, the indication for operation is urgent when the above symptoms appear in combination, and such patients should be examined thoroughly and repeatedly by palpation of the abdomen and rectum. The diagnosis of the exact site of the lesion can be made in many cases if care is taken. Surgical treatment consists in the removal of the tumor or the relief of the obstruction without attempting to remove it. The mortality is serious, but is being reduced. The palliative operation consists in the formation of an artificial anus or making an anastomosis between the bowel at a point below and above the stricture, to which latter operation may be added the so-called exclusion of the diseased part of the bowel. Curtis thinks, however, that neither of these methods should be attempted in the presence of obstruction. In this event the only method is to form an artificial anus. He is not favorable to the forming of intestinal anastomosis in most cases. It has the disadvantage of the operation being conducted in the immediate vicinity of the diseased tissues, which may necessitate another operation later.

2. **Hydrotherapy in Pneumonia.**—Baruch sums up the effects of hydrotherapy in pneumonia by saying, while it is not a direct nerve agent it fulfils all the therapeutic indications, forestalling or controlling all the depreciating elements of the disease. Only one condition is unaffected, viz., resolution. He has observed the crisis in only about 25 per cent. of the cases. The local course of the disease appears to be changed, resolution proceeds more slowly but more surely, the patient has a normal temperature and pulse, and almost normal respiration for from five to twenty days before all signs of consolidation have disappeared. In the meantime, he permits him to go out in warm weather and endeavors to hasten convalescence by the usual methods, good food, out-door exercise, ventilation, etc. He can explain this delay of resolution only theoretically by presuming that more cases are saved that way, and those who do not have the crisis and rapid resolution would probably add to the great silent majority or pursue a slow convalescence. He uses in adults, as a rule, a wet thoracic compress, instead of a full bath, though in children he employs the full bath with moderate temperature.

3. **Hypnotism in General Practice.**—Martin calls attention to what he deems the value of hypnotism in general practice, and reports cases where he has used it with benefit. Among the conditions in which he recommends it are: Insomnia, nausea of pregnancy, wrenched back, toothache, etc. He thinks that if it were properly used it might have something to do with discouraging the tendency to wander off after the false gods of osteopathy and "Christian science," and other such methods of cure.

4. **Appendicitis.**—Rosewater describes his method of medical treatment of appendicitis in cases where surgery is objected to or seems unnecessary. He thinks enemas with salt water, calomel, purges, ice applications, liquid diet, with salol and caffein to relieve fever and nervous manifestations, are useful. When the inflammation subsides he thinks ammonium iodid in doses of one to three grains every four hours, with copious draughts of hot water, to hasten the removal and destruction of inflammatory exudate is advisable. He gives hot water freely in all cases and in large quantities.

5.—This article appeared elsewhere; see The Journal of August 11, ¶16, p. 385.

6. **Ectopic Pregnancy.**—Wilcox notes the conditions which may be confused with ectopic pregnancy, and calls attention to the necessity of noting the forgotten early history in some late cases. Cases have actually happened where a woman suffers from vague symptoms which may be referred to other causes, and only the most careful inquiry will bring out the facts necessary for the diagnosis. There is only one safe treatment, and that is operation. He reports two cases which show the comparative ease of recognizing tubal pregnancy before rupture.

8. **Congenital Tuberculosis.**—A case reported by Lyle is that of a child which was born of a consumptive woman who had borne another child during the existence of her disease. Her death occurred at the birth of her last child, which survived several weeks and increased in weight from three and one-half to five pounds, but on post-mortem it was found to have generalized tuberculosis. He thinks it a case of congenital tuberculosis, and the only possible source of the bacteria was from the mother's blood. The intestines and mesenteric glands were free from indication of the disease, which would show that it did not contract it through its diet. The child was ill throughout practically its whole existence.

10. **Metacarpal Fracture.**—Beck publishes a method of holding in position the replaced fragments in metacarpal fracture which he believes is superior to any other device, viz., the use of rubber tubing for splints. The elastic pressure kept up seemed to produce better results than other methods.

12. **Appendicitis—When to Operate.**—According to Carstens we should operate in appendicitis as soon as the diagnosis is made, except: 1, when the environments are bad; 2, when no experienced operator or proper facilities are at hand; 3, in mild, first attacks.

13. **Hysteria.**—This paper, by Mix, treats of the origin of hysteria, which he thinks is probably due to a defective anatomical relationship of the neurones, deformities too fine to be detected by the present methods, which give rise to the disturbance of normal relationships that constitutes hysteria. He remarks on the necessity of looking out for any organic symptoms in the diagnosis, and we must be sure that when hysteria is seen to be present nothing else is present, and that it is not merely a complication or environment. The causes are reviewed. The predisposing ones are: 1, heredity, race, age—it occurring usually between 12 and 20—sex, disease of the sexual organs, faulty education and home treatment. The exciting causes he reduces to psychic and physical trauma, suggestion and possibly toxemias.

17. **Summer Diarrhea in Infancy.**—The gravity of this condition is remarked by Kerley who, says that when the nature of the disease is appreciated the rational treatment consists chiefly in elimination and diet. We must endeavor to remove the bacteria and their products and give nourishment which will not furnish a medium for their growth and development. If the case is seen early, a teaspoonful of castor-oil and a little calomel, in divided doses, should be given. If the case is not seen until late the oil should be omitted and smaller doses of calomel, 1/4 to 1/20 of a grain hourly are indicated. The milk diet, whether natural or artificial, should be stopped at once. The stomach should be washed if there is vomiting, and if there is no vomiting, he instructs the mother to give from three to five ounces of dextrinized barley, either plain or salted, to which is added one or two ounces of chicken, beef or mutton broth. This may be alternated with a teaspoonful or two of beef juice, or one dram of liquid peptonoids added to the barley. The change is useful, as children tire of too monotonous a diet. He has practically discontinued the use of white of egg in water, as many children fail to digest it. His instructions to the mother are as follows: Add two even teaspoonfuls of barley or wheat flour to one pint of water.

This is to be boiled twenty minutes and strained, boiled water being added to make the quantity one pint. When the mixture has cooled to the temperature of 100 F. add one teaspoonful of Cereo, which is a preparation of diastase made for this purpose. If barley is used in this strength it will furnish the child a food containing approximately .64 proteids, .15 fat and .4 soluble carbohydrates. If wheat flour is used, the mixture will contain approximately, .8 proteids, .046 fat, and 2.4 soluble carbohydrates. The milk should be discontinued until the stools are nearly normal and not more than three in twenty-four hours. For the drugs he uses only about four, castor-oil and calomel, already referred to, bismuth subnitrate and opium. The latter should be given with caution and under special indications, and should never be given when the passages are less than four in twenty-four hours. For a child 1 year old 1/100 gr. morphin might be given hypodermically with 1/600 gr. atropin in case of direct infection with prostration and uncontrollable vomiting. Irrigation of the colon is mentioned and is of the greatest service when the stools are infrequent and foul, but has been considerably overdone. As regards prophylaxis, he says the clothing should be of the lightest on very hot days. The infant should be in the open air in the shade, if in the country; if in the city, the coolest room in the house is far better than the dusty streets. Whether in the city or country two or three spongings with water at 60 F. will make the child very much more comfortable. The milk should be reduced in strength from 1/4 to 1/3 on very trying days, adding water to replace the quantity removed. The mother should always wash her hands with soap and hot water before preparing the infant's food or handling any nursing apparatus, and the child with summer diarrhea should not come in contact with very young children, as it is one of the communicable diseases.

18. **Closure of Abdominal Incisions.**—After noting the advantages and disadvantages of interrupted and through-and-through methods of closing abdominal incisions, Richardson says the advantages of both may be united in a very simple combination. This method he has used considerably when from the size of the wound or thickness of the walls immediate security is desired. He first applies the interrupted sutures, which are placed about half an inch apart throughout the extent of the wound. They are then held tense, the opposing areas being brought together in such a manner that the deeper layers are closely approximated, the outer layers apart. The assistant holds these sutures by their long ends in such a way that no intestine or omentum can get caught between the intra-abdominal loops. The muscle and the fascia are still fully exposed. These are now united by interrupted sutures of silk in one or two layers. He contents himself usually with one layer. The layers of peritoneum and fascia are well enough approximated by the long strands of silkworm gut held tense by the assistant. The fascia and the muscle are now united by a single line of interrupted silk sutures. When these are satisfactorily applied, the silkworm gut sutures are one after another tied. In this way no blind spaces are left and the muscle and fascia are united by permanent sutures of silk. He has used this method in exceptional cases, and the more he uses it the better he likes it, and thinks he will come to apply it exclusively to all abdominal wounds.

19. **Consumptives in Los Angeles.**—Dukeman advises consumptives not to go to Los Angeles, as it has no special advantages for this class of cases. The city itself is not in a sanitary condition, and individuals are liable to be infected by former inhabitants of the quarters they occupy. In this paper he gives an elaborate set of rules for the personal use of the consumptive, which are excellent but can not be given in detail here.

20. **Extravasation of Urine.**—The results of extravasation are described by Kramer, who calls attention to the method he employs in all cases of perineal section. In making the operation it is desirable that the field be constantly kept free from blood so that one may know what one is cutting. After the incision is made in the perineum and the urethra opened on the grooved staff, the nozzle of an irrigator, filled with warm salt solution, is inserted into the external extremity of the urethra and a constant stream allowed to flow out of the incision. This has the advantage of keeping the field clear and presenting a constantly visible guide to the urethra and field.

21. **Military Medical Science.**—Brush advocates the instruction in military medical hygiene in our medical colleges. This country is not likely to keep a very large standing army, and the necessity of such training has been demonstrated in our recent experience. There should be a general co-operation of medical schools in this direction.

23, 24, 25. **The Dust Nuisance.**—The first article in this journal gives a thorough description of asphalt pavements and their advantages, by Clifford Richardson, an expert in this particular line of work. In the second article Ernst reviews the different forms of disease germs in their relation to the possibility of transmission in dust, his article being chiefly a synopsis of the paper by Germano in the *Zeitschr. f. Hygiene u. Infektionskrankheiten*, Bds. xxiv and xxv. He thinks that typhoid cholera, and plague bacilli seem to possess least resistance to the process of drying. Next to these come the streptococcus, the pneumococcus, and the diphtheria bacillus, which seemed to be very variable in their resistance, sometimes dying quickly and sometimes lasting for weeks and months. In the third group he places as still more resistant the diplococcus intracellularis and with it the staphylococci of suppuration, and the bacilli of tuberculosis. The fourth and last group includes the spore-producers—which in this way may resist the effects of drying for an indefinite period—such as anthrax, malignant edema, tetanus, etc. Our knowledge of the acute exanthemata is too slight to place them in any of these groups. They certainly do not belong in the first, but it may be doubtful whether they belong in the second or third. The conclusion which he draws is that the danger of this nuisance is greater from the direct irritant itself than from the chance of transmission of any infectious disease. Bowditch calls attention to its effect upon the lungs and alludes to the backwardness of the Boston authorities in the matter.

27. **Recurrent Luxation of the Ulnar Nerve.**—Cotton reports three cases of luxation of the ulnar nerve treated by splints. He concludes that this luxation of itself often gives little or no indication of its existence, it being found only after systematic examination. In traumatic cases, however, there are nerve symptoms, though not necessarily severe ones, and they usually subside gradually and independent of treatment. The operation is for luxation only and cures such symptoms as are really due to this change. It has no special drawbacks as far as it goes, but the author thinks that the nerve symptoms should be considered in deciding between conservative and operative treatment.

28. **The Researches of Apathy and Bethe on the Neuron.**—Schwab's paper takes up the question of the effects of the studies of Apathy and Bethe on the conception of the neuron, and concludes that while the ideal must be somewhat modified, and the endings of the nerve cell can not be accepted as implicitly as before, and the neuron itself may be somewhat questioned as a unit, yet the modifications are not such as to throw aside the theory as a whole. The conception of the neuron as a genetic neuroblastic derivative and limited trophic cell territory will have to be maintained, though the tendency to regard the ganglion cell as the most important and definite part of the nervous system is not perfectly correct. We may still say that the central nervous system is in possession of a definite cell unit.

34. **Some Advances in Minor Surgery.**—The procedures mentioned are: 1. Operation in malignant disease of the testicles. Slaton advises not to cut the cord at all, but after the testicle is thoroughly enucleated, to make traction on the cord, and it will usually give way near the vas deferens. The blood-vessels will be lacerated, but there will be no bleeding. He operated on two cases in this way without hemorrhage, and without ligating the cord the danger of septic infection is thus lessened. 2. Operation for imperforate anus in the new-born. He objects to the advice of Kelsey, Bryant, Ashhurst and others to draw the bowel down and stitch it to the skin. He says it seldom succeeds and he thinks it unnecessary. If the gut is close to the skin it does not need to be stitched, and if high up

stitching will do harm. He would not make an artificial anus in an infant's side at all. He thinks life under such circumstances would not be worth living, and he would rather let the child go to Heaven. 3. Operation for lacerated perineum. He objects to operating immediately after the accident, but operates several days later, using hydrogen peroxid freely during the operation, thus making a surface free from blood-clots and pus. His objection to operating immediately is, first, that the patient is exhausted and suffering, and is in no condition to be disturbed. In the second place, union by first intention is very delicate and can not overcome muscular retraction before the ligatures let go to some extent. They are useful only so long as they keep the parts thoroughly coapted, which requires no more than thirty-six to forty-eight hours. The third reason is that if you operate immediately, some blood-clots form as you close the wound, and if left there they may produce septic infection. The urine and lochial discharges will do no harm if superficial sutures are put in the vaginal rent properly. He ties the knots together and thinks no catheter is better if the patient can pass water without it.

35.—See abstract in The Journal, xxxiv, p. 1563.

39. **Puerperal Infection.**—In his retiring address as president of the Buffalo Academy of Medicine, Mann insists on the importance of avoiding any possible contamination in puerperal cases and points out the difference between simple and septic infection. He thinks that in a large city an accurate diagnosis of these cases is possible. In simple sapremic endometritis a thorough cleansing of the uterine cavity should be undertaken, but in cases of coccal infection, excepting in cases of gonococcus, the condition is critical, and an operation, by opening the tubes in the cul-de-sac of Douglas, draining away the fluid and packing with iodin gauze, is indicated. He thinks in cases of mixed infection, Pryor's plan of thus operating in every case of puerperal infection where curetting is done would be a good one. It may also be extended to opening of recent accumulations of pus in the tubes or broad ligaments, and he has thus operated with eminently satisfactory results. The question of removal of the uterus, when it is the seat of extensive infection, sometimes arises. If it is riddled with abscesses this would seem to be the only means of effecting a cure. The results, however, are not very encouraging. The uterus should be taken out by the vagina, if at all.

40. **Prostatic Hypertrophy.**—Mynter believes in castration for the relief of prostatic hypertrophy, but has little to say for vasectomy. Ligation of the internal iliac arteries is rather a formidable operation, and is dangerous in old and feeble patients. Prostatotomy, including Bottini's operation, is not without its dangers, and is indicated only in cases of hypertrophy of the middle lobe. The most modern operation is prostatectomy, and he modifies this by operating without suprapubic incision, simply pressing the prostate down by force applied over the symphysis. He thinks the Alexander operation modified in this way will be an operation of preference for the future.

41. **Early and Late Operations for Appendicitis.**—After reviewing the methods and their results Smith urges all medical men to join the class of early operators in appendicitis. He says: Do not wait for the interval. When in any possible doubt, the removal of the cause is certainly a safer procedure than medical treatment with surgery held in the background.

46. **Dipsomania and Its Treatment by Suggestion.**—Hypnotism, according to Bramwell, is a valuable agent in the treatment of dipsomania, and he reports cases which he thinks demonstrate this fact. He also quotes from other authorities who hold the same views, but offers the following points for consideration: 1. The patient must be willing to be cured. 2. Susceptibility to hypnosis varies in individuals, but fortunately deep hypnosis is not essential for good therapeutic results. 5. In dipsomania one ought to begin treatment at the beginning of quiescence from an attack, and aim at preventing, or retarding and weakening the next attack. When stimulants are taken continuously, the difficulties are greater, but the patient must be helped to reduce or discontinue their use. 4. The management of the patient during the earlier part of the treatment, before suggestion has taken effect, is important. If it is possible he should not be left alone, but always in the company of some trustworthy person. 5. The operator must be persevering and not easily discouraged. Recovery may occur after several relapses. 6. A distaste for alcohol ought to be suggested as well as the abolition of the craving. The patient must be advised that he can not be a moderate drinker. 7. Even when the craving disappears quickly, the patient ought to be hypnotized regularly for a month, and if he can be seen frequently for six months, so much the better. 8. The object of the treatment is not only to cure the craze, but to strengthen the will. The latter point is important. Some patients forget what they have gone through, and yield again to temptation. He commends Lady Somerset's institutions, where healthy work and religious influences play an important part, as contrasting with some others where these are lacking.

47. **Opium in Infancy.**—Crothers calls attention to the dangers of opium medication in infancy as leading to degeneration in adult life.

52. **Examination of the Sputum.**—The method of examination recommended here by Weidner is that of Guenther, which consists in spreading the sputum thinly on a cover-glass, drying it thoroughly in the air, and fixing it by passing it through a flame three times. Then the cover-glass is floated sputum side down in Ehrlich's solution of either anilin gentian violet or anilin fuchsin. It is then heated over a small flame until the staining fluid begins to boil, and set aside for a minute to prolong the action of the stain. The cover-glass is removed with forceps from the fluid, and without washing, it is placed in a solution composed of three parts of hydrochloric acid and ninety-seven parts absolute alcohol, where it is left for one minute, and rinsed well in distilled water. It should now appear free of all color to the naked eye. The final steps are counter-staining in a weak solution of methylene blue for several minutes, washing in distilled water and drying in the air; if it is to be permanent, passing it through flame. This is done for the purpose of getting rid of all acid which might have a decolorizing effect later on. It is then mounted in xylol balsam and examined with a 1/12 oil-immersion lens, using open condenser and maximum illumination. If the fuchsin is used, the bacteria will be seen as little red rods upon a blue ground, but not everything that stains red is tubercle. The tubercle bacilli are arranged singly or in little bunches, and frequently in a V-shaped arrangement, and are spread all over the cover-glass. They are slightly curved and often have a beaded appearance, which is so characteristic in active bacilli well prepared. The other methods, of Koch-Ehrlich, Ziehl-Neelsen, Gabbet, and others, are also mentioned though he does not employ them. A considerable part of the paper is taken up with a discussion of the distinction between the smegma and tubercle bacilli, and he seems to think the plan of prolonged immersing in alcohol is perhaps as reliable as any.

53.—See abstract in The Journal, xxxiv, p. 1415.

55. **Treatment of Abortion.**—The principles underlying the treatment of abortion and its complications are given by Stehman as follows: 1. The rendering of the vulva, vagina, and uterus aseptic, and so far as possible maintaining them so. 2. The arrest of hemorrhage, either by use of tampons in the cervix or vagina, or by directly emptying the uterus. 3. In inevitable abortion, the ovum, or any part of the product of conception, should be removed as early as possible. 4. Intelligent curettage is invariably indicated wherever a vestige of placental remains or any suspicion of infection is in evidence; a bacteriologic differentiation is necessary both from the standpoint of prognosis and treatment. 5. When circumscribed local infection is a complication, evacuate the pus as early as possible and by the shortest route.

56. **Chloretone.**—Ward has experimented on himself with a number of hypnotics and found chloretone the most convenient and freest from bad effects, and next to this, trional. He believes that chloretone is theoretically the best hypnotic, and thinks it useful in cases of excessive hyperacidity of nervous origin, and especially in those intractable cases of pain in the epigastrium, which comes on at night interrupting sleep and causes the sufferer to take large doses of bicarbonate of soda.

He attributes its effects to its anodyne action on the gastric mucous membrane. For similar reasons he thinks it would be an excellent remedy in acute alcoholism. He would give it in 10-gr. doses dissolved in half an ounce of whisky or brandy, followed later by a raw egg beaten in milk. He has also used it in one case of whooping cough, with marked benefit.

59.—See abstract in The Journal, xxxiv, p. 1336.

60. **Uric Acid and Epilepsy.**—Putnam and Pfaff have tested the correctness of Krainsky's statement as to the invariable diminution of the excretion of uric acid before epileptic attacks and its increase afterward, using specimens from patients in the Massachusetts State Hospital for Epileptics, at Monson. The method of analysis followed was that of Ludwig-Salkowski—the one now regarded as the best. In all twenty-nine specimens of twenty-four hours' urine were analyzed, coming from two patients, with notes as to the seizures that occurred during the time. They do not find any agreement in their results with Krainsky's statement; the amount was very low in some instances during seizures and high in others.

62.—See abstract in The Journal, xxxiv, 1336.

64. **Digitalis.**—From an experimental study of digitalis and its derivatives, Arnold and Wood conclude that digitalin and digitoxin each represent the full circulatory powers of digitalis. Digitalin and digitoxin stimulate the cardio-inhibitory mechanism both centrally and peripherally. In larger doses they paralyze the intrinsic cardio-inhibitory apparatus. They all cause a rise of blood-pressure by stimulating the heart and constricting the blood-vessels. 4. Very large doses paralyze the heart-muscle of the mammal, the organ stopping in diastole. Digitalin of Merck is a stable compound, one gram of it being equal to about 70 c.c. of tincture of digitalis. Digitoxin is not to be recommended for human medication, on account of its irritant action, which makes it liable to upset the stomach when given by the mouth, or to cause abscesses when given hypodermically, and on acount of its insolubility, which renders it slowly absorbed and irregularly eliminated, having a marked tendency to cumulative action.

66.—See abstract in The Journal, xxxiv, p. 1415.

67.—Ibid., p. 1416.

68.—Ibid., p. 1333.

69.—Ibid., p. 1334.

70.—Ibid., p. 1415.

71.—Ibid., p. 1334.

72.—Ibid.

73. **Ossification of Choroid.**—The case reported by Randolph is interesting from a medicolegal point of view. The man was drowned in Niagara River and his body was found nine months later. The insurance company demanded an examination, and identification of the body was determined by its showing ossification of the choroid in one eye that had been known to be blind.

75. **Vision and Seasickness.**—Sumner believes that seasickness is an ocular phenomenon, and in evidence of this presents the case of a house that was carried away by a flood and deposited in a very abnormal position. Though perfectly stationary, it made persons who entered it seasick. The disturbed relations affected the field of vision in such a way as to produce the reflex symptoms of *mal de mer*. He believes the disturbance is really a psychic one, caused by conflicting mental impressions which produce systemic disturbances.

76. **Tobacco Amblyopia.**—The subject of tobacco amblyopia is discussed by Polkinhorn, who does not agree with the statements made by most observers that the vision seldom if ever falls below 20/200. He thinks in one-half the cases he has seen the reduction was below this figure. Most of his cases were pipe smokers, and nearly all made use of a short, clay pipe, called a "nose scorcher" on account of its size, the stem being only about one and one-half or two inches in length. More nicotine is absorbed in using such a pipe than when using a pipe with a longer stem. In one case, the patient was a female who had every symptom of the disease, but did not smoke herself. She spent most of her time in the room with her husband, who was a paralytic and a constant smoker. Whether this was a true case of amblyopia, caused by inhalation of tobacco fumes when the bodily health was below par, he is not able to positively state. The part played by alcohol in this disease is, he thinks, over-estimated; tobacco is responsible, in his opinion. The prognosis where there is no actual scotoma or contraction of the visual field and the patient is willing to obey directions is, he thinks, good.

77.—This article has appeared elsewhere; see also The Journal of July 28, lxi, p. 258.

82. **Mountain Fever.**—Stuver believes that mountain fever is simply a form of typhoid, modified a little, perhaps, by the conditions of open air, etc. He uses rectal injections of cold normal salt solution as a substitute for the cold bath, and thinks them more available and equally valuable. The treatment in other respects is also described.

83. **Psychic Shock.**—The participation of this element in the production of various disorders, and especially its relation to surgical shock or complication is here emphasized by Roberts. He thinks the physicians should pay more attention to the mental condition of their patients, and the existence of excitable mental equilibrium should at times turn the scale against operation altogether. The use of suggestive therapeutics is advised in some of these cases.

84. **Altitude and Insanity.**—The effects of climate on mental diseases are, according to Solier, very much neglected by authors of works on diseases of the mind. The only exception he makes to this general rule is Dr. Kellogg's recent work. It, however, makes no allusion to the effect of altitude on insanity, excepting that the author recommends a low, rather than a high altitude when the cerebrospinal centers are damaged by the occurrence of organic lesions. The authors who have written especially on this subject in medical journals are Eskridge, of Denver; Solly, of Colorado Springs, and Work, of Pueblo. They do not find that high altitude is especially damaging to the neurasthenic in most cases. Solly analyzes the conditions at the Wyoming State Asylum at Evanston, and comes to the conclusion that altitude is not an appreciable factor in the production of insanity.

85.—See also abstract in The Journal, xxxiv, p. 233.

94. **Brain Tumors.**—Seventeen cases are here analyzed, and the leading symptoms in the order of their frequency are given by Diller, as follows: Headache, vomiting, optic neuritis, eye palsies, ataxia, mental symptoms, hemiplegia, general convulsions, altered knee-jerks, and vertigo. The author thinks the prognosis is always serious, and in only one of eight cases that were operated on of the seventeen, was there any relief. Surgical interference is not very hopeful, though it is not to be discarded absolutely. He believes in the medical treatment by the use of potassium iodid in large doses, 300 to 400 grains daily if possible, and where this fails, an operation may be undertaken. If localization of the tumor is impossible, or if it is inaccessible, perhaps simple trephining may do good.

104. **Cannabis Indica.**—This is one of the older drugs that has suffered somewhat from neglect, but, as Lewis thinks, undeservedly. In small doses it is first stimulating, later sedative. He describes the symptoms of cannabis intoxication, and believes that there is no fatal dose by the mouth in the human subject. He thinks there is a limit to the absorption of the drug when administered by the mouth, since he finds as much effect from 10 grs. as from a larger dose. As far as he knows there are no drugs that counteract its effects satisfactorily; hyoscin hydrobromate comes the nearest to it, and during the somnolent stage, when the respiration and heart become embarrassed, hypodermic injections of strychnin and nitroglycerin are effective, as is also a rectal enema of strong coffee and brandy—two ounces of each. The uses of the drug are manifold, but are almost exclusively limited to diseases due to nervous derangement. In migraine, hemicrania, neuralgias, and headache due to eye-strain, it may be used with marked success, and it is one of the best of anodynes in multiple neuritis. It is one of the most valuable and satisfactory drugs in the neuroses accompanying pregnancy, and dysmemorrhea is one of the principal indications for its use. It is unequaled

to quiet the neuroses, pregnancy and the menopause. It is a valuable adjunct to quinin, and he believes from his own observation that it has a powerful action on muscular contraction, particularly of the uterus, and combined with ergot is a valuable adjunct. It is useful in profuse menstruation, decreasing the flow without completely arresting it. He has not found it of much value as an aphrodisiac, though it may be somewhat effective in some cases of impotence. He has seen evident improvement in several cases of diabetes mellitus, and it is very useful in relieving intolerable itching and burning in all neuroses of the skin. The preparation he uses is assayed solid extract in doses of one-fourth of one grain. He uses one-fourth grain tablets, and repeats the dose every one, two, or three hours, as needed.

106. **Ergot.**—The uses of ergot are related by Jackson, who finds it valuable in fibroids, uterine hemorrhage, Bright's disease, diabetes, brain congestion, hemoptysis, and the hemorrhage of typhoid fever and dysentery.

108. **The Nuclear Structure of Bacterial Cells.**—In this article King reviews the literature of the nuclear structure in bacteria and concludes with the suggestion that two definite substances are to be recognized in the bacterial cell: a cytoplasmic substance and a nuclear substance; that the nuclear substance is simpler in form than in the less degenerated plant forms, but that it has a definite structure which is found in principle in all bacterial cells, and which plays an important part in cell division.

118. **Appendicitis.**—French objects to the use of purgatives in appendicitis, as he thinks they increase the peristaltic movement and contribute to the invasion of infection. Operative treatment is unnecessary only in chronic lesions in which the peritoneal layer is unaffected, and no adhesions exist. In such cases it is not justifiable. When abscess is present but the appendix is not readily accessible, there should be no attempt to find or remove it, as this will increase the danger. He lays down the following rules as to the time of operation: 1. In fulminating appendicitis, when the perforation is large, when invasion is rapid, symptoms are severe, and the blood-count shows signs of infection, operate early. 2. After recovery without operation from a general attack, operation is justifiable. 3. After suffering several mild attacks. 4. Operate after the third or fourth day in cases where the blood-count, pain, vomiting and high pulse-rate indicate the spread of the infection or an increase in its virulence. He thinks the process we call inflammation is conservative, and if we knew the dividing line between repair and destruction we could state the exact minute when operation is necessary.

120.—This article has appeared elsewhere. See The Journal of August 4, ¶75, p. 319.

126. **Digestive Enzymes vs. Bacteria.**—The practical point of Randall's paper is the inconstancy and instability of digestive enzymes as compared with the constancy and stability of living bacteria. He believes that we have in formaldehyde and isoethylin valuable food preservatives which have a wide sphere of usefulness.

130. **Rheumatism and Life Insurance.**—Looking at rheumatism from the insurance standpoint Young concludes that: If the disease has occurred in the ancestry and not in the applicant it need not be considered, for heredity can be traced in only about 30 per cent. of the cases, and it does not follow that it exists. If the applicant himself, however, has had an attack the case is different. As a rule, the earlier the primary attack occurs, the greater is the likelihood of repeated attacks, the greater the severity and danger of cardiac complications; the later the age the less the danger. Occupations calling for great muscular activity with fatigue, especially where the applicant is exposed to sudden chilling, produce more than one-half the cases. If he persists in such occupation, the risk is increased. Conditions of living which lower the tone of the nervous system, or serve to enfeeble the muscular system, increase the chances of recurrence. The same is true of diseases that lower the bodily resistance. A combination of two or more of these elements makes the case so much the worse. These influences upon the desirability of risk are to be considered independently of those arising from residual effects of rheumatism, which are far more important, but are not here considered.

132. **Female Risks in Life Insurance.**—The experience of the Union Central Life Insurance Company with female risks is given, showing a strikingly unfavorable percentage, although the later mortality has been more favorable than the earlier, partly on account of advance in the science of obstetrics, and a rule postponing pregnant cases and those recently married. Consumption and cancer, however, are still the most unfavorable factors in the increased death-rate. Davis thinks the cause of this may probably be found in the careless examination of women, who are rarely thoroughly examined by medical examiners. Many women do not know when they are in ill health, and thus mislead, though they do not intend to answer falsely. In males it is different. In most cases the man breaks down and when he is ill is very sick. He is not schooled in suffering like the woman.

134. **Submucous Ligature for Rectal Hemorrhoids and Prolapse.**—The operation described by Ricketts consists in passing a needle subcutaneously around the hemorrhoidal varices. Its advantages are stated as follows: 1. The impossibility of secondary hemorrhage. 2. There is no tissue destroyed or sacrificed. 3. The loss of time is but little, if any, greater than when they are removed by the clamp and cautery. 4. Thus far there has been no infection. 5. There has been no fistula, abscess, or fissure resulting therefrom. 6. The pain is no greater, and, perhaps, less, than in other methods of ligaturing. 7. There is absolutely no stenosis. The operation is described and illustrated. He passes the needle part way around, then inserts it at the point of exit to come out again at the original point of entrance. In cases of but one or two hemorrhoids one ligation of this character is sufficient, but when they are multiple, as many as are required may be used. The operation for prolapsed rectum is similar.

FOREIGN.

The Lancet, July 28.

Chronic Pancreatitis. A. W. Mayo Robson.—Pancreatitis is a result of bacterial infection, as has been proved both by clinical observation and experiments on animals. Mayo Robson considers it under three heads: 1, acute; 2, subacute, and 3, chronic, which should not interfere with the pathogenesis or classification of the acute form into hemorrhagic, suppurative and gangrenous. The symptoms are very variable and differ in special forms, with no pathognomonic signs, and in each a study of the history, onset, and symptoms is necessary. Acute pancreatitis usually begins with sudden pain in the superior abdominal region, with faintness or collapse, followed by vomiting and almost constantly accompanied by constipation, so that it is frequently mistaken for obstruction. The obstruction here, however, is not absolute. The pain is soon followed by distention in the superior abdominal region, which may become general. The pulse, which is rapid and small, is a better guide than the temperature, which may be sub-normal or normal. Delirium comes on later, and death usually supervenes in from two to five days from collapse. Subacute pancreatitis may also commence with acute pain. Tenderness over the pancreas is marked, and the swollen gland may sometimes be felt. Collapse is not so pronounced, pulse less rapid, constipation gives way to diarrhea, temperature may reach to 104 or 105 F., and yet be normal in the morning; rigors may occur. Loss of flesh and feebleness with albuminuria is pretty constant. The patient gradually succumbs. An abscess may become prominent by its tumor, and burst either in the bowel or stomach or point externally. Chronic pancreatitis, at first hypertrophic, but later cirrhotic, is usually considered rare, but he thinks it much more frequent than either of the other forms. He has operated on a large number of cases of jaundice, apparently depending upon obstruction to the common bile-duct, which led him to this belief. The onset may be gradual, the pain may be severe at times and resemble that of bilious colic, but the tender spot is usually an inch above the umbilicus in the middle line, and not over the gall-bladder, as in cholelithiasis. Jaundice tends to deepen with each attack, until it becomes continuous. Loss of flesh and strength are characteristic. Albuminuria is common, diarrhea is often present. The symptoms of fever are variable, as is likewise the pulse. In the later stages, hemorrhage from the nose and bowel and vomiting of blood, show blood degeneration, and death ensues from increasing weakness. The diagnosis is to be made from gall-stones in the common duct, cancer of the pancreas, the liver and bile-ducts, and chronic catarrh of the bile-ducts. From gall-stones the diagnosis is of no great importance, since the conditions are often associated and the treatment is the same; still, it may be made by the history, as a rule. In cancer of the head of the pancreas the onset is usually gradual and painless, and the disease ordinarily occurs later in life, after the age of 40. It is preceded by general failure in health. Jaundice when it occurs is absolute and unvarying, and there is nearly always a tumor of the gall-bladder without tenderness. The liver is enlarged, and, in some cases, a hard nodular tumor may be found on the under side of the distended gall-bladder. Extremely rapid loss of weight and strength with increasing anemia, but without ague-like seizures, is very characteristic. It is common for this to be absent, with still feeble pulse and later ascites of the lower limbs. Cancer of the bile-duct is rare, and when present may resemble and is usually associated with gall-stones. With cancer of the liver, irregular enlargement, nodules following rapid loss of health, less constant jaundice and absence of fever usually point to its existence. In many cases the diagnosis can be made only by exploratory operation. The disease may last for months, or even years, and it is probable that many cases called chronic catarrh of the bile-duct may be of this character. Glycosuria, increasing weakness and hemorrhage make the outlook bad. Under surgical treatment the prognosis is very favorable, as sixteen out of his seventeen cases have recovered. In acute disease there is seldom much chance for treatment; the symptoms are too indefinite, and the course too rapid. The subacute form is more amenable to treatment, but has usually been attacked surgically only when an abscess has formed. There is no reason why surgery might not be done earlier. Morphin may be necessary for the pain. Calomel as an intestinal antiseptic, and bismuth and salol, and small doses of opium when diarrhea occurs, may be of benefit. The strength must be maintained by careful feeding and judicious use of stimulants. Evacuation of pus is requisite, and other collections must be looked out for. In the chronic form, surgery is indicated, and for attacking the head of the pancreas or pancreatic duct the vertical incision should be made through the right rectus, and not in the middle line. In all cases of deep jaundice he prescribes calcium chlorid in 20-gr. doses thrice daily for twenty-four and forty-eight hours before operation, and gives it in the form of an enema twenty-four hours afterward in 60-gr. doses three times a day. He says that if the papilla is incised it does not require suturing, and in cases where he has explored the ducts by the duodenal route there has been no hemorrhage. The anterior duodenal opening requires closing by mucous and serous sutures. This is best done by a stab-wound at the most dependent part. A number of cases are reported which illustrate the course of this disease under treatment. He remarks that the contrast between the results of malignant disease, of pancreatitis, and the ordinary interstitial chronic pancreatitis is most striking. This article appears to be practically the same as that presented by the author at the late International Medical Congress. (See cable report in The Journal, August 11, p. 375.)

British Medical Journal, July 28.

Physiologic Action of Senecio Jacobea. J. L. Bunch.—The author has studied the physiologic action of Senecio jacobea, the investigation having been undertaken by the Therapeutic Committee of the British Medical Association. His article is illustrated by tracings showing the blood-pressure and the effect upon the heart. The following are his conclusions: 1. Injection of an alcoholic extract of the entire plant of Senecio jacobea into the circulation of a dog in small doses causes a rise of general blood-pressure, with constriction of peripheral vessels and of vessels of the intestinal area. This effect is accompanied by a diminution in the magnitude of the contractions both of the auricle and of the ventricle. 2. Large doses—.8 to 1 gram for a dog of 7 kilos—of the drug cause a fall of general blood-pressure, with dilatation of the intestinal vessels and inhibition of the contractions of the intestinal coat. 3. After several injections of small doses, or after one large dose of the alcoholic extract, further injections produce a fall of blood-pressure, with slowing of the heart, and this effect is repeated unless a considerable interval is allowed to elapse before any further injection of the drug, which then again causes some rise of general blood-pressure. 4. The entire plant, therefore, contains two substances with distinct physiologic actions, but he has not up to the present been successful in locating them. 5. Watery extracts of the residue obtained by evaporating the alcoholic solution produce a fall of blood-pressure and cardiac inhibition, due to the action of the drug on the nerve terminations in the heart, and not to direct action on the muscular fibers of that organ. 6. The substance which causes a rise of blood-pressure is not contained in such watery extracts, or if present, is only in small quantities.

Oral Sepsis as a Cause of Disease. William Hunter.—The writer, who has been rather prominent in tracing disease as a result of dental decay here takes up the subject again and claims that he finds for every case of gastric or other affection traceable to pyorrhea aveolaris there are a hundred equally well-marked associated with dental or oral conditions of sepsis. The important point is that they are all septic in their nature, and are produced by pus organisms. He thinks there are no such virulent necroses as those grown in connection with necrosing bone, and that is the character of those connected with carious teeth. No physician or surgeon, he says, would allow a patient with a foul septic ulcer on his forearm to apply his lips to the ulcer to clean it, yet this is pathologically what happens in patients with carious teeth or stomatitis. Moreover the swallowing is constant, and for years unheeded by the patient or physician. As instances of these conditions he reports the case of a woman who suffered from inexplicable salivation and subsequent intestinal trouble so severe in character as to confine her to the bed, and another who had gastritis and various rashes, besides nervous attacks It is probably impossible to prevent occasional access of typhoid, tubercle, and other infectious germs. They need not, however, keep us from taking the most exhaustive precautions for saving our house from typhoid contamination or preventing access of tubercle bacilli. Therefore, he maintains that the mouth, which is so accessible to local treatment, should not be made into a perfect hotbed for their development and propagation. By oral antisepsis he means, not merely washing the mouth with mild astringent and antiseptic mouth washes, but the direct application to the diseased tooth or inflamed gum of carbolic acid—1 in 20—daily as long as the patient will persist in keeping the fang, or, better, the removal of all diseased useless stumps, the most scrupulous boiling of every tooth-plate worn, and avoidance on the part of the dentist of too much complicated surgery, such as bridge work, which can not be kept aseptic.

Nature and Action of Snake Venom. Robert Henry Elliott.—The author has investigated the effects on the mongoose of the cobra venom and finds that much larger doses can be borne by this animal than would naturally be supposed. These animals in their normal, active, healthy existence could have borne more, he believes, than those that were the subject of his experiments, as these last had lost more or less of their immunity while in captivity. He notices the fact that the mongoose loses considerable of this immunity in Guadeloupe, where it is not exposed to the snake venom, as it is in its native residence. He finds, for instance, the proportion that would kill a rabbit, dog, and a mongoose, are, roughly, rabbit, 1; dog, 2, and mongoose about 10 to 25. He mentions amongst other things the fact that the bristly hair of the mongoose is protective, as the mongoose terrifies the snake by appearing larger than its real size, and by its agility to escape most of the attacks. He doubts if the mongoose alone is peculiar in this matter, for even dogs or cats have been known to be successful in killing poisonous snakes. Snakes differ in their characters; the cobra is an animal that is subject to hypnotism, a fact known and used by the Indian snake-charmers, who are by no means immune to its bite. If they seem to swallow the venom sometimes or rub it on their arms it has no especial effect and is not taken for any intelligent reason. The Russell viper—Daboia—is a different-tempered animal, and is never used by snake-charmers. It is not so safe to handle as the cobra. He sums up his conclusion in regard to snake-charmers in the following words: 1. The snakemen of South India are certainly ignorant of any method of producing in themselves a highly-developed condition of immunity. 2. Some few of them appear to practice the swallowing of venom, or the inunction of venom into their limbs, but it is doubtful if they do so with any well-defined object. It is possible that they thus obtain some degree of immunization. 3. They confine themselves almost exclusively to the cobra, and escape harm by their intimate knowledge of the methods of handling the snake.

Bulletin de l'Academie de Medecine (Paris), July 10 and 17.

Treatment of Aneurysms with Gelatin. Lancereaux.—In the patient first treated with injections of gelatin, the skin had commenced to yield to the pressure of an enormous and rapidly increasing aneurysm of the aorta, which had perforated the sternocostal wall. The injections of gelatin were made as a last resort. Improvement was evident within twenty-four hours, and in a short time the patient was restored to comparative health, able to climb stairs, and he even fell from an omnibus without disaster. Death occurred more than a year later, after an intercurrent attack of la grippe, and the autopsy confirmed the obliteration of the aneurysmal sac, and of a second smaller sac for which the patient had taken a second course of injections. Lancereaux adds reports of nine new cases, in all of which the patients were very much benefited by the injections. He restricts the treatment to sac aneurysms, affirming that it is useless in simple spindle-shaped enlargement of the artery. An indispensable condition for success is the slowing of the arterial current. Twenty-five injections at least are required in most cases. About 5 gm. of gelatin are dissolved in 200 c.c. of artificial serum, for one injection; it is repeated in a week, and, properly administered, there is neither general nor local reaction.

Diabetes from Tumor in Fourth Ventricle. Marinesco.—The complete observation of a gliosarcoma in the floor of the fourth ventricle, reported in this communication, shows that a lesion at this point first affected the centers for the secretion of urine, inducing a polyuria amounting to eight or nine liters a day, without glycosuria, and later, when the lesion had invaded the centers which preside over the sugar formation, the diabetes was transformed from insipidus into mellitus. The case also establishes that the center of respiration is not at the calamus scriptorius, but lower down, coinciding with Marinesco's experimental research. The hemorrhages into the medulla produced each a bulbar ictus, but did not arrest respiration. Death did not occur until hemorrhage had invaded the aqueduct of Sylvius and third ventricle. The lesion encroached on the upper part of the nucleus of the hypoglossal nerve, the dorsal nucleus of the pneumogastric and the posterior longitudinal fasciculus.

Gazette Medicale Belge (Liege), July 26.

Physicians and Sickness Insurance Societies. Cuylits.—This address was one of the features at the Congress of Professional Medicine. The speaker is one of the foremost leaders in the "Battle of the Clubs," which has been waged so bravely in Belgium. He stated that in 1895 there were 756 "mutualities" in that country—societies organized to insure against sickness, accident, infirmity, or old age. The number has progressively increased, until now there are over 3000 with a membership of considerably more than 350,000. Estimating five souls to a family, this makes 1,750,000 individuals, and adding the numerous other organizations which are not legally incorporated, and co-operative associations, it is no exaggeration to assert that 3,000,000, or very nearly half the population of Belgium, is entitled in some way or another to medical attendance at reduced rates, practically gratuitous. The principle of sickness insurance is permeating more and more every day all classes of society. He referred to our American lodges, etc., as an ideal in respect to their method of medical attendance; each disabled policy-holder receiving his indemnity each week, out of which he pays his own doctor's bills, selecting the physician he prefers. "Europe has much to learn from America in this respect." Meantime he proclaimed the principles which he hoped the Congress would unanimously endorse and promulgate: 1. Every true "mutuality" should be entitled to a minimum medical tariff, which would be incompatible with our professional dignity under any other circumstances. 2. The "mutuality" can have the benefit of these terms only on condition that it will not admit well-to-do perpersons to membership. 3. The tariff should be established by agreement between the "mutuality" and the professional medical association, and may differ and conform to the resources of the "mutuality" and the local conditions at various places. 4. All the local physicians should be notified of the tariff when adopted, leaving each one free to accept it or not. 5. The system of hiring a physician on a salary can not be tolerated, and the choice of the physician should be left to the patient. 6. A general medical superintendent should be one of the officers of the society. He should visit the patients occasionally to ascertain that the medical arrangements are working properly —in the interests of the patient as well as of the association; once a week is sufficient. Adoption of these principles would establish "lodge practice" on an equitable basis, with no further cause for wrangling.

Grece Medicale (Syra) July.

Epilepsy Cured by La Grippe. G. L. Coveos.—A 10-year-old lad passed through an extremely severe attack of la grippe. When he recovered there were no further manifestations of the epilepsy, with which he had been affected since his third year. The seizures had recurred every second day and resulted in complete idiocy by the time he was 8. The attacks had always been confined to the face, but the symptoms were typical in other respects. After recovery from la grippe his intelligence returned, all trace of the epilepsy vanished, and in a year the boy had surpassed his brother in school. The epilepsy must have been symptomatic, not idiopathic.

Presse Medicale (Paris), July 18 and 21.

Unilocular Cysts in Pancreas. L. Bérard.—A large unilocular cyst containing two liters of fluid, in a woman 51 years of age, was differentiated as a tumor of the pancreas by its high location, and its synchronous displacement with the pulse of the abdominal aorta without true expansion of the fluid contents, which demonstrated its immediate contact with the arterial trunk. Another point was its comparatively easy mobilization laterally, while it was impossible to move it up or down or forward and back, suggesting a deep-seated stem. It was also independent of the liver, whose lower margin slipped back and forth on it and did not drag it down except in forced inspiration. The stomach was also independent, and during insufflation masked the area of dulness over the cyst. Bilton Pollard has recently reported three successful cases of this nature treated by incision and drainage, and this observation adds a fourth. Oser's statistics in 1898, of 140 cases of pancreatic cysts, demonstrated conclusively the benefits of this method of procedure. Recovery was complete in 80 per cent. within three months. Location between the stomach and liver —as in this case—is the least favorable for a radical operation, on account of adhesions, but median laparotomy should be the first step in all intervention on account of a pancreatic cyst.

July 21.

New Conception of Myelogenic Leukemia. H. Dominici.—The autopsies in two cases of myelogenic leukemia and much experimental research have demonstrated that the essence of the reactionary process induced by some unknown cause and known by this name, is a hypergenesis and generalization of the myeloid tissue. The manifestations are: 1, the multiplication of this tissue in the zones in which it exists naturally active, as the bone-marrow of the sternum, ribs and spine; 2, the revivifying of this same tissue at the points where it persists in a rudimentary or latent condition after having passed through a phase of activity at some period in the intrauterine or extrauterine life, i. e., in the spleen, liver, ganglia or diaphyses of the long bones; 3, the multiplication in the vessels of elements of the myelogenic series—issuing from these various foci—thus forming remote colonies. Myelogenic leukemia is not a disease of an organ, the bone-marrow, disseminating its elements throughout the rest of the organism by metastasis, colonizing at certain points as myelomata. On the contrary, it is essentially a disease of a tissue, the myeloid tissue in particular, which enters upon a phase of excessive activity in its normal locations and also at points where it persists latent or rudimentary. Among the facts on which this conception is founded are: 1, the possibility of inducing diffuse myeloid transformation of the spleen, experimentally and independently of any metastatic process; 2, the autochthonous origin of the newly-formed intrasplenic tissue; 3, the identity of the structure of this myeloid tissue in the spleen of the animals in the experiments and in the spleen of persons affected with myelogenic leukemia; 4, the modality of histogenesis, peculiar to myeloid tissue, which is manifested in the different organs, and which, although it may retrogress, is capable of resuming its activity at any time.

Semaine Medicale (Paris), July 10 and 25.

Raw Meat an Antitoxin. C. RICHET.—As already announced in THE JOURNAL, Richet claims that raw meat checks the development of experimental tuberculosis and cures it. The amount necessary and sufficient is 12 gm. per kilogram of body weight. The active principle of the meat in this respect is the muscle plasm. The effect of treatment can not be attributed to superalimentation, as experiments on tuberculized dogs have demonstrated that the raw meat acts as a medicine, not as a food. The effect is not due to its digestibility nor to the nitrogen it contains, as cooked meat is as digestible and as rich in nitrogen but has none of the specific antitoxic power of the raw. Raw meat acts by its enzymes, its ferments, its diastases, which possess the beneficent property of opposing the tuberculous infection. Tests on man have indicated the probability that raw meat in the treatment of human tuberculosis should be prescribed in large doses, 600 to 750 gm. at least, every day, or if the muscle plasm is used alone it should be from 1000 to 1500 gm. as the minimum. The use of raw meat should not be reserved for tuberculous patients with digestive troubles, but given to all, as it is a remedy—a heroic remedy—against the tuberculosis itself. Consequently it should be administered from the start. In short, raw meat, or to be more accurate raw muscle plasm, is not only a food, but it is also and chiefly, an antitoxic agent.

July 25.

Diagnosis of Renal Insufficiency. C. ACHARD.—This comprehensive and scholarly article was one of the addresses presented at the International Congress of Medicine. It states that the usual clinical and diagnostic data are better adapted to determine the existence and nature of the lesions in the kidneys than to establish disturbances in function. The anatomic lesion and the physiologic disturbance are, however, not always proportionate, and on the other hand, the functions of the kidneys may be seriously compromised while the symptoms are rudimentary and the general health maintains a deceptive appearance of normal conditions, while a more or less precarious compensation masks the real danger threatening the organism. Besides estimating the volume and specific gravity of the urine, the casts and albumin, it is necessary to determine the state of the function. This can be accomplished by comparing the urine and blood, with tests both chemical, physical—cryoscopy—and physiologic—toxicity—or by study of the elimination with a foreign substance. The latter and cryoscopy are the only two of these methods currently practicable. Comparison of the freezing-point of the blood and of the urine, combined with certain chemical reactions of the latter, furnishes very instructive information in respect to the condition of the renal circulation and the general nutritional processes, but the calculations required to make these deductions are possibly a little too complicated for daily practice. The test of function by induced elimination, which is generally done with methylene blue, is a simple and easy method of obtaining an oversight of the time required and the proportions in which the kidney succeeds in freeing the organism of the substances for which it serves as the emunctory. Cryoscopy and test-elimination can be advantageously combined, and together, form a means of pathogenic research which is liable to throw light on certain still obscure and theoretic points. It is also of great practical utility, confirming the indications derived from clinical examination at the bedside, and sometimes revealing hitherto unsuspected or erroneously diagnosed disturbances in the renal function, especially in certain cases of interstitial nephritis developing insidiously. Study of the glycosuria induced by phlorizin is useful to supplement the elimination test with methylene blue. Achard's method consists in a subcutaneous injection of 5 mg. of phlorizin. The glycosuria is "regular" when sugar appears during the first hour after this injection and disappears by the end of the third or fourth hour, the amount ranging from .5 to 2.5 gm. In pathologic conditions the glycosuria may be exaggerated in duration or quantity, but in most renal affections it is insufficient or entirely absent. This hypoglycosuria or aglycosuria may be observed in connection with impermeability for methylene blue, in patients with interstitial nephritis, before any albuminuria appears. These phenomena may also occur transiently in the course of an acute infectious disease. In some cases the results of the two methods of exploration do not agree, as in an acute or subacute nephritis which allows free passage to the methylene blue with no evidence of glycosuria after the phlorizin test. The latter is manifestly a more complex phenomenon than the simple elimination of a coloring matter, but it is interesting to note that in certain unmistakable and profound lesions of the kidneys, while the elimination of the methylene blue and of other substances in the blood may be proceeding apparently normally, the injection of phlorizin affords a means of verifying that the functional activity of the renal elements is defective at least in certain directions. These facts suggest the possibility of still other functional disturbances, affecting unknown biologic activities of the renal parenchyma, which may possibly have a share in the pathogenesis of uremia.

Cocainization of Spinal Cord in Obstetrics.—The practicability of substituting intraspinal cocainization for general anesthesia in obstetric cases has been established by Doléris at Paris and Bumm at Basle, who each simultaneously report five or six cases in which it was done with the most satisfactory results. One to 2 cgm. of cocain were injected into the subarachnoid space, and in five to ten minutes there was complete analgesia of the lower part of the body to the costal arch, but no interference with voluntary movements. The uterus continued to contract with the same energy and frequency as before, but painlessly. The pain from pressure of the fetal head on the soft parts was also abolished, and the patients ceased to feel the desire to "bear down." Delivery and the later course of the puerperium was normal in every respect and the fetus did not show any indications that it had been affected by the cocain in any way. A laceration of the vagina occurred in one case, which was immediately sutured and no pain was felt by the patient. The analgesia lasted from an hour and a half to two hours. In Doléris' experience the uterine contractions seemed to become more frequent, more vigorous and to last longer than previous to the cocainization, and during the intervals the uterus remained in a state of semitension for a variable period. This latter fact suggests that this method of anesthesia is contraindicated in cases in which podalic version is liable to be required. The amount of blood lost seemed less than usual. Five of Bumm's patients were primiparæ.

Berliner Klinische Wochenschrift, June 16.

Phlorizin Test of Renal Function. L. CASPER.—The importance of this test of the function of the kidneys is evident from Achard's article above. The introduction of a small amount of phlorizin into the body stimulates the kidneys to a functional activity, the products of which—the glycosuria—can be quantitatively determined with ease. By catheterizing each kidney separately Casper has found that the post-phlorizin glycosuria in each organ can be studied alone. With sound kidneys the glycosuria is the same in each, and lasts during the same period, but a diseased kidney excretes much less sugar than its sister organ, or, in case of an extensive lesion, none at all. The glycosuria may vary in amount and duration in each kidney, with bilateral renal disease, or be absent in both organs. With rare exceptions, the elimination of sugar and of urea and the molecular concentration parallel each other. The writer considers the phlorizin test the best of these three methods of investigation and hails it as a distinct advance in the diagnosis of renal functional activity.

Centralbatt f. Chirurgie (Leipsic), July 21.

Sterilization of Hands with Varnish. J. LEVAI.—Two years ago the idea occurred to Levai that a varnish might effectually protect the surgeon's hands and render them sterile. He has since been conducting extensive research in this line and believes that he has solved the problem of hand sterilization with a varnish which fulfils all the desired conditions; the most trying tests for a whole year have only confirmed its value. Two parts by weight of copal and four of Venetian turpentin are warmed with gentle heat and constantly stirred until thoroughly blended, while the water and volatile oil are expelled. When the mass is cold it is dissolved in 100 parts ether sulph.; 100 parts collodium simplex are then added, and later 8 parts of acetone, and the varnish is ready for use. It is removed from the hands in a few seconds with a cloth dipped in 2 parts ether and 1 of alcohol. Chirol and other varnishes have recently been recommended for this purpose, as mentioned in The Journal of July 7 and 28, but Levai states that they contain substances which his tests compelled him to reject on acount of certain properties. Chirol has been patented by the manufacturers, and Levai observes that he intends to maintain all his legal rights to his process.

Deutsche Medicinische Wochenschrift (Berlin), July 19.

Protection Against Hydrophobia. Marx.—It seems evident from the research reported in this article that the rabies virus becomes attenuated during its passage through small animals. Consequently in the Pasteur method of treating hydrophobia the rabies microbes are less resistant and are killed in the human organism before they can reach the central nervous system. As the microbes die they break up and the contents escape, inducing an irritation which stimulates the production of an antitoxin in the organism. Tests on monkeys have confirmed this attenuation of the virus, which had nevertheless lost none of its immunizing power. The harmlessness of the Pasteur injections is thus experimentally explained.

Improved Technique of Antiplague Vaccination. C. Terni.—The essential feature of Terni's modification of Haffkine's method of antiplague vaccination is the use of a small amount of an extremely virulent culture of the plague bacillus —as described in The Journal, July 14, p. 125—with which guinea-pigs and rabbits are immunized. Among its advantages are the combination of a protective with the vaccinating substance, and the fact that active immunity is obtained with it in man in four to five days after inoculation with the lymph, while ten to twelve days are required with Haffkine's method. The immunity attained with a single vaccination lasts for two months, and it is not followed by high fever nor the painful local infiltration always noted with the Haffkine lymph. The entire process of obtaining the lymph and vaccinating requires much less time with a far smaller amount—1 to 2.5 c.c.—accomplishes the maximum effect.

Muenchener Medicinische Wochenschrift, July 17.

Early Diagnosis of Tabes. W. Erb.—Much of the present confusion in neurology would be avoided if tabes were more generally recognized in its incipient or latent stages. Erb describes several groups of cases differing widely from the classic picture, but all had been preceded by manifestations of secondary syphilis from four to twenty-three years before, and the later course of the disease confirmed its tabetic nature. In the first group the objective signs were very slight: the tendon reflexes were normal even after four to seven years' persistence of a few isolated tabetic symptoms such as lancinating pains, bladder and genital insufficiency, slight disturbances in sensibility, slight "Romberg," easy fatigue, and slight pupil sign. In another group of "rudimentary" tabes there were no subjective symptoms and nothing to call attention to the few slight objective ones which were easily discovered when sought. Another group was distinguished by gastrointestinal disturbances, not at all typical of tabes, and with only bilateral paresis of the sixth nerve and the pupil sign to indicate the nature of the affection. The "*formes frustes*" of tabes may never develop beyond the rudimentary stage, but they usually continue a progressive course. They indicate the necessity of investigating the knee-jerk and pupil reflex in every patient as a routine measure. Erb adds that tabetic symptoms need not cause uneasiness in the positive absence of syphilitis antecedents, but that with them the prognosis should be extremely reserved.

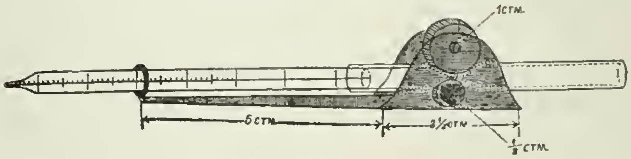
Diagnosis of Hernia of the Diaphragm. C. Hirsch.—Symptoms of gastric disturbance and congenital dextrocardia had been noted for years in the patient whose case is described in this communication. He had frequently applied for relief from the oppression and sharp pains in the left side which appeared occasionally after eating. In his thirty-fifth year he was suddenly seized with violent pain in the left side, dyspnea, vertigo and vomiting, which gradually passed away after four days, but symptoms of pneumothorax persisted, varying in intensity at different times while the general health remained comparatively good. Auscultation and percussion revealed the existence of a large hollow space in the left thorax which insufflation and fluoroscopy showed was the stomach, projecting into the thorax through a rupture in the diaphragm. A similar coincidence of hernia and dextrocardia has been reported by others, suggesting the possibility that the primary factor is a congenital defect in the diaphragm, allowing the passage of part of the stomach or intestines into the thorax with consequent displacement of the heart. Gruber found an isolated displacement of the heart in only 7 out of 100 cases of *situs inversus*. In future the evidence of hernia of the diapharagm should be sought whenever an isolated displacement of the heart is noticed.

Alcohol Dressings. C. Graeser.—The benefits of alcohol for treating phlegmonous and ulcerative processes are becoming better established every day. It acts by assembling new troops of phagocytes to repel invaders, and is especially serviceable in country practice where aseptic conditions are unattainable. The intelligent lay public can also be instructed to use alcohol compresses while awaiting the arrival of the physician.

Secret of Alcohol Disinfection of the Skin. E. Braatz.—The contradictory facts observed in regard to the efficacy of alcohol as a preliminary measure to disinfection of the hands with sublimate are explained by the results of recent tests. They demonstrated that the pores of the skin are filled with air, and that this prevents the entrance of the disinfecting fluids. Alcohol expels this air from the pores and thus enables the disinfectant to penetrate to their depths.

Vratch (St. Petersburg), July 1.

Enumeration of White Corpuscles. M. G. Kurloff.—The accompanying cut shows the principle of the pipette used to draw and measure the blood. It does away with mouth suction and ensures much greater accuracy in measuring under the eye. The compressible rubber cap on the end of the pipette runs between two wheels, which produce a vacuum and aspirate the blood to a given mark as they turn in one direction and expel the exact amount required when reversed. An assistant holds the cover-glasses ready to spread the blood to make a dried preparation at once. The corpuscles are enumerated by means of a movable cover-glass ruled into square millimeters, each set of five marked off with a heavier line, through which the dried specimen is examined under the microscope. The entire process is much simpler than the use of the Thoma-Zeiss instrument, while tests show that the results are practically identical, with the advantages that the enumeration can be done at leisure and the results controlled at any time.



Queries and Minor Notes.

MEDICAL JOURNALS?

Union Mills, Ind., Aug. 6, 1900.

To the Editor:—Please advise me where I can obtain a reliable journal on diseases of the nose and throat, and oblige. C. V. L.

Ans.—*The Annals of Otology, Rhinology and Laryngology* is a journal specially devoted to these subjects. It is published at 302 N. Third St., St. Louis, Mo. *The Laryngoscope*, also published at St. Louis, 3702 Olive St., is another journal devoted to the same specialty. Both of these can be recommended. There is also a journal published in Baltimore, the *Journal of Eye, Ear and Throat Diseases*, which is small and costs only $1.00 a year, and can also be recommended if it is large enough. For ear dis-cases alone Knapp's *Archives of Otology* stands easily in the first rank.

BUBONIC PLAGUE.

To the Editor:—Where did I read an article describing care of the bubonic plague at Oporto, Lisbon? S. R. T.

Ans.—There was an article, a study of the plague at Oporto, published in the *Annals of the Pasteur Institute*, July 25, 1899. We do not recall any special elaborate article, recently published, in English on this subject alone.

The Public Service.

Navy Changes.

Changes in the medical corps of the Navy for the week ending August 4, 1900:

Medical Director G. W. Woods, detached from the naval hospital, New York, August 18, and ordered home and to wait orders.

Medical Director H. J. Babin, ordered to duty in charge of the naval hospital, New York, August 18.

P. A. Surgeon L. L. Von Wedekind, detached from the *Indiana*, and ordered to the naval hospital, Chelsea, Mass., for treatment.

Asst.-Surgeon M. K. Elmer, ordered to the Boston navy yard.

Pharmacist F. T. Gordon, warranted pharmacist from July 25, 1900.

P. A. Surgeon T. W. Richards, detached from the *Machias*, when put out of commission, and ordered to the *Indiana*.

Asst.-Surgeon C. H. Delancy, ordered to additional duty at the naval hospital, Newport, R. I.

Asst.-Surgeon A. Stuart, detached from the *Yankton* and ordered to temporary duty on the tug *Fortune* at the New York navy yard.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 4, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, July 1, 17 cases.

Kansas: Wichita, July 21-28, 4 cases.

Louisiana: New Orleans, July 21-28, 7 cases, 4 deaths.

Massachusetts: Lowell, July 21-28, 4 cases.

Michigan: Au Sable township, July 14-21, 1 case; Durand, July 14-21, 2 cases; Grand Rapids, July 14-21, 2 cases; Hersey, July 14-21, 1 case; Waker township, July 14-21, 1 case; Springwells township, July 14-21, 8 cases.

New Hampshire: Manchester, July 21-28, 3 cases.

Ohio: Cincinnati, July 20-27, 1 case; Cleveland, July 21-28, 18 cases.

Utah: Salt Lake City, July 21-28, 3 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, June 30-July 14, 8 cases.

Belgium: Antwerp, June 30-July 7, 1 case; Brussels, June 30-July 7, 1 death.

England: Liverpool, July 7-14, 1 case, 1 death; London, July 7-14, 17 cases.

France: Lyons, June 30-July 7, 4 deaths; Paris, July 7-14, 3 deaths.

Germany: Frankfort-on-the-Main, June 23-30, 1 death; Königsberg, June 30-July 7, 1 case, 1 death.

Gibraltar: June 30-July 7, 1 case, 1 death.

Greece: Athens, July 7-14, 1 case 4 deaths.

India: Bombay, June 26-July 3, 3 deaths; Calcutta, June 23-20, 27 deaths; Karachi, June 24-July 1, 3 cases, 2 deaths.

Mexico: Vera Cruz, July 14-21, 5 deaths.

Philippines: Manila, June 8-16, 1 case.

Russia: Moscow, June 23-July 7, 12 cases, 7 deaths; Odessa, June 30-July 7, 5 cases, 1 death: St. Petersburg, June 30-July 14, 76 cases, 25 deaths.

Scotland: Glasgow, July 13-20, 52 cases, 1 death.

Spain: Madrid, June 2-23, 43 deaths.

Straits Settlements: Singapore, June, 2-8, 2 deaths.

Switzerland: Geneva, June 23-30, 2 cases.

YELLOW FEVER—UNITED STATES.

Florida: Hillsboro County, August 2, 2 cases.

YELLOW FEVER—FOREIGN.

Colombia: Barranquilla, July 1-14, 5 deaths; Bocas del Toro, July 26-31, 4 cases, 1 death.

Costa Rica: Port Limon, July 19, 1 case suspicious.

Cuba: Cienfuegos, July 17, 1 case on transport *Sedgewick*; Havana, July 16-23, 9 deaths; Matanzas, July 26, 1 death in barracks; Santa Clara, July 21, 2 cases.

Mexico: Vera Cruz, July 14-21, 7 deaths.

Salvador: San Salvador, June 27, present.

Venezuela: Cartegena, June 1-30, 16 cases.

CHOLERA.

China: Hongkong, June 16-23, 1 case, 1 death.

India: Bombay, June 24-July 3, 109 deaths; Calcutta, June 23-30, 55 deaths; Madras, June 23-29, 1 death.

PLAGUE.

England: London, August 3, 4 cases, 2 deaths on P. & O. S. S. *Rome*

India: Bombay, June 26-July 3, 49 deaths; Calcutta, June 23-30, 2 cases, 79 deaths; Karachi, June 24-July 1, 2 cases, 1 death.

Philippines: Manila, June 8-16, 6 cases, 3 deaths.

Turkey: Beirut, July 2, present.

New Patents.

Patents of July 17, 24 and 31, of interest to doctors:

653,989. Disinfecting block. Samuel Eden, New York City.

653,998. Cornshield. Charles B. Hatfield, New York City.

653,866. Pocket atomizer. Solomon Heiman, Little Falls, N. Y.

653,687. Pill-making machine. Walter Middleditch, Detroit, Mich.

653,708. Hydro-electrotherapeutic apparatus. Johann J. Stanger, Ulm, Germany.

32,945. Design, Nerve-broach. Mathew M. Kerr, Detroit, Mich.

654,564. Surgical dressing packer. Gustav E. Dargatz, Kansas City, Mo.

654,165. Invalid's bed. Henri Leleux, Paris, France.

654,286. Ankle brace. Wm. A. Sears, Mechanicsville, Iowa.

654,185. Method of therapeutical treatment of parts of the human body and apparatus therefor. Austin V. M. Sprague, New York City.

654,581. Device for removing corns. Bernhard Wagner, Rahway, N. J.

32,989. Design, Bedpan. Mary F. Devennie, Philadelphia.

654,946. Apparatus for volatizing disinfectants. Vincenzo Cervello, Palmero, Italy.

655,060. Making non-coagulable albuminoids. Alexander Classen, Aix-la-Chapelle, Germany.

654,606. Sanitary retort. Byron Coburn, LeRoy, N. Y.

655,070. Disinfecting apparatus. Wm. H. Francis, Philadelphia.

654,832. Surgical operating table. George W. Hathaway, Lapeer, Mich.

654,906. Apparatus for examining condition of the lungs and heart. Daniel B. Marsh, Blackheath, Canada.

654,907. Pill-making machine. Walter Middleditch, Detroit, Mich.

655,008. Umbilical truss. Howard C. Rash, Salina, Kan.

654,763. Curette. James V. Russell, Chicago.

654,856. Combined support and catamenial sack. Martha E. Steele, Cowden, Ill.

Change of Address.

Dr. A. L. Anderson, from Kansas City to Oak Grove, Mo.

Dr. J. C. Ash, from Good Hope to La Harpe, Ill.

Dr. J. P. Atkinson, from 236 Richardson St. to 231 Marietta St., Atlanta, Ga.

Dr. S. G. Burkholder, from Chicago, Ill., to Denver, Pa.

Dr. G. F. Bell, from Williamsport to Newberry, Pa.

Dr. G. Betton Massey, from 1636 Walnut St. to 1831 Chestnut St., Philadelphia, Pa.

Dr. W. E. Brown, from Taylorsville, Ill., to Coolville, Ohio.

Dr. F. Blankner, from 4048 California St., St. Louis, Mo., to Potter Bldg., Grand Rapids, Mich.

Dr. S. C. Beach, from Ravenna, Neb., to Beacon, Mich.

Dr. B. Bettman, from 2522 Michigan Ave., to 2601 Kenmore Ave., Chicago, Ill.

Dr. J. B. Boucher, from 92 Main St. to 25 Charter Oak Ave., Hartford, Conn.

Dr. E. N. Brady, from 323 Western Ave., to Mary Thompson Hospital, Chicago, Ill.

Dr. C. P. Brightwell, from City Hospital to 1272 Broad St., Augusta, Ga.

Dr. A. M. Braunwarth, from 3199 to 3119 South Park Ave., Chicago, Ill.

Dr. A. Breathwit, from Kingsland to Ogamaw, Ark.

Dr. J. F. Carraway, from Rome to Church, S. C.

Dr. W. S. Caldwell, from Paris, France, to Union Bank of London, Eng.

Dr. B. L. Cleary, from 39 Laflin St., Chicago, Ill., to Sun Prairie, Wis.

Dr. C. A. Cantrell, from Valdasta to Nesbitt, Texas.

Dr. T. Coleman, from Philadelphia, Pa., to Freedmen's Hospital, Washington, D. C.

Dr. T. J. Caldwell, from 11412 Michigan Ave. to 5103 State St., Chicago, Ill.

Dr. J. R. Coleman, from Murray to P. O. Box 65, Paducah, Ky.

Dr. D. Cornelius, from 525 S. Robey St. to 284 S. Halsted St., Chicago, Ill.

Dr. Alfred P. Cole, from 37 Paint St., Chillicothe, to Ironton, Ohio.

Dr. R. E. Dvorak, from 540 W. 12th St. to 192 W. Division St., Chicago.

Dr. J. C. Dunn, from 3700 Wallace St. to 759 W. 47th St., Chicago.

Dr. D. W. Detwiler, from 1800 Wabash Ave. to 2400 Dearborn St., Chicago.

Dr. B. B. Davis, from 1610 Douglas St. to 200 Bee Bldg., Omaha, Neb.

Dr. W. L. Davis, from 433 Everett St. to 534 Minnesota Ave., Kansas City, Kan.

Dr. J. G. Eckstein, from 1135 Dayton St., Cincinnati, Ohio, to Colorado Springs, Col.

Dr. A. Friedlander, from 22 W. 7th St. to 643 Forest Ave., Cincinnati, Ohio.

Dr. A. B. Giles, from 1340 Aisquith St. to Forest Ave., N. Walbrook, Baltimore, Md.

Dr. W. H. Grayson, from Madison, Ill., to 1357 Lucretia Ave., St. Louis, Mo.

Dr. G. J. P. Gish, from Mendon to Wheeling, Mo.

Dr. C. B. Hopkins, from 732 Jackson St. to 669 Adams St., Chicago.

Dr. J. W. Hewittson, from 61 Park Ave., Chicago, to Valley City, N. D.

Dr. E. R. Hawley, from The Loraine to 3746 Ellis Ave., Chicago.

Dr. G. I. Honaker, from Panther, to Duhring, W. Va.

Dr. J. G. Johnson, from Lowryville, to Chester, S. C.

Dr. F. G. Johnson, from Paoli to Sparta, Wis.

Dr. H. C. Johnson, from Fond du Lac to Manawaw, Wis.

Dr. L. D. Kaslenbine, from 923 3rd Ave., to St. James Court, Louisville, Ky.

Dr. C. S. Layton, from Detroit to Raber, Mich.

Dr. L. F. Love, from 826 12th St. to 1225 Walnut St. Philadelphia, Pa.

Dr. A. B. Lindquist, from Omaha, Neb., to 104 Lexington Ave., New York, N. Y.

Dr. R. H. Lee, from 2201 Brooklyn Ave. to Cor. Indiana and Anderson Ave., Kansas City, Mo.

Dr. E. A. Lawbaugh, from 2754 N. Hermitage Ave. to 237 LaSalle Ave., Chicago.

Dr. W. A. MacFarlane, from 962 Taylor St. to 573 Oakley Ave., Chicago.

R. J. Muenzner, from West Bend to Wabeno, Wis.

Dr. G. H. McClure, from 160 N. Avers St., Chicago, to Westboro, Wis.

Dr. E. E. Musson, from 258 S. 16th St. to 2136 Fitzwater St., Philadelphia, Pa.

Dr. S. Mener, from Denver, Col., to 124 W. 114th St. New York City.

Dr. J. G. Martin, from Hammond, La., to Brookhaven, Miss.

Dr. H. G. Morris, from Tangipahoa to Liverpool, La.

Dr. L. Morrison, from 718 Walnut St. Louisville, to Lebanon Jct., Ky.

Dr. T. T. Naae, from Fallow to Fostoria, Iowa.

Dr. R. A. McDonnell, from 312 Elm St., to 1142 Chapel St., New Haven, Conn.

Dr. R. H. Michels, 1007 W. Harrison St., to 1381 N. Clark St., Chicago.

Dr. J. H. Martindall, from 601 Figarion St. to Bellevue Terrace, Los Angeles, Cal.

Dr. C. B. Nancrede from 4 Cornwall Pl. to 720 S. University Ave., Ann Arbor, Mich.

Dr. R. L. McNeer, from 1401 W. Lafayette St. to U. S. Marine Hospital, Baltimore, Md.

Dr. J. C. Pfoff, from Slatington to 919 N. 29th St., Philadelphia, Pa.

Dr. F. A. Packard, from 110 S. 18th St. to 258 S. 18th St., Philadelphia, Pa.

Dr. T. B. Perry, from U. S. Marine Hospital, Mobile, Ala., to U. S. Marine Hospital, Wilmington, N. C.

Dr. W. A. Pursey, from 383 Superior St. to 512 Greenwood Boul., Chicago.

Dr. W. E. Potter, from 43½ Seeley Ave. to 785 W. Madison St., Chicago.

Dr. J. M. Phalen, from 951 Harrison St. to Cook County Hospital, Chicago.

Dr. A. Peacock, from 252 E. 55th St. to 348 E. 55th St., Chicago.

Dr. D. H. Pelletier, from Fowler, Ind., to St. Anne, Ill.

Dr. R. L. Pierce, from Whetstone to 220 E. State St., Columbus, Ohio.

Dr. B. W. Rogers, from Lake Geneva, to Milton Junction, Wis.

Dr. J. H. Robnett, from Salem to Union, Ore.

Dr. J. M. Rogers, from 53 Merritts St., Atlanta, Ga., to 448 New St., Macon, Ga.

Dr. T. S. Rosengrant, from Batesville to Barnesville, Ohio.

Dr. H. N. Rucker, from 668 W. 14th St. to 521 12th St., Oakland, Cal.

Dr. A. A. Shelley, from Goodland, to Abilene, Kan.

Dr. J. S. Shrader, from Delano, Minn., to Appleton, Wis.

Dr. W. J. Stewart, from Library, to McKee's Rocks General Hospital, McKee's Rocks, Pa.

Dr. W. K. Sutherlin, from Mansfield to Scott Bldg., Shreveport, La.

Dr. J. E. Smith, from Flower Creek, Mich., to Deep River, Iowa.

Dr. A. N. Sloan, from Franklin, Neb., to Samaritan Hospital, Sioux City, Iowa.

Dr. L. W. Shannon, from Chicago to Granada, Kan.

Dr. D. K. Smith, from 1400 12th Ave., to 1231 12th Ave., Altoona, Pa.

Dr. A. Shulman, from 27 E. 95th St., New York, to Arverne, N. Y.

Dr. Jokichi Takamine, from 90 Maiden Lane, to 475 W. Central Park St., New York City.

Dr. T. R. Thomas, from Stillwater, Minn., to Gomer, Ohio.

Dr. A. D. Taylor, from Williamsville to 320½ S. 5th St., Springfield, Ill.

Dr. L. C. Vincent, from 72 W. 48th St. to 101 W. 52nd St., New York City.

Dr. Wm. S. Wilcox, from Weyamvega to Park Falls, Wis.

Dr. E. E. Walker, from 22 E. Sabb St., Petersburg, to Forksville P. O., Mecklenburg County, Va.

Dr. H. M. Williams, from Emporia, Kan., to Oklahoma City, O. T.

Dr. E. W. Woodford, from 373 Jennings Ave. to 737 Detroit St., Cleveland, Ohio.

Dr. R. Williams, from Carthage, Ill., to Alden, Minn.

Dr. J. R. Winslow, from 924 Culloh St. to 111 W. Franklin St., Baltimore, Md.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the AMERICAN MEDICAL ASSOCIATION. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive THE JOURNAL free. Subscribers to THE JOURNAL may become members of the ASSOCIATION without additional expense if they are members of medical societies recognized by the ASSOCIATION. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to THE JOURNAL, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to THE JOURNAL for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this ASSOCIATION and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the ASSOCIATION. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the ASSOCIATION or either of the Sections, unless specially instructed to the contrary by vote of the ASSOCIATION." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by THE JOURNAL when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "JOURNAL AMERICAN MEDICAL ASSOCIATION," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, AUGUST 25, 1900. No. 8.

Original Articles.

PARTURITION AS A FACTOR IN GYNECOLOGIC PRACTICE.*

JOHN MILTON DUFF, M.D.

PITTSBURG, PA.

To convince gynecologists that parturition is not only a factor, but the principal factor, in producing morbidity which calls for their interference, no other argument is needed but the statistics of their own practice.

Not having any special statistics at my command, I can not give the percentage of the cases of gynecic practice due directly or indirectly to parturition. They, of course, vary in different communities, as well as in the practice of different gynecologists. From what I can cull from general statistics, and from my own, as well as some statistics kindly furnished me by several gentlemen of large experience, I feel justified in saying that considerably over 50 per cent. of all gynecologic cases can be charged to parturition. The statistics furnished me vary very materially; the lowest are 55 per cent., and the highest 90 per cent., the average being about 66 per cent. The percentage of those working in large general hospitals is much smaller than those having private hospitals. In my own practice, if I eliminate the cases of gonococci infection treated in the general hospital, the percentage of cases following parturition is increased over 20 per cent. In speaking of parturition, I, of course, include the large number resulting from abortions. It would certainly be very interesting, and perhaps startling, to know just what percentage of parturient women become subjects for the gynecologist. This can not even be approximated, nevertheless our observation leads us to believe that it is quite large.

Aside from inversion of the uterus and fistulas due to pressure, nearly all the morbid conditions following parturition which come to the notice of the gynecologist are primarily due to sepsis, to lacerations, or to both combined.

Having these undisputed facts before us, it behooves us to make earnest, energetic inquiry as to: 1, the best means of avoiding these primary causes; and 2, when they do occur, what measures will be the most effective in preventing the secondary morbid conditions which are liable to follow in their train. Modern aseptic and surgical obstetric practice has already done wonders in this direction. I believe the principal object of the chairman and secretary of this Section in placing this subject in the symposium, was to elicit a discussion which would show in no uncertain tones, not only the great work already accomplished along this line, but the immense possibilities it affords. I do not want to show an enthusiasm which facts do not warrant, but I believe a rigid enforcement of the rules of obstetric practice, as laid down by our best teachers and writers of to-day, would eliminate more than 50 per cent. of the gynecic cases resulting from parturition, if we except those resulting from abortion. What other proof do I need to sustain me in this than the records of cases confined in the maternity hospitals, where nowadays a case of septic infection very rarely occurs, and from which hospitals a woman is not allowed to depart with a ruptured perineum unrepaired.

In my enthusiasm in this matter I do not want to be unjust to the general medical profession, by making rash statements. At the risk, therefore, of apparently making an apology for ignorant and careless midwifery, I do not claim that we have arrived at that degree of perfection that we can, in every instance and under all circumstances, prevent septic infection. This concession does not neutralize the assertion that in almost all, if not all, cases of "septic infection," there has been a failure in the technique either by omission or commission. The assertion made by a member of our profession some time ago, that "the obstetrician who has a case of septic infection to occur in his practice is guilty of malpractice," was entirely too radical. Our sense of justice as a profession forbids our endorsing such an extravagant sentiment.

The obstetrician can not always control the general environment of his patient, nor can he be held responsible for her ignorance, carelessness, or obstreperousness. He can not make up for the imperfections of an incapable nurse, neither can he be held accountable for the sometimes dangerous interference of ignorant and superstitious neighbors and friends. This being conceded, and the fact acknowledged that septic infection may occasionally occur in the hands of the most skilful and careful practitioner, it does not militate against our claims for the effectiveness of asepsis, nor is it an excuse for the careless or indolent who fail to carry out its requirements.

There is a false idea among a large portion of the laity that a laceration is always significant of a lack of skill on the part of the attendant. This notion is ratified by that class of accoucheurs who never have a laceration to occur in their practice, and who never have a morbidity or mortality to occur after a confinement attended by them—a class with whom I have no patience. They help bring unmerited odium upon able and conscientious fellow practitioners. I can not speak more kindly of such than to say that their practice is either very limited, or they fail to search for lacerations. It is certainly no disgrace, and ordinarily no reflection, on the ability of the accoucheur, to have a laceration of the cervix or perineum to occur. Of course, complete lacerations of the perineum, though sometimes unavoidable, are comparatively rare; but I believe that, even in the practice of the most accomplished obstetricians, at least slight lacerations in primiparæ are the rule rather than the exception.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I am convinced from my observations that men frequently allow a lacerated perineum to pass unannounced, and without repair, because of the fear that a knowledge of it would cause a reflection on their skill. To such I say: "Their reputation is liable to suffer subsequently tenfold more by a failure to attempt a repair." I use the word "attempt" advisedly, for it is not always possible to secure prompt and perfect union. While a woman has no right to chide her attendant for a laceration where he has used ordinary care and skill, she has a right to condemn him if he wilfully leaves her to endure the manifold evils which are liable to result from an unrepaired lacerated perineum. The instances are very rare indeed where he is justified in neglecting an immediate repair of the perineum, and just as rare where he should fail to advise the repair of a lacerated cervix at the earliest possible period after the puerperium.

Notwithstanding all of the excuses or concessions I have already made, it is certainly an undeniable fact, that very many more women are doomed to a life of morbidity than should be, with our present resources. This may, to a certain extent, be the result of incapability or carelessness on the part of the practitioner, but as a rule the skill and honesty of the physician is beyond reproach. Methods of practice and ignorance on the part of the laity are largely responsible. The general notion that the obstetrician is a mere midwife, whose duties begin with the onset of labor, and end with the delivery of the placenta, is preposterous. It is as much his duty to care for her during her pregnancy, and prepare her for the trying ordeal of labor, as it is to conduct her through that important event. Again, it is equally as necessary for him to follow her through the puerperium and to the completion of involution.

Upon a subject now so well understood as asepsis, it is unnecessary for me to go into minutiæ, and yet there are a few points in this connection, to which I wish to call attention. First, the day of antiseptic midwifery is past. Notwithstanding its many defects, it was necessary in the course of evolution to a more perfect technique. To-day we know its principles are not only directly harmful, but a neglect of asepsis, with a dependence upon antiseptics to right wrongs, is not only unscientific, but cruel and murderous. The true antiseptics are the normal and healthy secretions of the body, and especially that greatest of all germicides, the blood. Hence the necessity of due attention to the secretions and to the condition of the blood previous to the onset of labor. In instituting aseptic precautions before labor, the douching of the vagina with antiseptics is not only useless, but harmful in a healthy woman. And in an unhealthy vagina, with pernicious secretions, it is not effective. Where it is necessary at all to cleanse the vagina, it should be scrubbed and prepared as carefully as if one was about to do a vaginal hysterectomy. The normal secretions of the vagina ordinarily make it uninhabitable for septic germs. The normal and safe habitat for them is the vulva, and it should undergo the most careful cleansing possible.

A cause of infection, through putrefaction, is a failure to remove all placental tissue and membranes. For this reason, a careful examination of the placenta should be made on all occasions to determine its complete removal. In this connection, I want, in the most emphatic manner possible, to call attention to a matter of the gravest importance, which I am led to believe does not receive that consideration it deserves by the profession. I refer to the placenta succenturiata and placenta spuria. I am convinced that they not only exist very much more frequently than is generally believed, but that they are frequently the direct cause of sepsis that can not be accounted for. In two autopsies with which I am acquainted, one of them being in one of the most prominent women of our city, a spurious placenta was found. On at least five occasions I have found them.

Comparatively little has been written on this subject, and I hope I have said enough to awaken a spirit of investigation upon it. While I have not time to discuss the matter at length, notwithstanding the very able paper maintaining the other side of the question, read by my worthy friend from Philadelphia, at the Milwaukee meeting in 1894, I am still of the opinion that "the routine practice of administering ergot after the third stage of labor," as set forth in a paper read by me before the Pittsburg South Side Medical Society, and published in the *Therapeutic Gazette* of July 15, 1892, is pernicious, and is frequently the cause of the woman being placed in the gynecologist's chair.

The too early resumption of household cares and duties after labor and before involution is complete is, I think, accountable for many of the malpositions and their concomitant disorders which we encounter. This matter, however, is elucidated in the paper of Dr. Vineberg, and I will not dwell upon it.

Inasmuch as I have performed the duty assigned me of opening the discussion, I shall leave it for others more worthy to discuss it. In conclusion, I have only to say that by a rational midwifery such as I have suggested, with careful asepsis and proper and timely repair of lacerations, salpingitis, ovarian abscess, and endometritis would be less frequent, and prolapsus uteri, vesicocele and rectocele, with all their accompanying phenomena, would be comparatively rare.

515 Penn Ave.

DISCUSSION.

Dr. Morcedai Price, Philadelphia—I wish to endorse the Doctor's method of treatment. He is the only man in this state who has always advocated good obstetrics. I wish to say that nine out of ten cases of puerperal fever referred to me have been caused by the useless, worthless and dangerous use of antiseptics. The condition of the medical men to-day, in regard to obstetrics, is that they have microbes in mind all the time. They need to be washed and cleaned. I have seen temperatures of 103 and 104 from intrauterine irrigation after labor and from the use of the curette. These two things have come to be the fashion in all cases of labor. The mortality and the danger following such procedures is probably the result of at least 50 per cent. of the deaths from puerperal fever. I have in many instances asked the attending physician to discontinue with antiseptics and washings and the result has been all that could be asked for. In one case I was persuaded by an overwhelming majority, in a consultation, to use a douche. They had irrigated the vagina and asked me to irrigate the uterus. I asked them to give a twentieth of a grain of strychnin, but they insisted on my using the douche. As a consequence we spent the night with that woman trying to save her from the effects of the douche. It is the cause of more disastrous results than any other practice.

I endorse the Doctor's paper without hesitation and believe that if the profession will read and adopt the methods recommended by him, the mortality in obstetric cases would be lessened. It is greater to-day than at any other time in the course of my professional career of thirty odd years. The profession must unlearn all the nonsense taught them in the past, and it will take just such papers as that of Dr. Duff to teach them the proper method.

Dr. L. H. Dunning, Indianapolis—I most heartily endorse the paper. Dr. Duff has stated his point forcibly, although not too strongly. I have often seen what he has pointed out, especially the disastrous results following the use of too strong bichlorid douches. I recall a case seen a few days ago, in which the patient had a temperature of 101. The doctor became alarmed, gave a bichlorid douche, which was followed by shock and an almost fatal issue. Withholding the douche, on my advice, resulted in the recovery of the patient.

The point I specially wish to mention, and which is of considerable importance, is the fact that a large percentage of the cases coming into the hands of the gynecologists are the result of parturition. There is one class of cases which comes to use which could readily be prevented, cases of displacement due to subinvolution. We have all been taught that every case of laceration of the perineum should be attended to at once. While we all believe in treating lacerations conservatively, many general practitioners ignore this point. I do not suppose that immediate repair of a laceration of the cervix has always been satisfactory, but I do believe that the case ought to be examined six weeks after the delivery, and if a laceration is found it should be promptly attended to. If allowed to go on it will in many instances result in imperfect involution, displacements, marked congestion of the pelvic organs and chronic invalidism. The care of the woman delivered should not end until the cervix has been attended to and until involution has properly taken place.

Dr. Joseph Price, Philadelphia—The practice of midwifery in private and public differs more or less. The practice in private has degenerated tremendously. We are not as enthusiastic as we were a few years ago. I remember the time when obstetricians entered into all of our discussions with considerable enthusiasm. To-day the reading of an obstetric paper is the excuse for men to leave the session. The professor of obstetrics sits on two stools. Every obstetrician in America seeks an appointment in school to teach obstetrics while he is practicing gynecology. Nothing is more unfortunate for women than the fact that we have no enthusiastic specialists in obstetrics. You can not very well follow the same methods in public which you do in private. Very few households will permit the practice of well-organized and disciplined maternity work. The syringes commonly used in private houses ought never to be used by the obstetrician. Unless the physician has his own syringe he should never use the one hanging behind the bath-tub. That syringe is used by everybody and is sometimes the source of infection of the entire household. While the wife or mother is down-town shopping the maid or cook will surely use it. I have tried to educate my patients to the importance of locking up their syringes just as they do their jewels. In the maternity the vaginal douche, ante-partum or postpartum, is good practice, as these patients are usually much dirtier than private patients, who take better care of themselves.

The indiscriminate use of the curette is little short of being criminal. A woman sometimes develops a little temperature and the doctor thinks he must use the curette. After having done so he is no better off than before and really does not know what he has done it for. Nearly all the cases which I have seen a few days after curettement, still have some pieces of membrane left in the uterus. Dr. Duff fortunately presents such valuable papers at nearly every meeting of our Association, and we owe him a debt of gratitude for pounding away at obstetrics at such an opportune time as the present.

Dr. C. A. Ritter, Kansas City—The science and art of obstetrics, implying in its broadest sense the care of woman during gestation, labor and the puerperium, has, until the recent past, been sadly neglected. The numerous papers on the program of this section dealing with gynecologic subjects, the few on obstetric, indicate to some degree the tendency of the medical mind of to-day. More scientific and careful obstetric work means fewer invalids, and lessens the necessity of gynecologic interference. The frequent practice, on the part of the young graduate—unless thoroughly trained in clinical work, and not altogether absent among the older members of the profession—of frequent vaginal examination, and other useless interference during normal labor; the use of the ante-partum and post-partum douche in the absence of pathological conditions; the failure in immediate repair of injuries to the vagina and pelvic floor, are fruitful sources of infection. Hence many mothers endure a mild or more severe attack of sepsis, have an unsatisfactory puerperium, a "bad getting up," and at no distant date, consult the gynecologist for surgical relief. With temperature and increased pulse-rate during the puerperium we should interrogate other organs besides the uterus for source of trouble.

Frequently the thorough evacuation of the contents of the alimentary canal by the free use of saline cathartics will be followed by normal temperature and pulse. I agree with the author in his statement that there is danger of using too strong germicidal remedies about the parturient canal. To be clean, to be aseptic, should be the alpha and omega in the care of the parturient patient.

Dr. A. B. Miller, Syracuse—I regret that I was not present when Dr. Duff read his paper, but from the discussion it seems to me that we are not treating the subject under discussion as we should. For us to deal with the sky parlor in obstetrics, instead of coming down to the real facts, is not going to diminish or decrease the mortality in obstetrics The fact that everybody uses the syringe is not the source of the infection in cases of obstetrics; the infection is carried usually by the physician in attendance. If he has been attending a pus case, a streptococcus infection, our patient will in all probability be infected and is surely going to die. If we practice bacteriology and recognize that these infections are based on specific poisons, then we shall know of the possibility of our patient's recovering. If we have a staphylococcus infection the larger percentage of cases will recover, but if we have a streptococcus infection the case will in the majority of instances die. Cases of mixed infection will also die. In my practice, instead of resorting to the curette or irrigating the vagina or uterus, I determine as soon as possible the source and kind of infection with which I am dealing. If due to the presence of putrefactive material in the uterus, irrigation and the curette will do good because we are removing the products of infection and we are overcoming the progress of the infection. If we have septicemia, due to a streptococcus infection, the majority of patients will die; and if due to the bacillus coli communis, it is of little consequence.

As to the silver ointment I regret to say that while several cases have come under my care, I have seen but little benefit from its use. It is all important to ascertain the source and kind of infection with which we are dealing. If we have a pus tube from an old infection, that patient is not going to be benefited by the use of the douche or the curette. It requires something more than that.

Dr. Albert H. Tuttle, Cambridge, Mass.—If we consider parturition as one of the most important factors in the production of diseases of women, we must study how we should treat cases of parturition so that we will avoid as much as possible the complications which may result. It resolves itself into two stages. The first stage should be the preparation of our patient before the delivery, and we must consider that almost every case of parturition will be attended with the production of lesions of the parturient canal. This will, in many instances, mean large tears, complicating the deeper structures of the pelvis. In other cases there will only be moderate abrasion, but still capable of carrying infection. Consequently, we should prepare a patient for parturition in as careful a manner as we would for an abdominal section or a vaginal hysterectomy; that is an important factor. I know of no obstretician in my immediate vicinity who makes any preparation of his patient more than to use a vaginal douche. Many of them object to that, saying that a douche before delivery interferes with the normal secretions of the vagina and also interferes with delivery itself.

The other consideration is the careful examination and repair of the parts immediately at the close of labor. It is almost an impossibility to find a primipara who goes through labor without more or less of a tear. There may be only a little gash, which appears as nothing, but when we examine the vagina and look in we may find deep lacerations in the vault extending up to the cervix or opening up the subperitoneal space. Others may start at the cervix and from a similar lesion. These injuries are generally productive of severe infection with adhesions and fixation of the uterus. The infection in other cases may be mild or severe, depending on the character of the germ present. If the infection is due to the streptococcus you are almost sure to lose your patient. There are two things which should be borne in mind, namely, make a careful preparation of your patient beforehand and carefully examine the vagina and uterus after parturition, cleaning out all clots in the uterus and making a complete surgical repair of the injured parts. If the obstetrician is not able to do this himself, he should call in a neighboring physician who can do it.

The complete surgical repair of the injuries of parturition is of the utmost importance for the health of our women and the prevention of severe pelvic disease.

Dr. E. G. Zinke, Cincinnati—I have no doubt that the majority of those present know how to prevent sepsis during and after labor. I do not doubt that the majority of us thoroughly understand when and when not to irrigate, before, during or after labor; when and when not to use the curette, when to use the sharp and when the dull curette. The trouble lies elsewhere and it was pointedly stated by my friend Dr. Price, of Philadelphia. The obstetrician of the present day does not hold the position he should and there is a very good reason for it, because it does not pay to be a specialist of obstetrics. There is not money enough in it to pay a man to devote his attention exclusively to the practice of obstetrics and there lies the fault.

Everybody, who has graduated, who has received a course of study as we now have it, thinks he knows all about obstetrics. I have seen men who have told me that they never saw a fatal case. They do not know what it is to have a case of puerperal sepsis or a badly torn perineum. In my part of the country, men attend cases of confinement for from $5 to $20. A man who charges $25 is looked upon as a robber, and the man who charges $50 is left strictly alone.

I hold the chair of obstetrics in our college and I am bound to practice gynecology in order to pay my debts. It is well to look these things in the face. The chair of obstetrics ought to be endowed. A good college ought to pay a man $5000 a year to teach such a branch. Then they could demand of him that he give the subject his entire attention, and I, for my part, would be willing to do it.

The profession, too, is largely to blame, because every effort that men have made, with the view of establishing maternities or out-door clinics have been damned by the profession abroad and in their immediate vicinity. I remember years ago when I started an out-door clinic in Cincinnati. I had great difficulty in obtaining the permission of the faculty to do so for fear the college would receive unpleasant notoriety, and not without good cause. The first obstetric clinic was established in Boston, and the founder of it had to leave the city in order to save his life. The first attempt to deliver a woman before a class was served in the same way. To-day, a man connected with a maternity or out-door clinic is looked down upon by his brethren. If you want to teach obstetrics thoroughly and practice it as it should be, all these things must be taken into consideration. Every man is doing the best he can, and you can not blame him if he practices other things which he understands just as well, and does not limit himself to the department he occupies simply because it does not seem right to some.

Dr. Duff (closing the discussion)—I would like to say much on this subject and would like to have said it in my paper, but I had to make it short, simply striking the notes and giving you the tune. You all know that the subject of obstetrics has not been a popular one. I have found this out for several years. I teach obstetrics and try to do so to the best of my ability, but I have to practice gynecology to make a living. I am sometimes called out fifty miles into the country to help a man out in a case. I lose much time and money in making this call, and when I meet the doctor at the depot he will probably tell me that "this is a poor man and he can not pay anything," and all I get for my time is my expenses paid. A man can not practice obstetrics alone; he can not take the necessary time; he can not have the armamentarium.

As to infection, we are coming to the day when we will consider septic infection as I have discussed it in my paper. The days of aseptic obstetrics are coming. We must use prevention in obstetrics as we do in other operations. We should not be careless beforehand and then try to remedy it afterward. Neither should we invade the territory in order to defend it, when there is no infection present in it.

A short time ago, I saw a case of septicemia in consultation with two other gentlemen. The lady had a temperature of 107, and the pulse I could not count. I made a digital examination and found placental tissue in her uterus. I called the attending physician aside and asked him whether he had all of the placenta. He said "yes" and even exhumed the placenta in order to prove it. On examination, I found that there was a placenta succenturiata as large as my hand. The case I refer to in my paper had sepsis. The doctor said he had taken the pieces all out, but on the autopsy we found a placenta succenturiata. I have seen five cases of this myself, and I have met others who have found them as well. There is very little in the literature on the subject, and I hope it will be considered more carefully next year so that all cases of this kind may be recorded.

I should like to talk along this line for a long time, but I hope that the spirit engendered here this morning will grow, and that the obstetrician will come here, read his paper and become popular instead of being an excuse for a man to slip out of the room.

ANTEFLEXION OF THE UTERUS; ITS CAUSES AND TREATMENT.*

AUGUSTUS P. CLARKE, A.M., M.D.
CAMBRIDGE, MASS.

Anteflexion of the uterus may not infrequently be regarded as a symptom of an undeveloped condition of the genitalia. The state is, no doubt, in many cases, congenital in its manifestation, or is early superinduced by exposure of the subject to faulty hygienic surroundings. Improper modes of dressing during the years of childhood and before puberty have been ascribed as an important factor entering into its causation, but it is often difficult to appreciate how the normal intra-abdominal pressure can be so modified as to cause, to any great extent, before the vulvovaginal introitus has been affected by the influences of parturient processes, displacement of so small an organ as the uterus, which, for the most part scarcely measures by the sound two and one-half inches in depth.

The uterus, including its cervix, sustained in its proper position by the uterosacral ligaments, with the axis of the corpus assuming with that of the cervix an obtuse angle, can not be said to present a condition manifesting pathologic phases, unless there is an accompanying dysmenorrhea or there are marked vesical symptoms. Such a condition of the uterus does not require treatment, unless there has been exhibited a tendency to a greater displacement of the organ, or there is an associated inflammation, or a morbid process in adjacent structures. When the axis of the body of the uterus forms with the axis of the cervix an acute or a right angle, pathologic symptoms, more or less severe, are almost always present.

Cervical anteflexion is largely due to habitual constipation; this is more apt to occur in girls at the beginning of their menstrual period, when the lower portions of the uterosacral ligaments are in a soft and yielding condition. For this reason, treatment for healthful regularity of the bowels in such subjects should at as early a date as possible be commenced and persevered in.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Besides the influence of excessive accumulation of fecal matter in the rectum or sigmoid flexure of the colon, frequent and long retention of the urine in the bladder is a most prolific predisposing cause. Girls should be admonished that shorter intervals for micturition are absolutely essential; particularly is it so with those who are compelled to stand much, or to take long rides, or who during the hours of the night take regular sleep after undergoing fatiguing or wearisome exercise. I have been noticing for some years the influences of such factors, and have come to regard them as matters of no small importance. American girls, from sheer modesty or from overindulgence in notions regarding the necessity of complying strictly with what may be termed the morbid conventionalities of society, have too often become the victims of vesical inflammation and distention, which have laid the foundation of cystocele and the more serious forms of anteflexion.

Prolonged mental strain, to which young females are habituated in our public schools and higher educational institutions, tends to render functionless the genitalia, or to deprive those parts of the necessary pabulum for their proper anterior development, by determining the influences of such aliment to the brain or central nervous system for the special display or attainment of cerebral activities.

In the fetus the cervix is earlier developed than is the corpus uteri; so also does the posterior portion of the uterus advance in earlier life faster than the anterior part. This we may often see by noticing the thinness of the anterior portion as compared with the thickness of the posterior aspect of the cervix, or of the lower segment of the body of the uterus.

The cause of this may satisfactorily be found when it is observed that in the females of some of the lower placental mammals the two uteri formed out of the lower portion of the Müllerian ducts remain separate, while in the higher orders of the same group the organs unite and form but one. The process of union, according to Gegenbaur and Haeckel, proceeds continuously and gradually from behind and below, upward and forward.

It may be said, therefore, that conditions which would lead to an imperfect growth of the sexual organs generally would make their influence become more manifest by the effect that would result on those parts, like the anterior segment of the uterus, which are slowest in their formation.

While we do not know as yet why menstruation has become necessary, we have been able to determine that it has been the outcome of the earlier evolutional processes, as its phenomena or its analogue are seen in certain grades of the higher kinds of placental mammalia.

The force of one fact we can fully realize is that whatever functional attainment has come through the long course of ancestral development should not be abruptly interfered with, for the organism has largely accommodated itself to its operations; and its harmonious working according to its own impulse, received through heredity, is almost absolutely essential, for the time being at least, to the preservation of the higher physical and mental activities and to the all-roundness of the individual.

As already intimated, contraction due to inflammation of the anterior wall of the uterus, at or near the junction of the cervix with the corpus, may be a cause of anteflexion; this occurs when the inflammation of the part has been the result of an extension of inflammation from the bladder or other portion of the urinary apparatus.

The weight of a fibroid or other tumor in either wall of the uterus may be accompanied by anteflexion but such a state can hardly be regarded as a typical form of flexure of the organ. If the influence of the pressure, however, produces a concavity of the uterus anteriorly, permanent flexion in that direction may follow as a result of the interference with the nutrition of that part of the uterus.

The formation of peritonitic adhesions anteriorly to the uterus is sometimes undoubtedly the cause of the forward flexion of the organ; this would be especially a factor in those cases in which the uterosacral ligaments are firm and unyielding or have become unduly shortened or contracted from any cause.

Endometritis, alteration of the utricular glands, atrophy of the submucous connective tissue, disordered condition of the vascular element are sometimes prolific sources of anteflexion.

In a case of a young woman aged 19 years, who had marked anteflexion attended with dysmenorrhea, there was a preternatural enlargement of the veins in and about the meatus urinarius. The veins in the anterior vaginal fornix had also become varicose and were much more numerous than was normal.

In many, if not in most, cases of anteflexion of the lesser type, the condition is merely physiologic in its general aspects, while in other forms it results from affections of the appendages, as from salpingitis, ovaritis, or extension of the inflammatory processes to the anterior walls of the uterus. This was exemplified in the case of a young woman aged 17 years, who had received an injury from a fall on the anterior portion of the pelvis; the accident was subsequently followed by the occurrence of dysmenorrhea and a well-marked anteflexion; pain and febrile disturbances lasted some six weeks immediately preceding the flexion.

The influences of degenerative changes in the cervical glands upon the submucous tissue and upon the muscular structures about the os internum are not infrequently productive of atrophy of the adjacent parts. Such a state unfits in large measure the structures for sustaining the corpus uteri; the condition is liable, in unmarried or in childless women, to be followed, through faulty postures which they may repeatedly assume, by the occurrence of a considerable degree of anteflexion. As said before, whatever tends to reduce unduly the general tone of the organism during its formative stage, as the lack of proper diet, may be productive of the flexure. Hyperemia, uterine catarrh and metritis resulting from mental overexcitement, cinædia or sexual perversion will often serve to weaken the uterine tissue and thus become a cause. Attacks of gonorrhea, subinvolution following abortion occurring at an early age of the patient, parametritis and cellulitis are all liable to be productive of softening or relaxation of the uterine parenchyma, and so give rise to the affection. Physical overactivity during the stage of engorgement of the organ, about the time of the occurrence of the menstrual flow, becomes an exciting cause.

It should be again said that cystitis and other morbid conditions occurring at an early age not infrequently become a factor entering into causation. In most cases of anteflexion the connections of the bladder with the uterus are preternaturally high. In childhood the os internum is situated higher in the pelvis than it is in later years; if, therefore, while the corpus is in a state of growth and development, any factor should have occurred to interfere with the normal length or with the elasticity of the uterosacral connection it will of necessity project forward upon the parietes or fundus of the bladder. Perhaps, in cases of the more serious variety, the wearing of improper dress or heavy skirts may, by modifying the intra-abdominal pressure, act as exciting causes.

Among the other causes of anteflexion which may be mentioned are: venereal excesses after marriage, criminal abortion, prolonged and instrumental labor—this to effect delivery before the full term may result in violence to the bladder or to the vesicouterine ligaments—and the all too prevalent means adopted to prevent conception or to overcome the same during its earliest stages. These influences tend to produce congestion or inflammation of the uterine tissue and contraction or inelasticity of the uterorectosacral ligaments, as before remarked.

As regards treatment, it is necessary to consider carefully in each case the predisposing cause. In a large class of cases the ora will be found preternaturally small or contracted. In such instances rapid dilatation, when faithfully performed, at the proper time, will be of much service. The operation straightens and strengthens the uterus.

In a few cases in which vesical symptoms were the disturbing features, the insertion and wearing of a properly fitting Hodge pessary were found to be of much advantage. Prolonged horizontal posture, the daily use of hot vaginal douches and the free administration of laxatives have been found beneficial as supplementary means for relief.

Marriage and encouragement of pregnancy for effecting a cure have had their advocates. Concerning the wisdom and advisability of such a step, I have some misgivings. A young woman whom I treated some years ago for anteflexion of the third degree received much benefit from the use of a Hodge pessary and of other means which I have mentioned. She was of good family; she had a soft, relaxed tissue generally. Country life and favorable hygienic surroundings added greatly to her comfort and restoration. She subsequently married and had a fair recovery after her first confinement. Her second labor, which occurred a few years after the first, was followed by a fatal attack of puerperal septicemia. After her marriage and removal into the country, during each time of her parturition, she had received skillful treatment, but she was unfitted to endure the strain consequent on her last sickness. I was called in consultation some hours before her death. There was no extensive laceration of the parts, the uterus, though empty, was found soft, relaxed and flabby. The uterine sinuses were choked with small coagula and the vessels beyond contained numerous points of embolic occlusion. Had this woman remained single, instead of exposing herself while possessing such relaxed and delicate tissue, to the risks and exactions of marital relation, she would undoubtedly have been able to have led a life of much credit and honor to herself and of advantage to her community.

For overcoming the hemorrhagic tendency curettement after dilatation of the uterine canal is most helpful. Tampons of iodoform gauze and the application of glycerin and ichthyol are in some cases excellent adjuvants.

In cases in which the active inflammatory processes have been brought under control, the use of Cutter's or Thomas' intrauterine stem pessary will sometimes be found worthy of trial.

My experience in the employment of Sims' discission of the posterior lip and in that of amputation of the cervix is far from being favorable for the indorsement of the practice. Recently there has come under my care a case in which such amputation had been resorted to for anteflexion. The patient presents a condition that may be regarded as anything but pleasant to contemplate. The corpus has become dilated and globular. The inner os appears as a mere fistula, which closes at intervals, and thus causes retention of fluids; when the os opens spontaneously or is dilated artificially the condition of the uterus resulting markedly interferes with the intra-abdominal pressure. In some cases, after rapid dilatation and curettement, I have found that gradual straightening of the canal by use of the sound or sterilized bougies proves of much benefit. Rapid dilatation, performed so as to straighten and shorten or broaden the uterine canal, followed at the time by thorough curettement, will frequently afford much relief. This should be supplemented by the frequent employment of gradual dilatation and by the patient's wearing at intervals between the menstrual periods a stem pessary. In those cases in which the ovaries and tubes have become adherent about the uterosacral ligaments, these should be separated, if possible, after all active inflammatory processes of the endometrium and other parts have been overcome, by resort to bimanual rectovaginal manipulation, and by the free use of tampons saturated with ichthyol and glycerin. In those cases in which cystitis has been a prominent symptom, from position or weight of the uterus, the use of a properly fitting pessary, after the acute stages have yielded, will become an essential means of relief.

A FEW OBSERVATIONS ON THE EFFICACY OF PROTARGOL IN PYOGENIC AFFECTIONS OF THE EYE.*

F. C. HOTZ, M.D.

Professor of Ophthalmology and Otology in Rush Medical College.

CHICAGO.

Neisser, who was the first to test the germicidal activity of this new silver salt, found that a solution of 1:2000 prevented the growth of bacteria, while silver nitrate stopped their growth in a solution of 1:5000; but while the latter showed the greater germicidal power in the test-tube, protargol showed a greater penetrating power in the tissues, since it was not precipitated by blood-serum and other fluids containing albuminous compounds. Numerous clinical observations have fully confirmed the germicidal activity of protargol. I will refer only to the reports of Darier, one of the first and warmest advocates of this new remedy, who submitted a very interesting summary of his results to the last International Ophthalmological Congress in Utrecht.

Clinical experience, however, has not only proved protargol to be as efficient as argentic nitrate in the treatment of pyogenic affections, but has discovered in it valuable properties not possessed by silver nitrate. All observers agree that protargol, even in strong solutions, causes but very little irritation, and has no caustic effect. This is an advantage of inestimable value, because it permits its free use under conditions where the application of silver nitrate, on account of its irritating and caustic effect, is either positively forbidden or admissible only under the greatest precautions. We all know, for instance, how cautious we have to be in the use of argentic nitrate in the first days of an acute gonorrheal conjunctivitis; how disastrously its application may operate if one neglects to protect the cornea against contact with the solution. How different with protargol! Whatever the strength of the solution it does no harm to the cornea and therefore may be applied boldly and without fear of letting it come in contact with any part of the eye. Let me illustrate:

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

March 24 a woman 44 years old consulted me about an inflammation of her right eye, which had begun two days before and had all the ear-marks of a violent acute gonorrheal conjunctivitis: great swelling, redness, and tenderness of the lids, so that the eversion of the upper lid was very difficult and painful; chemosis of the ocular conjunctiva, croupous coating over the tarsal conjunctiva, and a copious discharge of a whey-like secretion containing numerous gonococci. Now, in this early stage of gonorrheal conjunctivitis we religiously abstain from the use of nitrate of silver; but I did not hesitate to apply protargol at once. A cotton swab well charged with the solution—20 per cent.—was passed under the upper lid well up to the fornix and rubbed back and forth over the conjunctiva. In the same way the lower cul-de-sac was treated, and during these manipulations the protargol spread quite freely all over the eyeball. Thirty minutes after the treatment the lids were noticeably paler and less swollen, and the patient experienced a sensation of great relief. The application was repeated in the evening and twice on the following day. March 26 the lid-swelling and chemosis had disappeared; the tarsal conjunctiva was free from fibrinous coating, and the secretion showed a mucopurulent character, still containing gonococci but in much smaller number. From this day on the 20 per cent. solution was applied only in the morning and a 5 per cent. solution instilled by the patient's nurse in the afternoon and evening. On March 31, the discharge was very scanty and free from cocci; and on April 7 it was recorded that the last four days there had been no discharge. Thus in less than two weeks the eye had recovered from a violent gonorrheal infection.

With equal success protargol asserted its germicidal power in a number of suppurative inflammations of the tear-sac. A few injections usually were sufficient to stop the purulent secretion. One of the most striking instances was the case of an Irishman, 52 years old, with an acute suppurative inflammation of the tear-sac of three weeks' duration. The left side of his face was made hideous by the redness and enormous swelling of the lids and cheek, and by a large ragged wound over the tear-sac, from which pus was freely oozing. Protargol was injected into the sac, and also thoroughly rubbed with a cotton swab over the walls of the fistulous canal. In three days the swelling of the face and lids had disappeared and the pus discharge had ceased, and healthy granulations covered the wound.

In suppurative keratitis protargol has done excellent service. I unhesitatingly place it at par with the electro-cautery; and while the latter requires a special apparatus not always at the disposal of every physician, and special skill and judgment in its use, the application of protargol requires no special precaution and may be made by a nurse or almost anybody after being shown how to do it. When physicians are once acquainted with this remedy I believe many eyes will be saved which now are lost because the patient can not get the services of a specialist.

This opinion is based upon the experience in a dozen cases treated during last winter. In all cases the suppuration was checked promptly, and if the destruction of the cornea had not gone too far before I saw the case, the eye recovered with a small leucoma. In two cases the whole cornea was already involved, and, of course, could not be saved, though even here the protargol effectually stopped the further progress of destruction. The following two cases may serve as illustrations:

CASE 1.—Railroad laborer, 32 years old, left eye struck by piece of coal November 15, admitted to the Presbyterian Hospital, November 22, in this condition: Swollen lids, marked chemosis, mucopurulent discharge, central portion of cornea cloudy and enclosed in a ring of pus infiltration, and a small hypopyon. Protargol was applied to the cornea as well as to the retrotarsal folds, and atropin instilled.

November 23, lid swelling and discharge greatly diminished; pus ring in cornea less marked. November 24, lid swelling and chemosis gone, no more discharge; in place of the ring there was a clean shallow groove. December 4, patient left the hospital with a rather slight central opacity in the cornea.

CASE 2.—A physician came to me December 23, with a central ulcer in the cornea of his left eye; margin infiltrated, surrounding cornea cloudy; small hypopyon, irregular pupil, several posterior synechiæ. Inflammation began three weeks before, and had been treated chiefly with atropin and hot fomentations. Protargol was thorougly applied to the ulcer. December 24, patient free from pain; slept the first time in three weeks without opiates. December 26, ulcer clean; hypopyon gone. January 6, ulcer healed.

It will be of especial interest to the members of this Section to learn that protargol was found equally efficacious in pyogenic infections after operations. In two cases of normal extraction with iridectomy the wound was not yet closed at the end of the first week. On the eighth day the eyes suddenly presented a great swelling of the lids and chemosis, mucous secretion, infiltration of the wound edges, cloudy cornea and severe pain. In both cases the first effect of the application of protargol was the almost instantaneous alleviation of the pain and the marked decrease of the lid swelling, chemosis and discharge. In the one case the suppuration did not spread beyond the wound edges after treatment was begun, and in two weeks the eye had recovered. In the other patient the symptoms were as violent as in beginning panophthalmitis, and I believe I owe it to the protargol that this eye was saved at all, though with much loss of corneal tissue and occlusion of the pupil.

Six weeks later I again had a case in which the wound was still partly open on the sixth day after extraction. With the experience of the two cases of late infection still fresh in my mind, I was naturally very anxious to see the wound closed and to forestall infection. I, therefore, touched it thoroughly with protargol, which I was satisfied would disinfect without irritating. Two days later the wound was sealed up, the anterior chamber restored, and the healing proceeded in a satisfactory way.

In summing up my experience I may say that protargol is undoubtedly a very valuable remedy in the treatment of pyogenic affections, but the results are largely governed by the strength of the solution and the frequency and mode of application. During the acute period of pyogenic inflammation the solution should be not less than 20 per cent., and applied at least twice in twenty-four hours; if no decided improvement is noticed, either the strength of the solution or the frequency of application should be increased. It is very essential that the protargol be brought in thorough contact with the affected tissues, and this is, I believe, best accomplished by means of a cotton swab, well saturated with the solution, firmly rubbed over the affected portion of the cornea and conjunctiva, especially the retrotarsal folds. On account of its non-irritating and non-caustic action it is unnecessary to wash the eyes with salt solution or to apply cold compresses after the treatment: nor is it necessary to evert the lids for the treatment of the tarsal and retrotarsal conjunctiva, an advantage greatly appreciated by patient and physician if the lids are much swollen and the eyes very sensitive.

DISCUSSION.

Dr. L. Webster Fox, Philadelphia—In 1898 I first used protargol in a mild form of purulent ophthalmia and the result obtained led me to believe that at last we had obtained a remedy which would rob many of the catarrhal inflammations of their dreaded sequelæ.

The patient was infected from a discharge, which, while gonorrheal in character and showing a few gonococci under the microscope, was yet not as inflammatory in character as is usually the case. I also used protargol in two cases of ophthalmia neonatorum and made careful observations of the same, and obtained good results. In granular conjunctivitis, I used the stronger 10 to 20 per cent., and while it seemed to lessen the discharge, yet the granulations were not changed in caliber. In serpiginous ulcers of the cornea, I did not get as good results as I expected; ordinary ulcers of the cornea did not show any greater response to its curative properties than to nitrate of silver. In dacryocystitis, I used it frequently, and it seemed in such cases to be of especial value, stopping the secretions, but not curing them. Its use gives no pain; only a slight burning is felt for a few minutes after its application, which makes it valuable where one is compelled to use it on children.

What led to my investigating its germicidal properties was the claim made for it that it had more penetrative power than the other silver salts, and therefore was of greater value in blenorrheal cases.

My assistant, Dr. Rivas, made some experiments in the pathological laboratory of the Medico-Chirurgical College, January 1899, and his report is as follows:

Transfer.	5 per cent.	10 per cent.	25 per cent.
Immediate.	300 colonies.	No growth.	No growth.
5 minutes.	Many colonies.	17 molds.	No growth.
15 minutes.	124 colonies.	No growth.	No growth.
30 minutes.	21 colonies.	No growth.	11 molds.
60 minutes.	2 colonies.	No growth.	No growth.

50 per cent., no growth.

Control, too many colonies to count.

The following experiments were made by Dr. W. Wayne Babcock:

1. *Method.*—A portion from an old agar-agar culture of bacillus anthracis was mixed in a 10 per cent. aqueous protargol solution, and after 1, 5 and 10 minutes, loopfuls of the mixture were introduced into melted agar-agar, pleated out in dishes and placed in the incubator (37 C.) for about 48 hours.

Per cent. protargol.	Time of exposure.	Number of colonies.
10 per cent.	1 minute.	22 (chiefly minute.)
10 per cent.	5 minutes.	6 (chiefly minute.)
10 per cent.	10 minutes.	None.

Control made on agar-agar slant showed luxuriant growth after twenty-four hours' incubation.

Several drops of 5 per cent. protargol solution in which anthrax bacilli had been introduced 85 minutes before were spread upon an agar-agar slant and incubated about 48 hours without apparent growth.

These experiments indicate that protargol in 10 per cent. solution has a distinct germicidal effect upon anthrax bacilli and their resistent spores after ten minutes' exposure.

2. Similar experiments with bacilli of diphtheria. There was no growth after 1 minute exposure to 10 per cent. protargol solution; but these experiments are rejected from lack of satisfactory control.

The remaining experiments were all conducted after the method suggested by D. W. Hill. (Public Health Reports. xxiv.) The method is to smear the lower end of a sterile rod with a thin coating of a pure culture of the micro-organism.

After permitting the bacterial coating to spontaneously dry it is introduced for a measured time in the antiseptic solution, washed in sterile broth to remove the excess of the antiseptic and finally incubated in a tube of sterile broth for two days at about 37 C.

3. Virulent anthrax.—Agar-agar slant culture, 24 hours old smeared upon the ends of glass rods.

Protargol.	Time of exposure.	Growth.
1 per cent.	½ minute.	+
1 per cent.	1 minute.	+
1 per cent.	2 minutes.	Sterile.
5 per cent.	½ minute.	+
5 per cent.	2 minutes.	Sterile.

Control, growth.

A tube for washing after exposure to 1 per cent. protargol solution showed a growth.

4. Similar experiments with 48-hours anthrax culture—agar-agar slant.

Protargol.	Time of exposure.	Growth.
1 per cent.	1 minute.	+
1 per cent.	3 minutes.	+
1 per cent.	5 minutes.	+
1 per cent.	5 minutes.	+
1 per cent.	10 minutes.	+

Control, +.

Broth used for washing the antiseptic solution from rods.

Per cent.	Time.	Growth.
1	1 minute.	+
1	3 minutes.	—Sterile.
1	5 minutes.	—
1	10 minutes.	—

It is to be expcted that the 48-hours culture would show greater resistance from the presence of many spores.

5. Bacillus typhosus.—Rods smeared from slant culture upon agar-agar:

Per cent.	Time of exposure.	Growth.
1	½ minute	+
1	1 minute	+
1	5 minutes	+
5	5 minutes	Sterile.

Control, growth, wash broth: no growth.

6. Staphylococcus aureus from slant culture upon agar-agar smeared upon glass rods. Incubated in broth about 48 hours.

Per cent.	Exposure.	Growth.
1	2 minutes.	+
1	5 minutes.	—Sterile.
1	5 minutes.	+
1	10 minutes.	+
5	½ minute.	+
5	2 minutes.	+
5	5 minutes.	+
5	5 minutes.	Sterile.

Wash broth remains sterile.

The discrepancies in the results of the experiments with staphylococci suggested that protargol solutions might be lacking in penetrative power and thus unable to rapidly sterilize the deeper layers of the thicker smears. Further experiments were undertaken to determine this point, but have not as yet given results that warrant report.

7. Diphtheric broth-cultures smeared upon glass rods.—As the particles of diphtheric cultures are readily washed from the glass rods it is thought that these results are more liable to error than the previous ones.

Per cent.	Exposure.	Growth.
1	½ minute.	Sterile.
1	5 minutes.	Sterile.
5	½ minute.	Sterile.

Control, +; wash broth, sterile.

Dr. G. E. de Schweinitz, Philadelphia—I have listened with the greatest interest to Dr. Hotz's enthusiastic endorsement and to Dr. Fox's equally enthusiastic remarks. I have used protargol a great deal within the last few months and have been very much impressed with its uncertainty. I have seen it do just such marvelous things as Dr. Hotz described and have seen it just as ignominously fail, so I have begun to feel that perhaps we have been too enthusiastic over this new silver salt. My own experience is that protargol is far more agreeable, of course, than nitrate of silver, but can do nothing that the nitrate will not do and the latter frequently does many things that protargol will not do. I have not used it quite as strong as Dr. Hotz recommends, but used it in the same way. I began with a 10 per cent. solution and have gone as high has a 15 per cent solution.

In one particular my experience corresponds with Dr. Holtz's, and that is that when a croupous membrane forms and nitrate of silver would do harm, protargol does not; but I regret to say also I have not seen it do good in such cases. I have great respect for the remedy and use it daily, but it is uncertain.

Dr. Casey A. Wood, Chicago—The reason that I suggested that this remedy should be taken up for discussion this year, was because I think I was one of the first to use it in the part of the country where I live and I have found that I am not able to get those universally good results from it that men elsewhere have been reporting. My experience has been very much the same as that of Dr. de Schweinitz, and I was afraid that I should be the only one here to sound a discordant note in the chorus of praise that has been raised. I think perhaps we have been using nitrate of silver in many cases where it has done harm and where possibly cleansing and the use of mild remedies would have brought about a cure in any event. I must say that in some cases of corneal ulcer where massage was used with it, it brought about fairly good results, but I am not able to bring myself to think it is better than nitrate of silver and some other agents which we have known for a good while.

Dr. T. Y. Sutphen, Newark, N. J.—I have recently seen a case of sloughing ulcer of the cornea. This tissue was extensively infiltrated, while the anterior chamber was nearly full of pus. In this case I felt sure the man would lose his vision. To my delight the trouble began to mend directly after beginning the use of protargol in conjunction with hot water. I attribute the benefit in a great measure to the drug. Argonin I prefer in purulent conjunctivitis. With these remedies I have lost many of my fears concerning a favorable result in severe corneal and conjunctival cases.

Dr. C. F. Clark, Columbus—I want to agree with Drs. Wood and de Schweinitz in their judgment of protargol, for my experience has been quite similar. Excellent results have been obtained in dacryocystitis. It has failed so utterly in other cases where it should have done good that I at first thought I had not a fair sample of the drug, but at the same time another case of keratitis treated from the same sample would do well. I have had better results with antinosine in similar cases.

Dr. Frank C. Todd, Minneapolis—I would like to ask Dr. Hotz if this drug has been used for the prevention of ophthalmia neonatorum as we use nitrate of silver, and if so in what strength?

Dr. Edward Jackson, Denver—I have used protargol a good deal and on the whole I think I would rank it as highly as the solution of nitrate of silver. As a last resort or final dependance I would prefer the nitrate; but the protargol seems so much more generally applicable to a large number of cases that I think on the whole it is probably quite as useful. For the great mass of cases it is certainly very much less irritant than the silver nitrate. But I arose principally to mention the exceptions. I had used it many months without meeting with an exception when I came across a case of dacryocystitis in which I injected it into the sac, after having given the patient a 5 per cent. solution. There was free drainage at the time. The patient complained very bitterly of the suffering it caused, and on subsequent trials this was renewed. He even preferred the passage of a large Theobold probe to the use of protargol. The eyes the next day showed an amount of redness and general irritability that they had not shown at all previously. Even a 1 per cent. solution produced this condition. Since then I have met another patient who made the same complaint on its application. It must be rare to meet with such cases, but they must be looked out for.

Dr. F. W. Southard, San Francisco—I desire to give my testimony in favor of protargol. I have used it for nearly two years in my clinic and have come to place great reliance upon it. I believe, however, that the method of using it is of importance. The eye-ball and the ocular surface of the lids should be thoroughly but gently irrigated with bichlorid solution, 1-8000 or formalin .25 per cent. before applying the drug. It is true I have had failures, but on the whole I feel that it is a most useful drug and shall for that reason continue its use unless I find that my cases do not do as well as by the older methods.

Dr. Frank Allport, Chicago—My experience with protargol has been variable. In view of its enthusiastic endorsement by reputable observers from all parts of the world, I commenced its use with full faith as to its efficacy. I saw many speedy and favorable results, but I also encountered some failures. I do not regard it as highly now as I did at first. It certainly possesses some advantages over nitrate of silver, which have been thoroughly described by the gentlemen who have preceded me; but I have had cases like those mentioned by Dr. Jackson, where even a weak solution produced considerable pain, notwithstanding the fact of its recommendation as a painless application. I remember one case where an injection of a 10 per cent. solution into the lachrymal sac practically disabled the patient all day. I have used as high as a 50 per cent. solution occasionally, and a 25 per cent. solution frequently, but it seems to me that I obtain about as good results with a 2 or a 5 per cent. solution as from the stronger ones. I think the principal point in favor of protargol is its easy application, and the freedom with which one may use it; but I can hardly say that I have seen cases where it has accomplished results superior to what might have been accomplished by the old nitrate of silver properly applied, unless it may be in apparent affections of the lachrymal sac, where it appears to possess especial beneficial qualities. In using protargol I evert the lid and cleanse it with sterile water and cotton, and believe that this procedure materially enhances its value. Another point which makes protargol a remedy of great service to ophthalmologists is the fact that it can be freely given to patients to use at home, which surely is in striking contrast with nitrate of silver.

Dr. Leartus Connor, Detroit—If the reports of scientific investigations respecting the germicidal powers of this drug be correct, under the same conditions its application should produce the same results with a preparation that is equally reliable. Now, I suspect that they are correct and I have no reason to doubt it, but there is reason to doubt whether different samples of the drug are of equal value, otherwise I can not understand why for two and a half years I should have failed to accomplish under the same conditions the same results the other gentlemen have. Of course it is not to be supposed that this agent if applied with mucus over the surface will always penetrate through that and be adequate to kill the germs beneath it, and so its application must be made with care, but as to the strength of the solution, for myself, I think it doesn't matter except that if you use a weak solution you must use more of it, in other words there must be enough of the powder to carry the charge and there must be enough of the germicide to kill the germs. I was led to use this drug through the recommendation of an ophthalmologic friend, in whom I have a great deal of confidence, some three years ago. He told me his results and having enough confidence in him to repeat his observations I found he was quite correct. A year and a half later I met him again and asked if he were using it still and he said, "No, it is no good." I said, "Now that is funny, I have done just as you told me and with just the results you told me, and it has been the delight of my life," for I have to treat a large number of cases of purulent ophthalmia in the children's hospital and they used to be a source of very great anxiety, while with this agent not a single eye has been lost. In the gonorrheal cases in the adult my experience has corresponded exactly with that of Dr. Hotz. I do not approach these cases with the fear and trembling I used to with the nitrate of silver, but I think this should be borne in mind, that the constant cleanliness which we should always employ is just as necessary with this drug as with the nitrate of silver.

Dr. A. D. McConachie, Baltimore—I would like to ask Dr. Hotz if he has had any experience with the use of protargol in acute trachoma. The reason I ask it is because of some experience of my own. I contracted an acute trachoma in one eye, probably in dispensary work at the hospital. Nitrate of silver was used and showed marked improvement for one day, with a relapse the next, and this condition went on with intermissions for a week, and then protargol was used. I can testify to its non-irritating properties, as it was simply no worse than boracic acid or cocain drops, but it did not produce an arrest of the discharge. Prior to that time I had used it a good deal in hospital practice, and I remember one case distinctly of double purulent ophthalmia where the gonococcus of Neisser was found, in which I used in one eye the protargol solution and in the other simple mechanical sterilization with the ordinary plasmin solution thoroughly applied every hour. One eye got well quite as quickly as the other. That may be coincidence, but we continued to use it at the hospital and my confrères there, as well as myself, returned to the use of the old stand-by, nitrate of silver. Time and again we have had to give up the use of protargol and go back to the nitrate of silver.

Dr. Albert E. Bulson, Jr., Fort Wayne—With reference to the use of protargol in the treatment of trachoma I wish to say that my experience has been on the whole satisfactory. In an epidemic of acute trachoma occurring in one of our orphan asylums I found protargol produced less discomfort than applications of silver nitrate and many times proved just as efficient. In some instances, however, the protargol applications did not seem to produce good results, and the substitution of silver nitrate was followed by improvement. The protargol was first used in 20 per cent. solution, but I soon found that in the majority of instances a 30 per cent. solution proved most efficacious. I never saw any unfavorable action on the cornea. In the treatment of ophthalmia neonatorum I have the utmost faith in the daily applications of 20 per cent. solution of protargol and prefer this treatment to any other. To my mind protargol certainly has a distinct therapeutic value, and in the majority of instances can be substituted for the more active and irritating nitrate of silver.

Dr. E. E. Holt, Portland, Me.—About a year ago I had some bad cases of purulent conjunctivitis that had been treated by good men, using nitrate of silver. It occurred to me in continuing the treatment usually carried out in such cases, that these eyes were going to be blind, if not helped at once, and I began to douche the eyes with the Davidson syringe, leaving off all local treatment, except to keep the water flowing in the cul-de-sac night and day. In one case where the swelling was so great that I expected to do a canthotomy the next morning, I found, however, after the douching over night that the swelling was very much reduced, and the eyes went on to a complete recovery without the application of any drug. I noticed that all the gentlemen prefaced their remarks on the use of protargol by stating the need of absolute cleanliness, and Dr. McConachie's case shows this is quite as effective as any remedies used. I think a complete continuous washing out of the conjunctival cul-de-sac will give good results. I have never lost a case since I began this treatment.

Dr. G. L. Hiers, Savannah—I wish to add my testimony to what has already been said in favor of protargol. I have been using it quite freely for eighteen months past and with excellent results. I make it a point, as several of the gentlemen have emphasized, to insist upon absolute cleanliness and I give my patient a weak solution, about 5 per cent. to instill into the eye every three hours. I see the patient once or twice a day, as may be indicated, and make application of a 10 to 15 per cent. solution and follow it with the use of the ice compress. So far my results have been phenomenally good.

In dacryocystitis my experience has been limited, but results were good. In trachoma I never fail to write for protargol and in chronic cases I first squeeze them with Knapp's roller forceps and then use protargol. I have had excellent results.

Dr. Hotz—Let me first answer the questions. I was asked: What is my experience with protargol in acute trachoma? I have not used it? As to the question whether it has been used as a preventive in lying-in-hospitals I think it has recently been tried in lieu of argentum nitrate.

Now, Mr. Chairman, I took it for granted that before treating an eye, or rather before making an application to the conjunctiva of an eye showing a purulent discharge, the lids would be cleansed; and it never occurred to me that the remark in my paper where I said the eye did not need to be washed out, would be interpreted to mean that I did not clean the eye before making an application; but it seems it was so understood by several of the speakers, as they laid particular stress upon the necessity of cleansing the eyes before treatment. My remark had reference to the washing out of the eye after the application of protargol. As you know we use water or salt water, to precipitate the superfluous nitrate of silver after its use on the conjunctiva. If the gentlemen who have spoken of treating these cases by simply observing absolute cleanliness say that they instruct the nurse to insert the nozzle of the syringe under the lids and believe that they will accomplish absolute cleansing of the eyes, they are mistaken. I have never seen an eye which did not show a good deal of mucopurulent material under the lids when they were everted after such irrigation. Some cases we know get well without treatment and others do not, but because a case gets well by doing nothing I do not think it proves that when an application is made in another case, that application is of no value. Now I have not presented this paper because nitrate of silver is not a good and excellent remedy. I have always used and recommended it; but if, as all the gentlemen admit, this new remedy is equally efficient and more pleasant to the patient I do not see why we should adhere to an old remedy and not give the patient the benefit of the more agreeable treatment. I wish to say also that the observations in my paper do not represent my whole clinical experience with this remedy. When I began to use it two years ago I at first had poor results and hence did not start in as an enthusiast for protargol; but my observations lead to the conclusion that I could attribute my failures in the first place to the use of too mild solutions. In using nitrate of silver we consider a 5 per cent. solution very strong, and so I began with a 5 per cent. solution of protargol, which did not accomplish any good. I then tried stronger solutions but did not see any prompt and positive results, until I used 20 per cent. I can only repeat that by starting with a 20 per cent. solution at once and using it in such a way that it comes in close and thorough contact with the affected parts you will accomplish as much good as with the nitrate of silver, and as the application of protargol is not attended by the severe pain and the violent irritation usually caused by argentum nitrate, I am sure we have good and sufficient reasons to substitute protargol for the same.

A SIMPLE OPERATION FOR DIVERGENT STRABISMUS.*

L. WEBSTER FOX, A.M., M.D.
PHILADELPHIA.

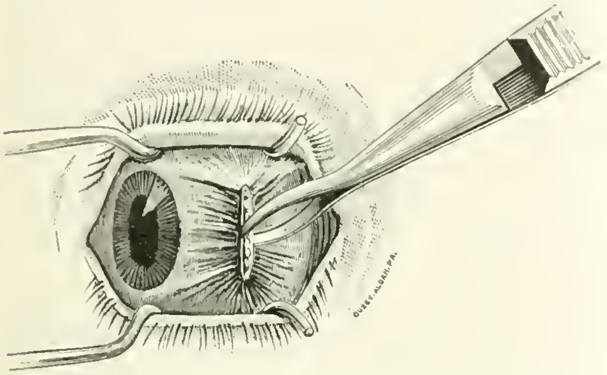
All ophthalmic surgeons have been more or less disappointed in the results obtained from the various operations now in vogue for this deformity. The fact that so many operations have been devised for its correction speaks for the failure of the various methods. Having had unusual opportunities for putting the accepted methods to a test and noting the difficulties and many failures ordinarily experienced, I have for the last eight years followed a method which has been more uniformly successful in my hands than any other.

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I shall not attempt to describe the various operations which might be called the standard methods; that would be too tedious to a body of gentlemen who have had such varied experiences as the majority of the members. This operation, which has given me such good results, has been developed on lines laid down by De Wecker, Grandclement and Panas. It appeals to me as being much simpler than either of the above. It is in cases where the deviation is five millimeters and upward that this operation is best adapted.

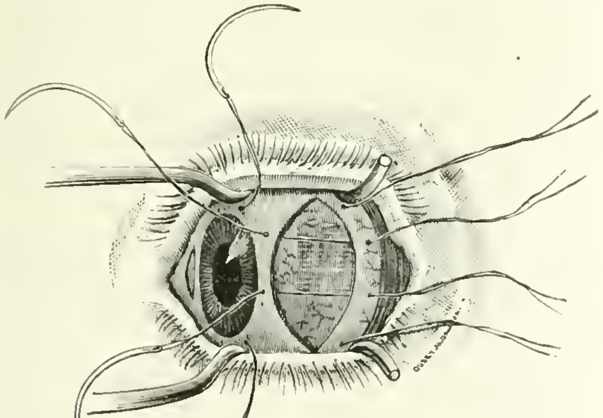
The operation is divided into three parts and is performed under cocain: 1, tenotomy of both external recti muscles and stretching of conjunctiva and Tenon's capsule; 2, making the elliptic opening either on one eye or both; 3, suturing this opening.



No. 1.

The details of the operation are carried out as follows:

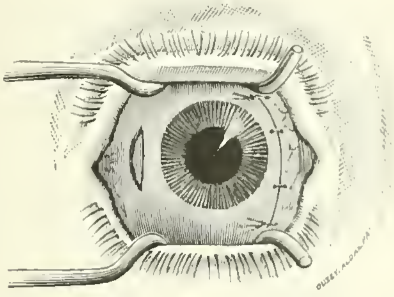
1. Tenotomy of both external recti muscles, making an opening through the conjunctiva, over the insertion of the tendons. I then stretch Tenon's capsule until the cornea is well into the inner canthus—this is done on both eyes. Panas' method is to insert the hook under the muscle and apply pronounced traction, at the same time burying the cornea in the outer or inner canthus. The operation is performed under ether or chloroform, while in this method cocain is only used. The stretching of Tenon's capsule is an important part of the operation. My method is as follows: The strabismus hook, which is a large one, flat on its side, is inserted in the opened conjunctiva and Tenon's capsule and with considerable traction all the tissues are stretched inward until the cornea is buried in the inner canthus. The stretching of the upper tissue has, as can be readily understood, a tendency to rotate the eyeball to a certain degree and leave the conjunctiva and Tenon's capsule intact below; to equalize the stretching, the point of the hook is reversed, and the lower conjunctiva and capsule stretched. In Panas' method the hook being placed under the external or internal muscle prevents rotation of the eyeball.



No. 2.

2. With the retractor forceps I grasp the conjunctiva vertically, midway between the cornea and caruncle and directly over the internal muscle, and draw upward the conjunctiva and as much of Tenon's capsule as I can. I raise the forceps two or three times to take up as much of the redundant tissue as my judgment dictates, and by this means one apparently is always successful in separating conjunctiva and overlying tissue from the muscle, if it be still present; then with curved scissors I cut with one long sweep the upraised conjunctiva and capsule close to the eyeball, making an elliptic opening, exposing, at times, the attenuated muscle, and, if no muscle be present, then the clear sclerotic.

This opening now extends in a vertical direction, beginning below the lower level of the cornea to a point above the same, its width over the muscle is about one full centimeter at its greatest diameter. The conjunctiva is then separated around this elliptic wound from its subconjunctival tissues at all points, even around the cornea if possible.



No. 3.

3. The elliptic opening is brought together with four sutures; the upper suture is inserted through conjunctiva and Tenon's capsule and across under conjunctiva and Tenon's capsule midway between the insertion of the superior rectus muscle and the margin of the cornea: a similar suture is passed through the lower margin of the conjunctiva and brought out midway between the insertion of the inferior muscle and the margin of the cornea; this thread is then tied and in like manner the upper thread; two more sutures are passed through the margin of the lips of the wound and united.

This constitutes the details of the operation. The object of the operator should be to produce one to four millimeters of convergence, which disappears during cicatrization. When the defect is not more than two or three millimeters I have performed an external tenotomy on both and stretched Tenon's capsule, with excellent results, without taking out the elliptic section, especially in those cases where the eyes could be held by the patient at fixed convergence at ten inches.

While this operation is similar in many details to that of De Wecker, Knapp, Snellen, Gruening and Grandclement, yet I am sure its simplicity has much to commend it, and the results obtained in my hands make it preferable to any single one of the above-mentioned methods.

Note.—I refer the reader to Dr. St. John Roosa's article in *The Postgraduate*, November, 1899.

1304 Walnut Street.

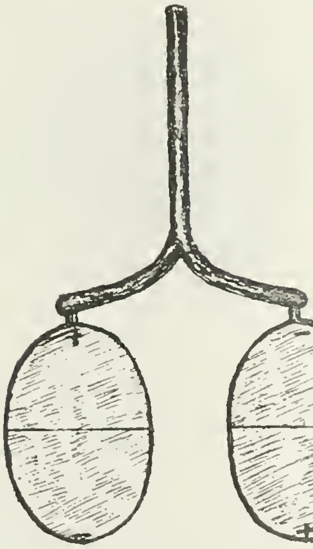
HOW TO PLACE LENSES BEFORE THE EYES SO THAT DISTANCE OF THEIR RESPECTIVE ANTERIOR FOCI SHALL BE THE SAME.*

MARK D. STEVENSON, M.D.
AKRON, OHIO.

Not every ophthalmologist seems to realize the extreme importance of having the anterior focus of each eye at exactly the same distance, and many who try to obtain this fail because of the improper methods used.

If the anterior focal points are not exactly at the same place the ciliary muscles in their ceaseless efforts to find a position of rest will be under a constant seesaw. Every ophthalmologist finds cases in which comfort and good vision can be obtained for each eye separately, yet when the patient looks with both eyes, he complains of discomfort and dizziness and of not being able to see clearly. The problem is how to remedy this.

Many patients with glasses have the same visual acuity in each eye. After refracting such cases, and while they view distant test-types with both eyes, I take a plus and minus sphere of .25 diopter strength and place one before each eye, wait a few moments, when I quickly interchange them. If the patient has any choice it shows me that I must raise the correction of one or lower that of the other, or do both.



If, however, the acuity of vision of one eye is the slightest amount better that that of the other, I take the same lenses, and, placing first one and then the other before the same eye, find which is better, and repeat the same process before the other eye. If a change is needed, the patient will accept a plus before one eye and a minus before the other; this method also indicates in what manner to proceed.

For the sake of convenience, I have combined four lenses, as shown in accompanying diagram. In the first test I hold the two lower lenses in front of the eyes a few moments, and then quickly lower the upper two into position.

In the second test, and in fitting for near, I use one side of the combination, putting first one and then the other before the same eye. It is not to be forgotten, in making the last test if the eyes are not completely under the effect of a cycloplegic, the patient will often choose a minus glass for both eyes, because there is a tendency to accommodate.

In all cases, after having finished these tests, always try stronger convex or weaker concave glasses of the same amount on both eyes.

In presbyopia the amount to be added to the refraction for distance may differ in the two eyes on account of differences in the progress of sclerosis of the lenses and the consequent changes in the ciliary muscles. The common method of fitting presbyopia is to add the same amount to the distant refraction of each eye, and to decide if the desired location of the near test-type is the same for each eye separately. This method can not be relied on, because, not being able to appreciate slight differences in the distance from the eyes to the test-card, and making a probable mistake in each eye, the patient claims that both see better at, say a distance of thirteen inches, whereas, in reality, the one is focused for twelve inches and the other for fourteen inches. It may be supposed that the eyes are now focused at the same distance; but they are not, until you have made a difference in the strength of the lenses equal to 40/12 diopters minus 40/14 diopters, or more than .38 diopters.

By virtue of the fact that the patient is not able to distinguish slight differences in the distance from the test-card to the eyes, you can not get a good result while the test-card is held at a fixed distance.

I increase the spherical strength of lenses to what I think will be necessary to make the anterior focus at the proper distance from the patient's face. Then I have him hold the test-card at the place of best and easiest vision, and use the last method spoken of for distance. If he choses a plus glass on one side and a minus glass on the other, I proceed as before mentioned. If, however, he chooses plus in front of both. I have him hold the card a little farther off, and if minus, a little closer to his eyes, and then repeat the process. When he can not choose between the plus and minus glasses the eyes are balanced.

DISCUSSION.

Dr. James Thorington, Philadelphia—In making this final test in estimating the refraction I think it is always well that we proceed slowly with the previous steps, for that is the way to perceive any decided benefit after we have proceeded carefully in testing each eye separately. There are two points that ought to have careful consideration—the first is to have the lenses used in testing the vision for distance placed very close to the eye, and the next is to have the lenses properly centered before the eye. To do this you have to ignore the trial frame as a rule, because so many of them are not adjusted to the patient's face. I often use the trial frame attached to the Risley phorometer and having tested each eye separately and then testing the eyes together in the way the doctor suggests I find there is very little advantage and that very few patients will appreciate the +.25D., but will quite frequently accept the —.25D. This is decidedly the case with myopics. Then there is this danger, that if you do not place Dr. Stevenson's instrument close to the lenses you get something of a periscopic effect. In presbyopia I find that a certain percentage can not always differentiate 0.25 plus or minus, with any degree of certainty; I therefore hesitate to embarrass them by asking for a positive answer. Patients come to us to have their glasses selected by us, and depend on our judgment; if they must decide for themselves then they think they might just as well visit an optician.

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Dr. Mark D. Stevenson, Akron, Ohio—As a rule patients very quickly decide which lenses they prefer, and I consider that lenses of .25 diopter strength are sufficiently strong and I often use lenses of .12 diopter. When the patient is not under the effect of a cycloplegic and there is a tendency to accommodate, if the vision of the two eyes is unequal the patient would be apt to choose a minus glass before the better eye, but when the vision in both eyes is equal there should be no choice for the purpose of accommodating. I have failed to find any reference to this method of fitting in literature.

Dr. J. A. Lippincott, Pittsburgh—I would like to say that I think this little apparatus a very convenient one and it may serve a useful purpose. I have used the same principle for a great many years by simply holding a +.25 and —.25 in either hand and transferring them during the examination. This apparatus will enable us to save time and trouble and I think there is no question of the value of making this test with both eyes open after you have completed the test with both eyes separately.

KERATITIS BULLOSA, WITH REPORT OF CASE.*

ELLET O. SISSON, M.D.
Member of the International Congress of Ophthalmologists.
KEOKUK, IOWA.

My reason for reporting this case is because it is one of great rarity. Statistics go to show that keratitis bullosa is the least frequent of all corneal troubles. It is fortunate for both the physician and the patient that such is the case, for it is one of the most painful affections that the eye is liable to, and in the majority of cases baffles all therapeutic and surgical measures adopted for its relief. The disease occurs in the eyes, the cornea of which is more or less clouded and sensitive, or in eyes with a large corneal cicatrix, or eyes which have been rendered blind by iridocyclitis or by increase of tension.

Jansen[1] describes a primary form occurring as the result of an abrasion of the cornea by the finger-nail, a twig or some such object. But the majority of cases are secondary and occur as the result of the diseased processes above mentioned. This disease is characterized by the formation on the cornea of large tremulous bullæ which last for several days before they rupture. They are not tightly distended, but form a lax, tremulous, somewhat dependent sac. After their rupture the lax anterior wall still lies upon the cornea, and can readily be made out by the way in which it can be displaced by the movements of the lids. In all cases the bullæ show a great tendency to take on frequent recurrences, in each of which the irritative symptoms set in anew. Violent symptoms of irritation, such as ciliary injection, lachrymation, photophobia, and more especially great pain, are usually present during the development of the bullæ. These doubtless are caused by the pulling upon the corneal nerves which pass into the epithelium, and which, in the process of formation of bullæ are first stretched and finally torn in two.

The irritative symptoms ordinarily disappear with the rupture of the bullæ. The bullæ appear to have a double origin. 1. According to Fuchs, the lymphatic stasis of glaucomatous eyes produces an interstitial edema of the epithelium, which tends to the production of vesicles, etc. 2. The continual irritation of the corneal epithelium alters the nutrition of the cells. Above all, the cells of the middle layer are transformed into clear vesicles, which in places acquire a very large size. The cellular membranes of these larger vesicles are destroyed, and in this manner a lacuna is produced, which is often rather large, and becomes more and more distended; such a vesicle is covered by epithelium that separates it also from Bowman's membrane.

The first mode of formation produces vesicles covered by epithelium and resting upon Bowman's membrane; the second method furnishes the intraepithelial vesicles. Vesicles which lie in the substance of the corneal membrane have also been described; they are said to be developed underneath Bowman's membrane. This point, however, merits further research.

The prognosis is so far unfavorable in that the disease often recurs, on which account the affected eye, besides being useless for purposes of vision, is the source of constant discomfort to the patient. The treatment should aim at relieving the condition of irritation produced by the eruption of the bullæ, and at preventing the recurrences. Sometimes we do not put a stop to the recurrences until we have improved the conditions for the nutrition of the eye by means of an iridectomy or posterior sclerotomy; we may even find ourselves compelled, as the operator was in this case, to perform enucleation of the diseased eye in order to give the patient relief.

Mrs. L. presented herself at my office July 12, 1898. She was of German descent, about 50 years of age; had always had good health; was the mother of several children. Subjective symptoms: Patient said that she had had the present eye trouble for about a year; had been better at intervals; no history of any injury; was suffering great pain at this time. An examination showed the presence of a large tremulous bulla measuring 4 by 5 mm., situated nearly in the center of the cornea. The remaining portion of the cornea was clear, anterior chamber of normal depth and T. normal. There was ciliary injection, lachrymation and some photophobia. Further examination revealed the presence of a cataract and complete posterior synechia of the iris; V.=0. This condition was undoubtedly the cause of the keratitis.

I adopted the usual mode of treatment, namely, opening the bullæ and touching the raw spot with nitrate of silver solution. I also used a strong solution of atropia, with the hope that I might break up some of the adhesions of the iris, and thus improve the nutrition of the parts. But I soon found this to be fruitless, and had to limit the treatment to simply opening the bullæ, which would give the patient relief for the time being, and perhaps a night's rest, but the next day another large bulla would develop on the same spot and the patient would again suffer excruciating pain. She would beg me to remove the eye, saying that she could not stand it. This I was loath to do, as the eye ball was perfect and not in the least unsightly, and most of the time there was not even congestion of the bulbar conjunctiva.

On August 21 I determined on making an iridectomy. Cocainizing the eye, I made the usual incision with a keratome, but I experienced considerable difficulty in dragging forth the iris; as before stated, it was firmly bound down by adhesions, which were hard to loosen, the iris tearing first. But I succeeded in making a fair-sized coloboma, dressed the eye as usual in such cases, and awaited results. The case progressed nicely, patient suffering no pain, and there was no sign of a return of the bulla after several days had elapsed. I began to feel quite hopeful of success, and had arranged to dismiss the patient from the hospital, when, behold! one morning when I removed the bandage preparatory to dressing the eye, I discovered a completely formed bulla on the same spot, the only difference between it and the previous ones being that it was not quite so large. This was my only consolation, and I hoped that after the eye had completely recovered from the operation they might disappear altogether.

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Arch. d'Ophthal., April, 1898.

For several weeks following the patient suffered less pain than previously, the bullæ not being as large nor lasting as long, but the condition gradually became worse, until on October 9, 1898, I was forced to enucleate the eye. I would much rather have performed evisceration in this case, inserting a glass ball after the manner of J. Webster Fox or the aluminum one of D. Bryant, but the patient was not suitable for such an operation, being very intractable, which is not desirable for such delicate work, where complete submission and assistance on the part of your patient enables you to obtain a much better result. She made an uneventful recovery after the operation, and, after fitting her with a glass eye, she was one of the happiest women imaginable.

CHEMICAL FACTORS IN INTERSTITIAL GINGIVITIS.*

W. L. BAUM, M.D.

CHICAGO.

In dealing with the influence of any etiologic factors, these factors must be considered in connection with the organism on which they act—the latter in its constitutional aspects and in regard to its condition at the time the chemical factor begins its action. The local condition of the parts affected must likewise be taken into consideration. As the gums at times take upon themselves the function of excretion, they are peculiarly apt to be affected by chemical action. Prominent among the agents which produce effects on the gum and the other transitory structures are the alteratives and tonics. Arsenic, gold, iodin, iron, mercury, brass, lead, copper and phosphorus all produce, by their excretion through the gums, conditions of edema, which are predisposing factors to interstitial gingivitis. Arsenic, gold, iron, phosphorus and mercury all set up an inflammatory condition. Among the vegetable alteratives having a like action; colchicum, guaiac, salicylic acid, sarsaparilla and pilocarpin are also factors to be considered. It must be remembered also, that these alteratives and tonics, through the production of edema, furnish a culture-medium for microbes. Exceptional instances of the influence of drugs on the gums are found among the anthelmintics, cathartics, diaphoretics, diuretics, emetics and expectorants. Instances are also found among the narcotics, rather from a secondary action than from the immediate consequence. Musk, opium, hyoscyamus, valerian, veratrum, acetanilid, phenacetin, phytolacca and phenocoll, all exercise an influence as either a predisposing or an exciting factor, or both. The bromids, as might be expected, exercise a decided influence in this direction; indeed, the condition for bromidism resembles, so far as its marked symptoms are concerned, very decidedly the condition produced by mercury. The same is true, though less frequently, of antipyrin, chloral hydrate, chloralamid and chloralose. The conditions produced by mercury, gold, the iodids, the bromids, phosphorus, arsenic and antimony are well known. The vegetable drugs are much less frequently taken into consideration, and the same is true of the coal-tar compounds. The key to the effects of any drug in this direction is to be found in the untoward effect of the drug; as Kiernan observes, the most potent remedies are most fertile in untoward effects. A drug of potent physiologic action must of necessity try more severely than an inert drug, inherited and acquired deficiences of constitution. The excessive strain on inhibitions weakened by acquired or inherited taint, gives an undue sway to inhibited centers. The action, therefore, of drugs, as shown in the untoward effects, reveals the weakest point in the organism, the point at which drugs are excreted, and also the glandular structures for which they have a predilection. It should be remembered, also, that alteratives, narcotics and tonics exercise an influence over that part of the nervous system which presides over growth and repair. Such an influence may either check or aggravate the processes of growth and repair.

The histologic appearance of the structure affected in interstitial gingivitis, secondary to mercury, according to the work of Talbot, showed that the epithelial lining of the gums did not present pathologic changes, but appeared normal in every respect. Connective tissue below the gum-epithelium—the tissue analogous to the papillary layer of the derma and the derma proper—presented unmistakable evidences of a mild inflammatory process. There occurred in this connective tissue round-cell infiltration, generally moderate, but in some places quite dense. This cellular infiltration extended from below—where it was densest—upward into the papillary layer. The densest cellular infiltration usually occurred around the vessels.

Under high magnification, the cellular infiltration was found to consist of polymorphonuclear leucocytes, plasma cells and plasma-mast cells, the latter with coarse basophilic granulations.

In some places were seen between the round cells, short, broad, fusiform cells, the protoplasm of which took quite well basic methyl blue. These cells resemble fibroblasts very much and appear to be derivations of the plasma cells. No bacteria were found either in the areas of cellular infiltration—inflammatory areas—or elsewhere. In these cases it is obvious that there had occurred a mild inflammation of the gums—gingivitis. While this could not be seen with the naked eye, microscopic examination demonstrated histologic features of an inflammatory process. The absence of bacteria justified the belief that this inflammation was not of microbic origin, but due to mercury, which, by its well-known chemotactic influence, produced the histologic changes of an inflammation.

A further study of Talbot's specimens shows that the irritation chemotactically produced results in an inflammatory reaction upon the intima of the vessels, setting up an endarteritis which, by the thickening of the intima and proliferation of endothelial cells, ends in occlusion of the vessels—endarteritis obliterans—thus by cutting off the nutrition, producing an anemic infarct, which either undergoes absorption or becomes necrotic. The bacteriologic invasion is always secondary to this process.

What is true of mercury is also true of other alteratives.

---

*Presented in a symposium on Interstitial Gingivitis, to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

A. T. Still, M. D., the founder of the osteopathic cult, in the *Journal of Osteopathy* for July, delivers himself of the following lucid sentence: "All bones and softer parts must obtain all matter entering their form and kind." This reminds one of the cheerful and enlightening conundrum: "Why does a mouse spin?"—*Cleveland Journal of Medicine*, July.

THE CONSTITUTIONAL TREATMENT OF INTERSTITIAL GINGIVITIS.*

J. H. SALISBURY, A.M., M.D.

Assistant Professor of Medicine and of Chemistry, Rush Medical College; Professor of Medicine, Chicago Clinical School.

CHICAGO.

At no previous period in the history of medicine has the importance of a thorough acquaintance with the human system as a whole and of the interdependence of the various organs been so well recognized as to-day. Since local diseases are scarcely ever uninfluenced by the systemic condition, it becomes important to consider their constitutional as well as their local treatment.

Interstitial gingivitis is a disease comparatively unknown to the general practitioner, but it is to be hoped that the recent investigations which have thrown such a clear light upon its nature and effects will arouse the interest of the profession, so that its treatment will be undertaken at a stage when there is hope of recovery without permanent injury to the gums or teeth and before serious affection of other organs arise from it.**

Interstitial gingivitis, or so-called pyorrhea alveolaris, has been classified by Dr. Talbot[1] as due to local and constitutional causes. The constitutional causes include mercurial, lead, brass and other drug poisoning on the one hand, and autointoxication on the other. Dr. Talbot has shown that this disease has its origin in the tissues of the gum and alveolar process, and that atrophic changes precede the invasion of the tissue by micro-organisms. These primary atrophic changes are due to poisons circulating in the blood, and hence the disease falls into the large group of affections caused by autointoxication. The constitutional treatment of this disease must be governed by its etiology. Successful treatment must keep in mind the toxemia by which it is caused and endeavor as far as possible to trace the origin of the poison which is at the root of the local disease.

Autointoxication means self-poisoning, and has received a somewhat wide application, so as to include all cases of disease in which the poisons that produce the symptoms arise within the system and are not produced by recognized pathogenic organisms.

These poisons may be divided into several classes: 1. Poisons produced at all times by the ordinary metabolic activity of the tissues, which accumulate in the latter until they produce the symptoms of disease; 2, poisons produced in abnormal amount by the unnatural metabolism of certain tissues; 3, poisons produced by the metabolism of the tissues, but which are not produced at all in health; 4, poisons produced by bacteria in the intestines or other parts of the system, and which accumulate in the body in consequence of imperfect action of the eliminating organs; 5, poisons produced in abnormal quantities by bacteria in consequence of circumstances favoring bacterial activity; 6, poisons produced by bacteria which are not normally formed in the system.

In general we may divide these poisons into two classes, according to the place where they originate: 1. Those which are formed by fermentation in the stomach or intestines; 2, those which originate in improper metabolism of the tissues. According to Pœhl,[2] these two can be distinguished by analysis of the urine. The substances arising from fermentation in the intestines include several aromatic substances which are excreted as conjugated sulphates. When the proportion of ordinary sulphates to the conjugated or aromatic sulphates is ten to one or less, intestinal autointoxication is present. The same condition is indicated by a marked amount of indican in the urine.

Pœhl believes the abnormal metabolism that results in autointoxication to be due to a diminished intraorganic oxidation. This is due to: Deficiency of oxygen or diminished alkalinity of the blood, in a normally alkaline blood. Leucocytosis occurs, with a considerable destruction of white blood-corpuscles, which sets free spermin. This latter substance acts as a ferment that hastens the oxidation in the tissues. The lowering of the alkalinity of the blood is a potent factor in increasing the susceptibility of the system to infection, as has been shown by the researches of Von Fodor,[3] Behring,[4] Calabresse,[5] Cantani[6] and others. This condition is shown, according to Pœhl, by the analysis of the urine. If the amount of disodium hydrogen phosphate falls below 50 per cent. of the total phosphates there is lessened alkalinity, and autointoxication has begun. The coefficient of Zerner, which consists in the ratio of uric acid to the total phosphates, is of value. A ratio higher than 0.4 per cent. indicates lowered alkalinity. The relation of the chlorids to urea may also be taken as a similar measure; it should not be less than one of NaCl to two of urea. Armstrong[7] cites the port-wine color given to urine by the addition of ferric chlorid as an indication of autointoxication. This reaction occurs especially in cases due to dilatation of the stomach.

The symptoms of autointoxication are very various, and many grave conditions have been traced to this source. Among the severe forms of disease that have been shown to be the result of autointoxication are the following: Epilepsy,[8] neurasthenia,[9] migraine,[10] neuralgia, tachycardia,[11] Basedow's disease,[12] asthma,[13] tetany, gout, amblyopia,[14] albuminuria,[15] urticaria.[16] Dr. Talbot has shown that intestitial gingivitis is one of the first, if not the first, symptom of autointoxication. Recent researches of Vaughan Harley indicate that scurvy is caused by ptomains from tainted meat and the condition of the gums in scurvy is closely allied to that of pyorrhea.

In its milder forms we may usually describe the course of the symptoms as follows: One of the most prominent symptoms is headache, which varies in severity according to the sensitiveness of the subject. Poisons produced by autointoxication usually cause contraction of the arterioles, with consequent rise in the arterial pressure. This rise of blood-pressure may so stimulate the kidneys as to increase the quantity of urine and cause the elimination of the poison. In these cases the symptoms produced by the poisons are wanting or insignificant. If the rise in blood-pressure is considerable, the symptoms of asthma may supervene. M. Huchard[17] states that in some cases the contraction of the vessels may be so great as to produce a pallor that simulates chlorosis. In such cases the pallor disappears upon regulation of the diet, by the removal of meat, so as to prevent the formation of the toxin which produced the contraction of the vessels. On the whole the contraction of the blood-vessels, and consequent rise of blood-pressure, must be regarded as salutary, being a provision of nature for the elimination of the poisons. Other symptoms are due to the elimination of waste material by other emunctories than the usual ones. The natural excretions do not seem to produce any disturbance in the eliminating organ, but an unusual poison will produce violent symptoms by irritating the organ by which it is excreted. Thus when the kidneys are performing their functions imperfectly the skin or bronchial mucous membrane shows irritation in consequence of vigorous efforts at elimination. As a result of these efforts there may be itching of the skin, eruptions of urticaria, eczema or cough and bronchial irritation extending even to catarrhal inflammation. Salivation is an occasional symptom. We know that mercury is eliminated in the saliva, and the same is doubtless true of other poisons, including those of autointoxication. J. C. Simpson[17] thinks that the salivation of pregnancy is due to a toxic substance absorbed from the uterus. Bouchard has isolated from the urine of healthy men a substance that will produce an increased flow of saliva. Salivation may, therefore, be regarded as one of the danger signals in autointoxication.

---

*Presented in a symposium on Interstitial Gingivitis, to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

**Hunter has attributed infection of the stomach and consequent pernicious anemia to germs swallowed from the mouth.

The constitutional treatment of interstitial gingivitis resolves itself into the treatment of autointoxication, and especially of those forms that are liable to cause the disease.

Three indications are to be met in the treatment: 1. To stimulate the eliminating organs; 2, to fortify the system against the action of the poison; 3, to prevent the formation of the poison.

The three important emunctories through which poisons—whether introduced from without, or produced in the system itself—are eliminated are the skin, kidneys and bowels. Of these the skin is the most accessible, and ought to be most susceptible to treatment.

That even metallic poisons can be eliminated by the skin is shown by the elimination of lead in this manner, and by the deposition of silver in the skin when the metal is given for a long time. A similar function is shown by the formation of crystals of urea on the skin in cases of kidney disease, where the eliminative action of the kidney is impaired.

The therapeutic problem in the treatment of gingivitis will best be solved by methods that serve to keep the skin up to its highest efficiency as an eliminative organ, rather than by spasmodic stimulation followed by periods of inaction. Hygienic measures should be utilized to the utmost, while drugs should be used only as adjuvants. The conditions under which the skin reaches its highest efficiency as an eliminating organ are warmth, cleanliness, free cutaneous circulation and an abundant supply of moisture. To secure these conditions requires the attention of the physician to the subject of clothing, but it is beyond the scope of this paper to enter into details in regard to this subject.

The importance of an equable temperature for all parts of the skin is shown by the results of experiments, which indicate that chilling of certain areas of the skin affect the circulation of the internal organs, and also tend to lessen the rapidity of circulation in the skin of other parts. Elimination by the skin is promoted by a judiciously applied hydrotherapy, but the external use of water accomplishes much more, so that several indications are fulfilled at the same time. Warm or hot baths and the friction that follows them promote a free cutaneous circulation. The value of the Turkish bath is well known, but its expense and the danger of subsequent chill tend to limit its utility. The old-fashioned alcohol sweat acted on the same principle, and was a powerful therapeutic agent. The bath cabinets now on the market seem destined to remove the objection of expense, and the use of the hot-air bath deserves the attention of the profession for the relief of autointoxication as well as in the treatment of more serious affections, like dropsy and uremia. It should be given under careful direction from the physician or medically educated dentist, who should be well acquainted with its physiologic action as with the action of the drugs which he employs. For the treatment of migraine Steel[18] recommends, in addition to a vegetable diet, the use of hot vapor baths, cold sponging and vigorous rubbing, suiting his measures to the condition of the patient, and using one or all, according as his judgment determines. He reports very gratifying results. We have in the cold bath a powerful agent for the stimulation of the nervous system, for increasing the alkalinity of the blood and profoundly influencing the metabolism of the tissues.

Strasser found that cold baths increased the alkalinity of the blood. The cold bath by its temporary contraction of the arteries drives the blood more rapidly through the kidneys, liver and other internal organs, and thus improves the action of the other eliminating organs as well as the skin.

Armstrong[7] recommends the use of the needle spray and general faradization. He also recommends, as a means of stimulation of the nervous system, an application of mustard, which he calls the double-mustard pack. This is made as follows: Two large poultices are made of mustard bran and applied, one to the nape of the neck and down the spine, and the other over the region of the stomach and liver. The application is made for fifteen minutes every second day.

While the free action of the skin is to be encouraged, it should not be carried too far or adopted as an exclusive method of treatment. Bouchard[18] suggests that too free action of the skin may be prejudicial by lessening the activity of the kidneys, and thus in some cases inducing rather than preventing autointoxication. This condition is noticed in summer, when, with excessive sweating, the urine becomes scanty and irritating, and at the same time the skin is affected with pruritus or with urticaria. This danger is, however, easily guarded against by the free use of fluids.

The importance of excretion by the kidneys has never been overlooked by the profession, and the means by which it can be promoted are well known. Diuresis depends upon two factors: increase in blood-pressure and stimulation of the kidney epithelium. The increased blood-pressure is promoted by two means: contraction of the arterioles and increase in the force of the heart's action.

As has been said, the contraction of arterioles by most auto-poisons tends to bring about their own elimination if the heart acts with sufficient vigor, and all that may be needed to secure the elimination of the poison is to secure the vigor of the heart, and in cases where the formation of the poison has ceased, this will terminate the disease. Digitalis acting as a heart tonic and raising the blood-pressure at the same time, stands in the front rank as a diuretic, and may often act favorably when there is no heart lesion to require it. Caffein appears to act not only by stimulation of the heart but also by a special action on the kidney epithelium. The close relation of caffein to bodies of the xanthin group renders its employment of doubtful utility in cases where the intoxication is due to the presence of this group. In cases of doubt it is probable that an estimation of xanthin bases in the urine might be a valuable guide in deciding whether to employ caffein as a remedy, or to exclude coffee, tea and chocolate from the dietary.

The saline diuretics act by their influence in withdrawing water from the tissues and thus increasing the volume of the blood. They are thus well suited to the removal of poisons that have been deposited in the lymph-spaces, and ought to be especially useful in the treatment of gingivitis. The action of alkaline diuretics also promotes oxidation and thus they serve a double purpose.

The free imbibition of water affords the readiest and best means of sustaining the action of the kidneys. That the American people drink an insufficient amount of water is shown by the fact that the average amount of urine is less in this country than in other countries. When the daily amount of urine is less than three pints a good indication is afforded for the administration of water and diuretics. It will often be found to be less than a quart.

The water will be taken more freely and with less repugnance if it contains a small amount of salts. An alkaline mineral water containing only a small amount of solids is especially suitable for the purpose. The amount of water used should be such as to materially increase the amount of urine.

The eliminating function of the large intestine is shown by the fact that mercury is eliminated by this channel, even when it has entered the system by other avenues than the stomach. That the liver also acts by eliminating poisons in the bile is well established. The cure of autointoxication demands, therefore, the use of agents to stimulate the liver and the large intestine. Calomel has long held the confidence of the profession as an agent that produces an increased action of the liver, and clinical experience seems to justify the continuance of the confidence. The question has not been settled experimentally, but the favorable effects derived from it in practice indicate that it must act in some way not yet revealed by experiment. The further action of calomel as a purgative renders it an invaluable agent in the treatment of autointoxication.

The use of purgatives can not well be considered separated from their action as eliminating agents. The value of purgation is generally recognized, and we can only add some recommendations as to the particular agents to be used. Prof. H. A. Hare[19] recommends the following pill in the treatment of a case in which epileptiform convulsions were due to autointoxication:

R.	Extract chiretta	gr. ii
	Leptandrin	gr. ss
	Podophyllin	gr 1/5
	Euonymin	gr. ss
	Beechwood creosote	gr. ss

M. Ft. pil. Sig. One to be taken three times a day, after meals.

In addition he gives Hunyadi water in sufficient quantity to secure a semifluid stool.

Prof. D. R. Brower[20] in the treatment of neurasthenia due to autointoxication recommends four parts of sodium sulphate to one part of sodium phosphate as a purgative in intestinal dyspepsia.

The defenses which the organism possesses against the action of poisons are: 1, the power of the liver to destroy poisons absorbed from the intestines; 2, the general oxidizing power of the system; 3, the action of special organs such as the thyroid. To fortify the system against the action of poisons we need to stimulate these activities. A large proportion of the toxic substances whose actions produce the clinical picture of autointoxication consists of immediate links between the albumin molecule and the final results of oxidization produced by the metabolism of these substances in the body. The final products of oxidation are comparatively harmless, while those substances which represent a less advanced degree of oxidation are usually poisonous in proportion to their remoteness from the final product of metabolism. Thus urea is harmless, while uric acid, which represents a lower degree of oxidation, is irritating and somewhat poisonous, and xanthin, which contains less oxygen than uric acid, is more decidedly poisonous than the latter. Lastly we have adenin, which contains no oxygen and is a powerful poison. In all probability the most poisonous leucomains are complex compounds more nearly allied to albumin, which have not been isolated. The more complete the process of oxidation in the system the less the organism will be affected by the poisons of autointoxication. If, therefore, the natural oxidizing processes of the system can be promoted, these substances will be converted by oxidation into less noxious or harmless compounds whose excretion is easy. The process of oxidation in the body is a function of the cells and is carried on best in an alkaline medium. The alkalinity of the blood is known to increase in the progress of an infection *pari passu* with the acquisition of immunity by the organism and the destruction of the toxins of the disease. A similar process goes on in the recovery of the organism from autointoxication.

The alkalinity of the blood may be kept at its maximum by securing the excretion of acid by the kidneys and skin, by preventing the formation of acid, by the administration of alkalies, and by the use of a meat diet.

The administration of the alkalies does not markedly influence the alkalinity of the blood, but there is no reason to doubt that they affect the reaction of the lymph and increase the oxidizing powers of the system. The oxidations going on in the system, depend upon the activity of the cells and, therefore, will be favored by the renewal of the lymph which bathes these cells. The beneficial effects of massage find in part their explanation in the increased activity of the lymph circulation which it brings about. The cold bath as a means of stimulating the nervous system has already been referred to. Tonics like strychnin have a similar action.

Is is possible to introduce into the system oxidizing agents that will act either independently or in conjunction with cellular activity to promote the oxidation and destruction of poisonous substances circulating in the blood? On the discovery of the active oxidizing powers of certain agents it was assumed that they could be made to give up their oxygen inside the body as they do outside and thus affect therapeutic results.

By many physicians it was once thought that, in potassium chlorate we had a source of oxygen as available when taken internally as when used in a retort in a chemical laboratory. But experience has shown that such analogies can not be pressed too closely and that the process of oxidation in the system goes on by the intervention of the chemistry of the cells and probably in no other way. It is quite possible that the cell may make use of extraneous oxidizing agents as it uses the iron of the red blood-corpuscle for the purpose of carrying oxygen.

Ratchford[21] recommends potassium permanganate to neutralize poisonous ptomains circulating in the blood. He gives it in pills coated with salol, each containing one grain. One of these is taken three times a day, an hour after meals. In addition to the permanganate he gives a mixture of sodium salicylate, sodium phosphate, and sodium sulphate. It is improbable that potassium permanganate acts as an oxidizing agent after absorption into the blood. The results of its use in opium poisoning seem to show that it is efficacious by oxidizing morphin in the stomach, but does not act after absorption[32]. It has been suggested by Prof. W. S. Haines that hydrogen dioxid might act after absorption into the blood, because it has been shown that it can exist in the blood. Pœhl would employ spermin for this, while others recommend nuclein. Poisons absorbed from the intestinal canal are largely destroyed by the liver. This is well illustrated by the formation of urea from ammonium carbamate by the action of that organ. If the liver be removed from the circulation by making an Eck's fistula so that the portal blood is carried directly into the vena cava, urea is no longer formed, but instead the blood becomes loaded with ammonium carbamate, which is a powerful poison producing symptoms similar to those characteristic of uremia. That the liver performs a similar function with regard to other poisons is well established. The regulation of the action of the liver is, therefore, of prime importance in the treatment of any disease depending upon autointoxication. For the stimulation of the liver only two drugs seem to be effective, sodium salicylate and inspissated bile. Of these, the latter is doubtless preferable as being more of a physiologic agent. The abandonment of sedentary habits and the use of fresh air and exercise are to be recommended where there is reason to think that the liver is inactive.

In this connection we may speak of a maneuver suggested by Moebius[22], and which he states he has practiced on himself with great success in relieving certain pains attributable to congestion of the liver. It is probable that this maneuver would be useful in stimulating the liver to perform its functions. Moebius terms this procedure, hepatic massage. He describes it as follows: He first takes a deep inspiration, by which the liver is depressed one or two centimeters below the edge of the ribs. He holds his breath as long as possible and then expires slowly. By this means the liver is compressed between the walls of the abdomen and the diaphragm. The operation is carried out most advantageously when sitting in a rocker with side arms.

Second in importance to the liver stands the thyroid. The chemistry of the thyroid offers some explanation of its action and of the use of two remedies which have heretofore been classed as alteratives without our being able to give a satisfactory reason for their action.

The discovery of thyroiodin by Baumann and the demonstration of the marked therapeutic effects of thyroid extract and of thyroiodin in various diseases marked a great advance in scientific therapy. Recently Roos[23] has shown that the activity of the thyroid depends upon the iodin-containing substance and is greatly increased when the gland contains much iodin and fails entirely when the gland is free from that substance. In the wild state, herbivorous animals contain more iodin in the thyroid than carnivorous, whose thyroids are sometimes free of iodin. With dogs, however, the amount varies with the food, being small or wanting on a meat diet, increasing with a mixed diet, and being very large when doses of iodin are administered in addition to that contained in the food.

The researches of Blum[24] led to the conclusion that the thyroid acts by storing iodin in its substance, which it causes to combine with toxins, forming toxalbumins partly saturated with iodin, which gradually renders them innocuous. The fact that this toxalbumin does not produce its effects on metabolism during life indicates that it does not pass into the circulation. This is further indicated by the fact that long-continued withdrawal of iodin from the food does not affect its removal from the thyroid. When, however, iodin is administered, the amount in the thyroid increases. If, as these researches indicate, the action of the thyroid is dependent on its iodin and consists in the destruction of toxins or toxalbumins, by separating them from the blood and combining them in its substance with iodin, the utility of the iodids is explained. The fact that the iodin acts through the metabolic changes in the thyroid would make it probable that the most efficient method of administration in autointoxication is by means of small doses extending over a long period of time. It is doubtful if doses large enough to enable the element to be detected in the urine should be given. The value of a mixed diet as affording a source for thyroid iodin is also indicated.

Recent researches by Gautier[25] have shown the presence of iodin in organic combination of sea-water, and it is probable that it is present to a very slight extent in all ordinary potable waters. The experiments of Oswald[26] show that the iodin-containing substance of the thyroid contains very nearly the same proportion of iodin as the iodin-containing proteid of sponge, known as spongin. It is possible that spongin might be an acceptable form in which to administer iodin.

Further researches of Gautier[27] show that arsenic is also a constant constituent of the thyroid, existing there in very minute quantity. This may also explain the valuable alterative properties of arsenic.

The third purpose of the treatment of autointoxication is to prevent the formation of leucomains, ptomains and toxins. The point of origin of these poisons can not always be ascertained, but careful search for all complications which might give rise to the absorption of toxins from the various mucous surfaces should be made. The nose, pharynx and tonsils, as well as the genital tract, should be scrutinized, and any disease found should be treated so as to prevent the absorption of poisons from these sources.

There is no doubt that in many cases putrefactive changes go on in the stomach or intestines, where we are not able to classify the disorder as a recognized disease of the stomach or intestines. These cases must be classed clinically as autointoxications, and the obviously rational treatment of them is the prevention of the formation of the poisons by fermentation.

The limits of this paper forbid our entering into a full treatment of the subject of intestinal antisepsis. We may attempt to control gastrointestinal fermentation: 1, by diet; 2, by excluding germs from the food before it is taken, and preventing their mixture with it in the mouth or the stomach; 3, by securing proper digestion, and increasing the natural antiseptic elements of the digestive secretions, viz., HCl in the gastric juice and bile in the intestines; 4, by securing the prompt passage of the food along the digestive tract and the prompt evacuation of feces; 5, by the administration of drugs as antiseptics.

While the exclusion of germs from the food may be impossible, their number should be reduced. In addition to the ordinary cleanliness and thorough cooking of food the cleansing of the mouth before and after each meal should be insisted on. Lavage of the stomach, or the use of large amounts of hot water before meals may be useful.

The secretion of gastric juice should be promoted by removal of all irritants, by cheerful surroundings at mealtimes, nerve tonics such as the cold douche, electricity, strychnia, etc. In cases where these measures fail, the administration of hydrochloric acid after meals should be resorted to, thirty minims of the dilute acid being given in two doses, one dose half-an-hour, the other an hour, after eating.

The antiseptic power of the bile has been denied on the strength of experiments which show that pathogenic organisms flourish in it. While this is true, we must concur in the opinion of Dr. Dock[28], who says: "Yet the changes in the odor of the intestinal contents in the absence of bile suggest that it may influence the forms of putrefaction and after the conditions of bacterial life in the intestines in ways that may be of great pathologic and clinical importance."

The prompt removal of feces from the alimentary canal is promotive of intestinal antisepsis. Vaughan Harley and Francis Goodbody have shown that washing out the large intestine by copious enemata is capable of decreasing the aromatic sulphates in urine and therefore causes a diminution of intestinal putrefaction. Calomel and other laxatives, even when they do not act as decided purgatives, diminish the amount of putrefaction in the intestine.

A desirable antiseptic drug should have the following characters: 1, it should have antiseptic power; 2, it should be non-toxic; 3, it should act through the whole length of the intestine. The least toxic drug fulfilling these conditions is charcoal. It is of very feeble antiseptic power, but it is non-toxic, non-absorbable, and acts through the whole length of the alimentary canal. Its power of removing alkaloids from solution makes it desirable for use in case we suspect the absorption of ptomains. It is highly recommended by Bouchard in his work on autointoxication.

Naphthol is a drug which has considerable antiseptic power and is not absorbed in sufficient quantity to produce toxic effects. Dr. Brower recommends benzonaphthol in ½-gm. doses, four times a day. Orphol, or beta-naphthol bismuth, combines the virtues of naphthol and bismuth and is deserving of trial as an antiseptic. The same may be said of eudoxin, or tetraiodophenolphthalein bismuth. The ordinary salts of bismuth are useful.

Salol, while much used, has two disadvantages: 1, it does not act in the stomach; 2, it is decomposed and absorbed from the upper part of the intestine and therefore does not act through the whole intestinal canal. It is also distinctly toxic in large doses.

The metabolism of the nervous and muscular systems is a source of poisoning. The production of lactic acid, creatin and other toxic substances occurs normally in the muscles, and excessive use of the muscles, or the moderate use of them in conditions of the system of which the oxidizing power is low, may result in such an accumulation of toxic material as to give rise to disease. In such cases the remedy is to reduce temporarily the amount of waste of the muscles by rest and to restore the normal power of oxidation and elimination. What is true of muscular exertion is equally true of nervous and mental exertion. Betscherew has suggested that fatigue, mental overwork and sedentary habits may disorder intestinal circulation and digestion, and so favor the production and absorption of toxins.

There is no more important element in the treatment of these diseased conditions than diet. We have to consider diet in reference to its composition, its digestibility, its liability to fermentation, and its relation to metabolism. Man is an omnivorous animal, and the dictum that "if we wish to be happy and healthy we must live on vegetable diet" is not justified by experience nor by science. Except as a temporary measure the diet should be a mixed one, containing the due proportion of proteids, carbohydrates and fats, with the organic salts derived from vegetables.

The evil effects of deviation from the normal diet are well illustrated, as Chittenden[29] remarks, by the production of acetone, probably from the metabolism of the fats, when carbohydrates are removed from the food. This is also shown by the influence of deprivation of fats in producing rickets. The composition of the food is also important from the fact that certain foods contain the precursors of some of the poisons which cause autointoxication. Thus uric acid and the members of the xanthin group are the result of the metabolism of the nuclein of the food. The foods that contain nuclein may be actually poisonous to persons that are affected with the so-called uric-acid diathesis. These foods are not, as has been supposed, the pure proteids or the flesh-food simply, but the animal food that consists largely of cells, and also vegetable foods that contain much nuclein, such as beans and peas and foods containing much seeds. Thus the experiments of Taylor[30] have shown that more uric acid is excreted under a vegetable diet consisting largely of peas and beans than under a diet of lean meat.

An important function of proteid food in carnivorous animals, and probably in man, is to maintain the alkalinity of the blood. Carnivorous animals withstand the effects of acid much better than herbivorous, because they are able to neutralize the acid by ammonia formed from the proteid materials of their food. This fact should not be forgotten in the treatment of autointoxication. The carbohydrate elements of the food are especially liable to yield acid products by imperfect oxidation, and should, therefore, be restricted in amount. Food that is easily digestible should be chosen. Carbohydrate food is especially liable to fermentation, and moderation in its use should be enjoined in cases where there is liability to fermentation in the intestines.

Authors differ somewhat in their recommendation of diet for the conditions due to autointoxication.

Hare recommends a diet free from fat. Huchard recommends a milk diet, and claims that by this means he can cure dyspnea and asthmatic symptoms in certain cases, while a return to a meat diet will bring on a return of the symptoms. Stekel reports a case in which migraine was brought on whenever the patient ate eggs. Armstrong[31] recommends for certain cases of gout, in which he believes there is autointoxication, the Salisbury treatment. This is carried out as follows: From three to five pints of hot water are taken per day, one pint before each meal. The diet consists exclusively of red meat without fiber or fat. No carbohydrates are allowed, except a half-slice of bread, cut very thin, and thoroughly toasted. Occasional aperients are given, and, if necessary, potassium citrate is administered to facilitate the excretion of uric acid. This diet is successful in some cases of gout that have resisted the usual methods of treatment. Its utility may be explained as follows: It excludes the carbohydrates, which greatly favor fermentation; it washes away the micro-organisms which are found in the stomach and intestines, and promotes the alkalinity of the blood. In addition, it does not introduce much nuclein, so that it does not tend to increase the amount of uric acid and its congeners in the blood.

The constitutional treatment of gingivitis due to poisonous metals or drugs, as well as that due to scurvy, must be conducted on the same principles as when due to autointoxication. In all these affections the physician must bear in mind the various factors that enter into the causation in the case in hand, and adapt the treatment to the individual patient on the principles which we have endeavored to state and illustrate.

It is to be hoped that future investigations will enable us to trace the symptoms of autointoxication to the specific poisons from which they arise, and to adopt a specific antidotal treatment. But whatever the advance made in this line, it will remain true that our chief reliance in treatment must be upon judicious efforts to aid nature to eliminate or destroy the poisons of disease.

BIBLIOGRAPHY.

1. International Dental Journal, Feb., 1900.
2. Wien. Med. Woch. B. xlvii, No. 4, p. 146.
3. Centralbl. f. Bact. and Parasitenkunde, Vol. viii, No. 14.
4. Centralbl. f. Bact. Bd. x.
5. La Semaine Médicale, Paris, June 23, 1893.
6. Centralbl. f. Bact. Bd. xxx, 566.
7. British Medical Journal, July 31, 1897.
8. Bick: Wien. Med. Woch. Bd. xlvii, p. 14.
9. Betscherew: Neurolog. Centralblatt, Nov. 15, 1898.
10. Stekel: Wien. Med. Woch. 1897, No. 46.
11. Thomson: Med. Record, Aug. 14, 1897.
12. Pick: Wien. Med. Woch. Bd. xlvii, S. 14.
13. Huchard: Jour. de Méd. et de Chirurg. pratique, 1897.
14. H. B. Young: Jour. Am. Med. Assn., Oct. 1, 1898.
15. A. Pretorius: Berlin. Klin. Woch., Apr. 4, 1898.
16. Pick: Wien. Med. Presse, 1893, No. 31.
17. Lancet, July 10, 1897.
18. Bouchard: Autointoxication.
19. Hare: Medicine, July, 1896.
20. D. R. Brower: Jour. Am. Med. Assn., March 12, 1898.
21. Med. News, Sept. 7, 1895; May 26, and Oct. 3, 1894.
22. Moebius: Munich Med. Woch., March 7, 1899.
23. Zeit. f. Phys. Chemie, 1898-9
25. Chem. News, 1899.
26. Zeit. f. Phys. Chemie, 1898-9.
27. Comptes Rendus, 1900.
28. Clinical Review, Jan., 1900.
29. Phil. Monthly Med. Jour., May, 1899.
30. Amer. Jour. Med. Sciences, Aug., 1899.
31. Lancet, July 3, 1897.
32. Maynard: British Med. Jour., July 13, 1895.

LOCAL TREATMENT OF INTERSTITIAL GINGIVITIS.*

M. H. FLETCHER, M.D.
CINCINNATI, OHIO.

Talbot, when treating of interstitial gingivitis, says: "The exciting causes are either constitutional or local, but as a rule are local, or have local action." Regarding his experiments on dogs, he says: "While it is by no means improbable that constitutional factors assist in its early progress in man, still the exciting cause of this disease is tartar." Dr. G. P. Carpenter's experiments tend to establish the law that without a locally exciting cause the disease would not exist as such. The writer is in full accord with these opinions; consequently, from his standpoint, the natural and all-important treatment is to first remove the local cause, by cleansing away the deposits found about the teeth, either superficial or deep-seated. This being accomplished, local germicidal and palliative treatment should be adopted and continued until health is the result, or failure established. To accomplish these ends many methods are pursued, but all must attain the same end before recovery can take place, namely, removal of the exciting cause, for the laws of growth and repair are always the same under the same conditions, and if the cause be removed before it is too late, complete recovery is the result, without further assistance from the physician, and, doubtless in many cases, in spite of him.

For convenience in classifying we make three arbitrary divisions, as follows: acute, chronic, and sloughing stages of the disease. The writer, after examination, appoints the earliest date possible for beginning the removal of deposits. The majority of these deposits are hard, but many are soft and cheesy, especially in young patients, and even these soft accumulations may produce the incipient or acute stage of the disease. It is the writer's opinion that these early and softer deposits and their consequent irritation, produce "the point of least resistance," which, in systemic dyscrasia, may terminate in the utter destruction of parts involved. In this stage, the complete removal of these deposits in one or more sittings, usually suffices for recovery as to local symptoms; if constitutional treatment is needed it most properly begins with the local work. The younger the patient the oftener and more watchful should be the attention in order to prevent progress of the disease. This treatment may be made three or four times a year, and to be continued indefinitely.

In the second or chronic stage, we will assume the tissues are diseased or destroyed one-third the distance from the normal gum-line to the apex of the tooth, involving the alveolar process with the outer periosteum and the gum tissues. In this instance, as in the other, all deposits must be removed, and infected bone taken away; this will require from three to ten sittings, from a week to ten days apart.

The sloughing stage may be defined as that wherein so much of the tissues have been lost that the tooth is abnormally loose, indicating that more than half the bony support has disappeared. To induce recovery in this class of cases, demands of the practitioner his keenest knowledge of pathology, and his greatest skill in assisting nature to produce what the surgeon would call a "healthy stump." The procedure here is the same as in the previous stages, excepting that it requires much more care, and very greatly increased diligence, expecting the time for recovery to be much longer, if indeed it can be accomplished at all. In these cases, like all other pathologic conditions about the body, absolute reliance may be placed in the laws of repair, for there is a constant and continual effort on the part of nature to maintain the normal, and if we, as practitioners, are bright enough to remove exciting causes, we have done all that it is possible to do. This idea would include what we call palliative, stimulating, and antiseptic treatment. During this time we should keep constantly in mind the fact that we are merely trying to assist nature to accomplish what the laws of the universe are compelling her to do.

In removing deposits, each operator must select and use those instruments best suited to his individuality and the needs of the case, the necessity being to absolutely remove all deposits. It has been found that clean dentine or cementum, without peridental membrane, is, at least, non-irritating, while deposits of any kind upon the root surface irritate, and will stimulate a continuous effort on the part of nature to get rid of it. In this instance, however, the effort to get rid of foreign bodies fails of its object on the intruder, but acts on the surrounding tissues and destroys them; hence the pathology of the disease. The complete removal of deposits having been accomplished, the attention should now be directed to the alveolar process, and dead bone or other foreign substance taken away. In actual practice, the work necessary to remove deposits usually removes all other irritating substances. Dead tissue may be absorbed, but these deposits never are; hence the necessity of their removal.

---

*Presented in a symposium on Interstitial Gingivitis, to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

If it were possible for all this to be perfectly done at one sitting, and the wound dressed and allowed to remain quiet and in perfect position, as can be done in other parts of the body, then no further attention would be necessary, aside from one or two redressings, several days apart, to maintain antisepsis. A week or ten days is suggested, for the reason that this length of time is usually necessary in the process of healing, for new material to be formed. To irritate a wound with treatment every two or three days would seem a hindrance rather than a help to the process of repair, and this seems especially true with the sockets of the teeth.

One of the most impressive, and I might say astonishing, things that has happened to the writer was viewed while pursuing embryologic studies in the laboratory. To watch, through the microscope, the manner in which channels, or blood-vessels are formed in embryonic tissue or blood-clot was fascinating beyond measure, leaving an impression never to be effaced. The blood has many important offices, not the least of which is that of clotting. A minor wound which can fill itself with blood-clot and be kept aseptic, will sooner or later be rebuilt with its own kind of tissue, providing, of course, the power of the organ to functionate has not been destroyed; should this function be performed, then a healthy stump, or scar material of the next adjoining tissue, is the natural result. To destroy or even disturb blood-clot in an aseptic wound, within twenty-four or forty-eight hours after it has formed, is simply tearing down or injuring the false or preliminary scaffolding that nature has constructed for the rebuilding of lost tissue, hence the necessity of allowing a wound to remain quiet until sufficient effete matter has accumulated to need removal, which is usually about a week or ten days.

If this view be accepted, then the typical procedure would be to remove, at one sitting, all foreign matter in or about the sockets of the teeth. The endurance of the patient might compel this to be confined to one or two teeth; this being accomplished, sterilize the wounds with medicaments, and permit them to fill with blood-clot, allow this clot to remain undisturbed so long as pus does not form. Just previous to, or at the time this stage arrives, the surplus matter should be taken away very carefully, but the new granulations should be most cautiously guarded from violence, if the most satisfactory results are to be obtained.

In actual practice, however, I believe most of us go over much of the field in one sitting, and often to the limit of the patient's strength. If several teeth can be thoroughly done at one time it is well; but the typical way, as stated, is to so do the work that no second scraping or cutting will be necessary, any more than an amputation should need be done the second time. Now, if the patient return in a week or ten days, a much improved condition can be seen, and where the work has not been perfectly done, there can be seen near the gum margin, dark or bright-red spots where deposits have not been removed. If this deposit be deep in the socket, then lack of granulation tissue and pus will be the result, and other attempts must be made until the point of recovery or failure has been reached.

For removing deposits the writer uses such instruments as are illustrated by Talbot, in addition to those styles recommended by Drs. Henry H. Tompkins and Storer How. I find instruments shaped like Dr. How's fissure chisels, of the greatest value in removing deposits from the approximal surface of the roots, for they are thin, strong and efficient, their varieties in shape will enable one to reach nearly all the approximal surfaces.

The medicaments used for treating the sockets may be any suitable antiseptics and stimulating remedy, and even escharotics may be applied with advantage to destroy tissue and bacteria, and produce a healthy aseptic wound, this latter condition being the true fundamental principle of repair. The writer's practice is to use 5 per cent. tincture of iodin in 50 per cent. alcohol, to which is added as much oil of cinnamon as will be held in solution by the alcohol. After the use of the instruments, this is injected into every part of the sockets with a hypodermic syringe, until the blood starts again, then the patient is discharged for one week or more. This treatment is continued until recovery of all the teeth is complete, or the best stage possible reached, in any event, retaining all teeth as long as practicable. Complete recovery of all cases, however, is far from the writer's experience.

Accompanying office treatment, the patient should be required to carry on vigilant attention to the case; satisfactory co-operation of the patient, however, is not always easy to obtain. This is so often true that I deliver stereotyped lectures in each case, on brushes, picks, dentifrices, and their use, with imperative and dogmatic instructions as to their continued use, believing that if the teeth are kept absolutely free from mechanical irritation or deposits, the disease, as we now know it, is practically out of the question.

A stiff serrated brush of the best quality with the rows widely separated, is recommended, with instruction to allow at least one-half of the width of the brush to rub the gums. This not only insures the removal of lodgement and deposits about the necks of the teeth, but gives a necessary massage treatment to the gums, keeping them hard and healthy.

Tooth-picks of soft wood are recommended for use between the teeth. These should be thick enough to rub against the teeth on either side, thus preventing accumulations on the approximal surfaces at the necks. Soft pine or other light wood serves best for this purpose, whittled flat and thin at the point, then gradually becoming thick enough to do the work well on both approximal surfaces. The hem of a handkerchief or other fabric may be used to advantage when the teeth are not too close together. Whatever plan is adopted the approximal surfaces at the necks should have exceeding care, for this is the locality first and most frequently attacked by the onset of the disease.

The fact that these localities are inaccessible to the cleansing action of food, tongue and lips, as well as to the brush, and that here the accumulations and disease most often make their start, tends to strengthen the belief that without local irritation the disease would not exist. It is our belief that these particular localities do not receive adequate care, either from the patient or practitioner, principally because they are inaccessible and troublesome to care for, but for this very reason, they should have cautious and particular attention, especially in cases predisposed to gingivitis. For this purpose there seems to be nothing better in the patient's hands than the tooth-picks of soft wood. referred to.

The matter of leaving injurious splinters in the gums is far-fetched, for if such a thing should by chance occur, the splinter would be discharged from the gums in the same manner as it would from any other part of the body with but temporary soreness. However, brushes and picks alone, fail of their object unless they be accompanied by an efficient powder. A false idea about powders for cleansing the teeth seems always to have prevailed. as it does to the present day, namely, that a powder to cleanse the teeth must be capable of polishing them, and on that idea, tooth powders have been compounded from time immemorial, when the fact is that the natural polish of the teeth is almost universally the best they can have. Abrasives, such as chalk, seashells and pumice stone, not only polish the enamel, but in time cut into the dentine at the necks of the teeth, which both dentists and patients know to their sorrow. The teeth do not need polishing, but simply to be kept free from deposits and lodgements. If this can be accomplished I think no one need fear disease of the gums, which always precedes peridentitis in all its variations.

To the end of being able to use a dentifrice *ad libitum*, without danger of abrasion, and one coarse enough to take away all that a powder should remove, the writer has, for months past, been compounding and prescribing a preparation made from the hard parts of cereals, such as rice and indian corn. The grit in this powder does the work most thoroughly, without the least injury or wear, as must be self-evident. Pulverized cereal has been objected to on the grounds that it ferments in the mouth. This is wrong, however. for only hydrated starches ferment, and to hydrate it requires boiling, the action of caustic alkalies, or long continued action of bacteria.

With this pulverized cereal is incorporated 25 per cent. of soluble ingredients for sterilizing the mouth and neutralizing its acids. These ingredients are sodium borate, potassium chlorate, and potassium nitrate in some cases. The formula mostly used is as follows:

R.	Pulverized cereal..................	75 parts
	Sodium borate	18 parts
	Potassium chlorate.....................	7 parts

Sweeten with saccharin, and flavor to taste.

As a dentifrice this cereal tooth-powder does no possible injury, even by excessive use, but is perfectly safe. It may be used freely and often enough to prevent any accumulations whatever on any surface accessible to a good brush. Under the use of this powder the accumulations are not only kept away, but the surface of saw-toothed abrasions at the necks of the teeth become dark, and loose their sensitiveness, showing that the abrasion has ceased. Many confrères in my own city, and some of those present, can testify to the efficiency of this formula, not only as a cleanser, but as a most satisfactory medicinal treatment. When there is no stomatitis or gingivitis, the medicaments tend only to keep the gums hard and the mucous membrane in perfect health.

The fallacy of splinters from tooth-picks, like that false idea of "injury to the gums by hard brushes," has been the negative cause of the loss of innumerable teeth to mankind. These ideas, coupled with the use of something gritty for polishing the teeth, are mistakes that should be stamped out of the profession by its thinking men. The failure to cleanse the teeth, the use of soft brushes and inefficient dentifrices, and the omission of tooth-picks are the great negative causes of the disease under discussion. Civilization may be held accountable for such omissions, and we, as custodians of the organs involved, are directly responsible for much ignorance in prophylaxis.

DISCUSSION ON INTERSTITIAL GINGIVITIS.

[The papers of Drs. G. L. Curtis, J. G. Kiernan and E. S. Talbot, belonging to this Symposium appeared in last issue.]

Dr. E. S. Talbot, Chicago—When I placed my book, "Interstitial Gingivitis," on the market, it met with considerable opposition from some of the ablest men in the profession. The point raised was that this was a local disease and not constitional. In that work I said very little about the treatment of constitutional disease, for the reason that I wanted to develop a certain line of research, and to find some one capable, who had a large experience in the treatment of such conditions, before I undertook any further work in this direction. To offset the views of these able men—teachers and practitioners of dentistry—I formulated this symposium. Many of you, perhaps, are not familiar with the gentlemen who have responded to my request. I can assure you that in the West they are the ablest men we have in their various departments. They are men who have had life-long experience, and who have reputations in the special branches they practice. The object has been to show—which I think they have conclusively—that interstitial gingivitis, or pyorrhea alveolaris is due in a measure to constitutional causes. The very able paper by Dr. Curtis, and the illustration which he has presented is enough to show that syphilis is one of the marked conditions.

Twenty-four years' experience among the defective classes, paretic dementia, and other diseases of the brain, idiocy, ataxia, etc., has shown me that neurotic affections have much to do with this disease. This is also represented in practice by the degenerate patients.

So far as my own paper on indigestion is concerned, I think every dentist will agree with me that chronic dyspeptics suffer from this disease oftener than any other, except the tuberculous and syphilitic, patients.

The very able paper by Dr. Baum—who last year read a paper on the factors of syphilis—is certainly interesting in relation to the action of drugs. Those of you who have read my paper on this subject can say how very clearly I have drawn the knot around all these constitutional conditions, including scurvy and blood poisons, and have united them—as shown by microscopic slides—into one pathologic condition.

In regard to the treatment of these conditions, I must say that the paper by Dr. Salisbury is surely of great interest to us, and if this lesion is to be treated in an intelligent manner, we, as practitioners of chemistry, must know something of all the diseases of the human body. If we undertake by local treatment to restore the lost or diseased tissues to health, and ignore the constitutional conditions—which I believe are noticed in at least 95 to 97 per cent.—we shall certainly make very poor practitioners. In regard to the local treatment as suggested by Dr. Fletcher, I can endorse his method in almost every particular. Each one of us has his peculiar methods of treating these conditions locally, but the general outline, as laid down by Dr. Fletcher, is carried out, as a rule, by every practitioner. I do not use instruments in removing the local deposits at the first sitting, as a rule. I first obtain a sample of the patient's urine and examine it; in nearly every case it is acid. I immediately request my patient to drink from eight to twelve glasses of pure water—distilled or spring—every day. As there are forty ounces of water excreted from the body every day, if that amount be not taken into our systems we certainly can not remain healthy. At the first sitting I make an application of iodin, not a dilute application as recommended by the chairman, but the crystals of iodin, applying it until the gums are saturated and black. The iodin percolates through the gums and runs down between the gum and the tooth. The object is to reduce the inflammation, which extends all through the alveolar process and peridental membrane. Therefore, the constitutional condition of this disease should be reduced, as well as the interstitial gingivitis. If the gums are very badly inflamed, on the second or third day I lance them. The object in using iodin the first day and dismissing the patient for two or three days is that great pain would be produced by attempting to remove the deposits at that time, owing to the sensitive condition of gums and the necks of the teeth, but by using iodin and waiting, the sensitiveness is reduced to a minimum. After three or four days the deposit is removed, and massage treatment taken up. I depend more on the massage of the gums after the blood-letting than on any other treatment. The stimulation is necessary. The massage brush can not be used too freely. By this means the gums are contracted tightly over the alveolar process.

The gums should be examined and restored to health just as much as teeth are prepared and filled. It is a part of our specialty to keep our patients' mouths in good condition, and the gums must be treated. Massage brushes that reach the gums must be used. By the stimulation which their use gives, a majority of the cases are restored to health.

Pyorrhea, which is secondary, in many cases will cure itself: after the inflammation in the alveolar process, and the gum tissue has been reduced, pus will cease to flow. If, however, it does not, the use of oil of cloves or cassia, or other stimulant, is all that is necessary. I wish to say a word in regard to acids, such as aromatic sulphuric, lactic, etc., which have been highly recommended. There is not a surgeon living who would make such an application to inflamed bone in any other part of the body. Alkaline substances should be the basis of all preparations for cleansing the teeth and massaging the gums. A wash does not accomplish the desired results in the mouth for the reason that patients swash it around and think that all parts are cleansed. Therefore, I have discarded it to a very great extent. A tooth powder or a paste containing an alkaline substance is certainly more beneficial. I have been very successful in the use of a preparation that Dr. Fletcher has recommended, having used it for the last year. I consider it as being one of the best tooth powders.

Dr. Wilber F. Litch, Philadelphia—Interstitial gingivitis has been termed essentially a filth disease. I should call it a disease of functional and organic inertia, of which filth is one of the manifestations. In my experience it is a disease which arises chiefly in persons of sedentary habits, who live on a diet in which the proper balance is not observed between the needs of the system and the amount of fuel or food taken to supply it with vital energy; the result is faulty metabolism, and the accumulation in the system of those toxic principles to which Dr. Salisbury has called our attention.

Personally, I have very little faith in the permanently curative power of systemic medication in that class of cases, but rely on a proper regulation of diet, active exercise, and the cleansing and eliminative power of such natural agencies as copious draughts of pure water. The large amount of water which Dr. Talbot recommends, and which I presume he succeeds in getting his patients to imbibe, I find to be rather in excess, perhaps not of the needs, but of the capacity of the average patient. A good rule is to drink all that can be taken without interference with the digestive powers of the stomach. I find that water when heated is most eliminative in its character, and when taken half an hour before meals has a very stimulating effect on the kidneys and other excretory organs, while it does not cause the same gastric disturbances which a large amount of cold water will, especially when taken with meals.

The plan of local treatment recommended by Dr. Fletcher, proceeding from tooth to tooth, and removing as much as possible of all deposits in every case, is based upon sound principles. He does not claim to be always successful. There are certainly many cases where it seems to be impossible by ordinary mechanism to remove every vestige of calcareous depositions. In such cases we can only do the best we can and strive to do our work thoroughly. I agree with Dr. Fletcher that after one thorough local medication it is best not to meddle too much. Meddlesome surgery is bad surgery. Give nature a chance. The powder he recommends I have not had an opportunity to test personally, and I confess to being prejudiced against starchy powders of all kinds, and to a preference for alkaline powders, such as precipitated chalk and magnesia, even though slightly abrasive. Undoubtedly many of our powders have been too abrasive in character, owing not only to the nature of their constituents, but to the manner in which they are used. Friction should be employed with the brush alone, to be followed, after thorough rinsing of the mouth, by the powder applied lightly and chiefly as an antacid. I find the wooden toothpick objectionable for interspaces difficult of access, as between the molars. There is no flexibility in the ordinary wooden toothpick. Often by its use the gum is pushed away from the teeth to a destructive extent. I recommend the quill pick in all cases. An excellent agent for the removal of substances between the teeth is a strip of rubber. This being thin will pass between teeth which are in very close contact, and if the strip is broad, will wipe off deposits and remove foreign material much more effectively than floss silk. It is the difference between cleansing a surface with a thread and with a cloth.

Dr. A. E. Baldwin, Chicago—It is important to present the reasons for and against considering this disease, constitutional or purely local. It is impossible at this date to decide definitely whether it is clearly proved to be either one or the other. Many cases seem to be clearly of constitutional origin, and in others constitutional conditions clearly aggravate the trouble. I am opposed to the use of wooden toothpicks, and I think, though Dr. Fletcher considered lightly the consequences of splinters being left in the gums, that they do cause trouble and would better be avoided. I find the use of little rubber bands, which are so common, is worthy of trial. My patients use them and I find they keep the teeth clean, even better than floss silk. In regard to the autointoxication spoken of in the scholarly and interesting paper read by Dr. Salisbury, it seems to me it was practical to condense the subject for consideration. There are two thinks to which especial attention should be paid promptly. Of course, Dr. Salisbury goes into details further than I can in regard to the chemistry, the materials and the conditions, but the two things to be done, as far as possible, are, 1, to lessen the cause, and 2, do all possible to stimulate the excretory organs.

I do not agree with Dr. Talbot in discarding mouth washes. I favor the use of a good local wash. Dr. Talbot stated that after the termination of the local conditions, the treatment of pyorrhea would be very slight. In case all accretions are removed, and the parts restored to a natural, healthy state, the disease will cure itself; but to bring this about the whole system must be brought to a state of health. We are learning every day that the body is one organization and that the organs are dependent upon each other for well being.

Dr. E. A. Bogue, New York—Dr. Baldwin has just announced what I have been learning for some years, that all vital processes consist of a balance, and when that balance is disturbed there is disease. Dr. Salisbury, in his paper, came perilously near to another thought that has been announced as a fact, and is only a little way off from the subject under discussion; you will, perhaps, allow me to allude to it. The liver, in its process of disposing of sugar that has been taken with food, or of sugar formed in the stomach, succeeds much of the time—it is claimed most of the time—in sending a quantity of the sugar even so far as to show itself in the saliva. I mention this because in the treatment of pyorrhea I think it is an element which should be considered. If the physical system is in good condition, there is very little of this disease, very little dental disease of any kind. A few years ago I had occasion to examine the mouth of a gentleman 52 years of age. After searching an hour and a half for the cause of the trouble I discovered pyorrhea between the upper right wisdom tooth and the second molar. I also discovered a cavity at a point where the dentist had filled between the teeth. I was told by the gentleman that he never had a tooth-brush in his mouth. You would naturally expect that I found a filthy, dirty mouth, but I found a mouth as clean as the mouths of any of us in this room. The causes of this have been alluded to. He was in absolute health. His occupation was that of a railroad contractor. He lived out of doors on coarse food, largely bread and meat. He used water as a drink and rinsed his mouth with two to four glasses of water after every meal. The consequence was, he was in good physical health, his teeth were well formed and well placed, and they were practically self-cleansing. The gums were in good condition, for they got a certain amount of the bruising or exercise which is needed by the human animal to keep him in good condition. What he took served as his medicine. He was regular in his habits, and was one of the finest specimens of the human being I have met in civilized society.

From that, I learned, among other things, not to use powder as my friend, Dr. Talbot, for the presence of the insoluble, mechanical, and abrasive in direct contact with the margin of the gums would serve as a nucleus for a deposit of those various pathogenic bacteria which are always found in the mouth. It is not easy to secure a soluble powder, though the S. S. White Dental Manufacturing Company have advertised one, which I have found was not soluble. Sugar of milk will dissolve, and perhaps that is the least deleterious of the soluble powders. On the other hand, it has seemed to me the amount of friction this gentleman gave his gums by his hard food was sufficient to keep them in good order. In the treatment of pyorrhea I should proceed differently from the treatment described by Dr. Talbot. I first use iodin and zinc to relieve the pain and then immediately proceed to remove all deposits. The aqueous solution of iodin and zinc I use is prepared as follows: Zinc sulphate as much as will dissolve in cold water. Dissolve 1 ounce potassium iodid in 2 ounces of water and add as much iodin in crystals as it will take up, then take equal parts of the two solutions and put them together. This will make something that is most efficient in the treatment of these conditions and which I have used with great delight to myself and to my patients.

Dr. W. E. Walker, Pass Christian, Miss.—I wish to give a word of testimony in favor of the stiff brushes, for I knew many practitioners who used soft brushes as I was taught. Ten years ago I ceased to recommend powders, and dropped them, as I found my patients would depend too much on the cleansing action of the powder and too little upon the brush. For the last five years I have given them the stiff brush alone, insisting more and more on its being used on the gums, as well as on the teeth. I use only the stiff brush and water. I find in the treatment of interstitial gingivitis that the patient gets better proportionately with the stiffness of the brush, as the massage of the gums by the brush is the important point.

Dr. G. V. I. Brown, Milwaukee—I am glad to see the discussion brought into the course of autointoxication. For practical purposes I do not think it advisable to go too far afield to find, in the majority of cases, what lies very near. If the rest of those present were surrounded as I am every day in the hospital with the giving of drugs, perhaps they would appreciate that all things are seldom what they seem. I have not much faith in the administration of drugs, strictly speaking, for any of these purposes. I believe in the stimulation of the glands for a time by the administration of drugs, but a considerable portion of the effect is necessarily lost after a few administrations. There is danger of an effect, which perhaps you know not of, being started up, possibly to counteract the very thing you are striving for. Such remedies as suggested, namely, of drinking water, and remedies that are applied directly to the surfaces affected, are undoubtedly safe. They promise a better result in long-continued use than would be obtained by internal administration of drugs for the specific purpose of stimulating any organ of the body.

One view of this matter has been overlooked. We have been describing here interstitial gingivitis, a condition of the gums and alveolar sockets which most resembles what we find resulting from the administration of many drugs mentioned in Dr. Baum's paper. How many of you have known in any part of the body an atrophy by reason of imperfect action of any of the organs, provided the part itself was properly used and kept in a reasonable state of health? When the gums are swollen, when gingivitis is present, there is a condition which accounts for destruction of tissue, but remember there are many cases in which there is gradual absorption of the alveolus surrounding the root, and a gradual contraction of the gum after many of these diseases. I would like somebody to account for this as a result of autointoxication. There is a stage of the subject which Dr. Talbot alluded to when he spoke of the frequency of pyorrhea among neurotics. This is accounted for in many ways, but before closing I want to call your attention to a condition which I have in mind. Take a child suffering from contraction of the spleen, due to a rickety condition. Does anybody believe that the administration of any of the drugs which is understood as valuable to overcome the disease, would cure the condition? Can the weight of the body bearing more on one side be remedied by the use of drugs? The part of the weight of the child will have to be relieved by properly supporting it, before we locally obtain the condition required. It does not follow that our tissue will be remedied by drugs, applicable to that disease. The same is true of pyorrhea. The restoration of a broken limb, or anything in surgery to health depends on granulation, and on the supply of new cells to take the place of those destroyed or lost. This can not be obtained while there is motion. The patient must be in condition so that nature can restore the integrity of the tissues.

I think it a fair proposition to say that if any one will show me the occlusal surfaces of the teeth, I will tell him whether there is pyorrhea and where the pockets are; on the other hand, if I see the pockets, I can tell how the occlusive surfaces are worn. In every case, absolutely and inevitably that condition is a factor. It may not, however, be an etiologic factor. There is an opposite condition, the result of this continued irritation. In this inflammation which goes on around the teeth in pyorrhea, a destruction of the tissues results.

I have here a microscopic slide of a tooth which is characteristic of that class. Such cases are usually accompanied by great pain. It is true in many instances, more than are realized, that pyorrhea is the cause of chronic neuralgia. There is very little pain in pyorrhea except from some of the symptoms which become complicated. It is a slow process, a gradual liquefaction and destruction of the tissue.

Dr. M. I. Rhein, New York—The various papers of this symposium which I have heard have given me personally more satisfaction than any discussion of this subject I have ever listened to at any gathering. The fact, that we have been able to listen to a series of papers which recognize the constitutional variety of exciting causes that may produce autointoxication is a point gained for which this section ought to very heartily congratulate itself. My own position in regard to this matter is very well known to most of the members. As far back as 1894, before the American Dental Association at Old Point Comfort, I introduced an etiologic classification of the exciting causes of interstitial gingivitis or pyorrhea alveolaris, and the classification I gave there is one that has been closely followed to-day by various papers, especially by Dr. Talbot, and in the constitutional treatment as outlined by the very admirable paper from Dr. Salisbury, who practically follows in the line of the etiologic conclusion I presented on that occasion. I feel more than gratified to see so much unanimity manifest at this meeting on this point. It has long been evident to me, that a symptom of various systemic disorders can not be discussed intelligently, unless that scientific point is reached, so that when an isolated case is discussed the etiology of the particular case is brought out, and an attempt is not made to have a universal panacea for the treatment of a symptom that may arise from many different causes or follow many different diseases. I have been intensely interested in Dr. Salisbury's line of thought. I believe this paper one of the most valuable presented at this meeting. I do not wish to say anything against the criticism Dr. Brown has presented in regard to too much materia medica in constitutional treatment, but so long as the acute stages of a trouble are met and they have to be treated, there must be more or less reliance on the pharmacopeia for alleviating the acute manifestations. In regard to the local treatment, I wish I had the time to go into the matter at greater length. There is a point Dr. Talbot raised about the application of iodin, and the preliminary diagnosis of the general condition of the patient. It is one in which I heartily and thoroughly coincide, more especially in the value to be obtained in forcing the iodin down into the alveolar socket itself, not only in the peridental membrane. I would say that for that purpose I have put the greatest trust in using a saturated solution of iodin with cataphoresis, using the negative pole in order to force it through the tissues. In this way I have obtained the same constitutional conditions and diminished the inflammatory, so necessary before active operations are undertaken. It is my firm conviction that if such conditions are properly treated it is necessary to give more attention to the local condition. I refer now to the keeping in absolute hygenic condition all the teeth of our patients. For my part, I have found it impossible to give the time necessary, and I have for years trained a female assistant, who devotes her entire atention to the cleansing of individual teeth. I agree thoroughly in the idea that only one, or two, or three teeth ought to be cleansed at a time, and not attempt to cover too much surface. Following this method, I feel at the present moment that my patients can have their mouths kept in the hygienic condition all the teeth of our patients. For my part, only if sufficient dental attention is given. I can not imagine any one present who is able to take the time which is necessary to do this work effectively. I throw this suggestion out for the benefit of those who have not already adopted such a plan. I am able to keep a young woman busy at nothing else but this one particular thing, and she has trained her fingers so well in this that I have many of my friends, my professional colleagues, come to her for this work because she has become so adept with an experience of seven or eight years.

Dr. E. S. Talbot, Chicago—Dr. Brown brought up one point not down on the program, and that is natural absorption. I believe that in the evolution of man the absorption of the second set of teeth is in accord with the process. In the lower vertebrates there is a succession of teeth. When one set has done its work it is lost and a new set takes its place; this continues throughout the life of the animal. Advance in evolution finds man with only two sets of teeth. Natural absorption takes place in every individual. This absorption is called osteomalacia. It takes place in the lower animals such as carnivora, monkey, horse and cow. The alveolar processes being transitory structures, disease of any kind due to trophic changes is liable to produce absorption. This may take place in children as young as 12 years, as I can prove by photographs and skulls in my possession.

Dr. G. V. I. Brown, Milwaukee—If the teeth came together so that there would be no motion, there would be comparatively little pyorrhea. When the occlusal surfaces are such that there must be a slight adjustment of the position of the teeth, every time the mouth is closed, the slight movement constantly repeated causes inflammation and a series of disturbances which develop the disease.

Dr. J. H. Salisbury, Chicago—Dr. Litch stated that he had difficulty in getting his patients to drink the amount of water Dr. Talbot prescribed. That may be due, in some cases, to the fact that the water is retained in the stomach, and so causes disturbance. Absorption of water from the stomach is practically unnatural, and if for any reason the stomach does not empty itself water will remain there and give more or less trouble. That failure to empty itself is due to the fact that the intestines are full. In that case it would be desirable to see that the intestines are emptied at proper intervals. Constipation in some cases may be the cause, or in other cases it may be due to dilatation of the stomach and causes which prevent the passage of liquid from the stomach to the intestines.

The criticism raised in regard to the continued use of drugs arose from a misconception. The continual use of drugs was not advocated. It was not at all necessary to use them but for the purposes of arousing the various organs to activity; as for instance, to empty the intestines a cathartic or two or three doses would be very desirable, but in general natural means to stimulate the powers of the system should be depended on, rather than the action of drugs. As a general practitioner, I am much interested in this question, not only from the standpoint of etiology, but also from the impression that it is a matter of vital importance. The profession should understand the possible deleterious effects upon the general system of a continued swallowing of food and mucus laden with pathogenic organisms derived from the teeth. Both the medical profession and the laity should be impressed with the very serious importance of attending to this matter, that no very serious changes take place in the stomach, and consequently in the blood.

CEREBRAL LOCALIZATION.*

SYDNEY KUH, M.D.
Professor of Diseases of the Nervous System, Post-Graduate and Medical School; Attending Neurologist, Michael Reese Hospital; Fellow, Chicago Academy of Medicine, etc.
CHICAGO.

Fifty years after Gall had published his doctrine of cerebral localization, the scientific medical world still believed with Flourens that "not only did all perceptions, all volitions, all intellectual faculties, reside exclusively in the brain, but that all faculties occupied the same place in it. That as soon as one of them disappeared from a lesion of any one point of the brain proper, they all disappeared; that as soon as one returned after the healing of that lesion, all returned. That the ability to perceive and to will, therefore, constituted essentially but one faculty; and that that faculty resided essentially in a single organ." Again fifty years had elapsed and a chart of the surface of a brain could be fitly compared to "a political map of Germany at the end of the seventeenth century." So greatly has our knowledge of cerebral localization advanced in those years that it seems impossible to give more than a most cursory review of what is known, in the course of one evening. Many important and interesting theoretical considerations will necessarily have to be neglected entirely.

We will begin with cortical localization, that part of our subject which is probably of greatest importance from a clinical point of view. The region of the surface of the brain which has been studied most carefully, and about which we consequently know most, is the motor, or Rolandic, area. That portion of the brain which lies anteriorly to this, the so-called prefrontal region, appears to be the seat of the highest mental processes. Its destruction is said to annihilate the power of directing one's attention entirely when the lesion is bilateral, while a unilateral lesion often causes only a transitory mental change. Mental weakness, loss of memory and attention, apathy and childish behavior are common symptoms. A tendency to indulge in rather stupid jokes, the "Witzelsucht" of German authors, is supposed to be particularly characteristic. In irritative lesions Flechsig claims boundless delirium of grandeur and its reverse in the early stages, later on complete apathy and loss of judgment to be particularly frequent. Bruns has taught us that pathologic processes in this region may cause ataxia of the so-called cerebellar type.

Before we enter into the study of the motor region of the brain a few general remarks about cerebral centers and brain palsies may not be out of place. These so-called centers are in all probability not mathematical points, nor even spaces with sharp boundary lines, but rather diffuse areas which perhaps differ somewhat in extent in various individuals. It is, of course, known to all of you that each hemisphere influences in the main the muscles of the opposite side of the body, a point to which I shall return presently. Some centers, however, control muscles on both sides of the body equally, such as the orbiculares oculi, the muscles of mastication, of the larynx, pharynx and to a lesser extent some other ones. Irritative lesions in these may, therefore, cause bilateral spasms, while paralysis is found only when the center is destroyed in both hemispheres of the brain. In older literature there are quite a large number of cases recorded in which spasms or paralysis were found on the same side as the brain lesion. Nasse has collected no less than 58 of them, but on account of the unsatisfactory histories and uncertain methods of microscopic examination they are of very doubtful value. There are, however, some more recent observations to which these objections do not apply. One of these I had occasion to watch for some months; it was later published by Dinkler. Here, an immense tumor had destroyed practically all of one hemisphere, and it was in all probability the pressure upon the opposite hemisphere which was responsible for the existing spasms.

---

* Read at the joint meeting of the Chicago Medical and Neurological Societies, March 7, 1900.

Another instance of even greater interest is that reported by Dr. Bidon and quoted by Charcot and Pitres. In this case there was hemiplegia affecting the left side of the body, with complete motor aphasia. The postmortem showed softening of the lower half of the left Rolandic area and the foot of the third left frontal convolution, and the microscopic examination revealed secondary descending degeneration in the left cerebral peduncle and the left anterior and lateral columns; there was no trace of decussation of the pyramids. That cerebral centers may migrate from one side of the brain to the other was at least made probable by an observation of Oppenheim. His patient had been right-handed up to the age of 17, when an injury to the right hand compelled her to learn to write with the left one. When at the age of 59 a tumor developed in the right hemisphere, it caused left hemiparesis with aphasia. Bramwell has reported a somewhat similar case in an old man.

Since the so-called psychomotor centers are distributed over a relatively large area of the cortex supplied by a number of small arteries, superficial lesions cause monoplegias more often than hemiplegias. On the other hand, monoplegias due to destruction of the white substance of the brain are rather rare, a point which may at times be of considerable value in determining the exact location of a pathologic process.

Cerebral hemiplegia, whether it be due to a superficial or a deep-seated lesion, never means a complete paralysis of one-half of the body. Those muscles which we habitually use together with the same muscles of the opposite side are affected only to a slighter degree. Thus we find paralysis of arm and leg, together with paresis of the lower part of the face, slight weakness only in the muscles of the tongue and trunk, excepting the trapezius, and no demonstrable loss of power at all in the muscles of mastication, articulation and those of the eye. Since we use both legs simultaneously more often than both arms, the weakness is usually more pronounced in the former than in the latter. Paralysis of cortical origin is flaccid in the beginning, and presents late contractures due to secondary degeneration in the pyramidal tracts.

We will next consider the distribution of motor centers in the so-called Rolandic area, which extends over both central convolutions and the paracentral lobule, to a lesser extent into the frontal convolution and the superior parietal lobule. The muscles of face and tongue, and probably also those of mastication, are represented in the lower portions of both, principally the anterior, central convolutions. The upper extremity occupies about the middle one-third of these same convolutions, extending further up anteriorly than posteriorly, while the upper one-third, as well as the paracentral lobule, and probably part of the superior parietal lobe, control the movements of the lower extremities. Experiments on animals, in part verified by clinical experiences, have taught us a great many details, which you will find on charts in any modern text-book on nervous diseases. I shall mention only a part of the more important ones here.

While monoplegias of cerebral origin affecting only the leg are relatively rare, they have been bilateral in a rather large percentage of the cases recorded. The proximity of the two paracentral lobules explains this rather interesting observation. Charcot has claimed that tubercular lesions have a special tendency to attack the leg center. A curious fact, for which there had been no satisfactory explanation for many years, is the apparent immunity of the upper branch of the facial nerve in cerebral hemiplegia. It was thought that for this portion of the facial nerve a separate cortical center must exist, and Exner and Paneth claim to have located it in animals in the gyrus angularis. A more probable explanation for this immunity has already been given. The muscles supplied by that nerve belong to those which are generally used simultaneously on both sides of the body, and, therefore, each cerebral center very probably controls both upper facial nerves. Paralysis could, therefore, occur only when both cortical areas are destroyed. Furthermore, recent pains-taking investigations by Mirallie have shown that "in every case of cerebral hemiplegia in which the lower facial is paralyzed, the upper branch of that nerve is also affected, but to a lesser degree than the lower branches or than in peripheral facial paralysis."

The cortical center for the muscles of mastication has been located in a number of animals, the dog, ape and rabbit, but, as far as I am aware, there are no clear cases in the human being on record to verify these observations.

The same applies to the center for the rotation of the head. We know where to find it in animals, but are uncertain about its exact location in the human brain.

The cortical center for the larynx was first demonstrated in cats by Ferrier in 1873. His conclusions were confirmed by experiments made on dogs by Soltmann, Krause and Duret, and on apes by Masini and Semon and Horsley. It is in all probability bilateral in man, and located at the lower end of the Rolandic area, in the immediate neighborhood of the centers for speech and face. Cases in the human being verifying these experiments are very rare, and, therefore, one which I have under observation at present may be of some interest. The patient is a man, 45 years of age, who had been ill for one week when he first consulted me. He complained of headache, and stated that about every half hour he had a peculiar attack, during which he suffered from "sticking pains" and a "shaking sensation" in his throat, and was unable to utter a sound. The examination of the central nervous system revealed no objective signs of disease, but there was marked enlargement of all superficial lymphatic glands. At that time the patient denied syphilitic infection, but later acknowledged that it occurred about one year ago. Two laryngologists examined the patient, and could find nothing to explain the laryngeal spasms, from which the patient evidently suffered. He was put on iodid of potash, and after about one week reported that he was worse. I then for the first time could witness one of his attacks. It consisted of a marked laryngeal spasm, followed by aphasia, which lasted but a very few minutes, but recurred frequently. He was sent to the Michael Reese Hospital, and there developed clonic spasms of the right side of the face, which usually followed the laryngeal attacks and a more permanent motor aphasia. Dr. Hale, who kindly examined the fundus for me, found optic atrophy on both sides. Under vigorous antisyphilitic treatment he improved considerably, was discharged, but returned after about two weeks, complaining of weakness in his right arm. This gradually increased and spread, until now the patient has a right hemiplegia with complete motor aphasia, which does no longer yield to antisyphilitic treatment. He is sinking rapidly, and will probably die within a week or so.[1]

While we are discussing the centers controlling the voluntary muscles of the body, it may perhaps be opportune to say a few words about that most important group of symptoms due to cortical lesions, Jacksonian epilepsy. It appears that quite a number of physicians even to-day consider every localized spasm of an organic nature to be cortical. That is certainly not correct.The true Jacksonian epilepsy is characterized by a number of features which occur but very rarely when other parts but the cortex are irritated, so that if we only know what constitutes an attack of Jacksonian epilepsy we will seldom err in basing our localization upon its presence. The convulsion proper is almost always—Grasset even claims invariably—preceded by a brief tonic spasm, then we see a series of clonic contractions, beginning in an isolated group of muscles, to which it either remains confined, or else it spreads progressively to adjoining groups of muscles, or may involve all of one-half of the body, or even become generalized. The convulsions hardly ever last more than five minutes, and are followed in the part first affected by a feeling of great lassitude, or even by a paresis, which latter persists for some hours, a few days, rarely for a longer time. With each successive attack this paresis becomes more intense and lasts longer; in rare cases we see post-epileptic contractures. The convulsive period is followed in the more severe cases by post-epileptic stertor, or sleep, usually shorter in duration than in so-called idiopathic epilepsy. Other post-epileptic symptoms are delirium, headache, amnesia, vertigo, vomiting, transitory aphasia, hemianopia or myosis. The sensibility usually remains intact. In rare instances, particularly when a syphilitic lesion causes the attacks, we find patches of anesthesia, most commonly on the dorsum of the hands, the outer side of the hips or the forearms. Charcot, Bourneville and others have reported cases in which the spasm consisted of tonic contractions only.[2] A glance at a chart in your text-books will show you in what way Jacksonian epilepsy may spread. The following sequence is most often seen: Face-tongue, face-arm-leg, arm-face-leg, leg-arm-face. The spasms could never jump from face to lower extremity without affecting the arm also, as the center for the latter lies between those of the two former.

Just as in idiopathic, we at times see epileptic equivalents in the Jacksonian form of epilepsy, which may either alternate with the convulsive attacks or may take their place altogether. One case of the latter type, which I saw some years ago, I referred to briefly in a discussion on epilepsy last year. Here, attacks of visual hallucinations were the first sign of a brain-tumor. In other cases these equivalents consisted in attacks of vertigo, so-called "absence," hallucinations of sight, hearing or of the olfactory sense, localized parethesiæ or sudden, impulsive acts. Attacks of migraine ophthalmique have been described; according to Féré they consist of two phases, that of excitation, in which violent circumscribed headache, vertigo, vomiting, convulsions, scintillating scotoma are noted, followed by a period of exhaustion, comprising hemianopia, somnolence, and at times aphasia and hemiplegia.

Such attacks are, as I have already stated, very rare, excepting in cortical lesions. They have, however, been seen in disease of the centrum ovale, the internal capsule, striated bodies and optic thalamus. They occur most frequently in limited lesions, which develop actively and progressively, such as neoplasmata, encephalitis or meningitis. It is not necessary for the pathological process to have its origin in the motor area proper, or even in its immediate neighborhood, as long as it causes irritation of those parts. The existence of paresis, or paralysis, makes it probable that the motor region proper is affected; absence of loss of motor power that the lesion is either very superficial or only in parts near the psychomotor centers. The early occurrence of headache points to a disturbance near the surface—irritation of meninges—a sign of considerable practical importance.

The points which are valuable in differentiating Jacksonian from idiopathic epilepsy are the following: The spasm is limited in the beginning of the attack; loss of consciousness occurs late, if at all; the epileptic cry, fall and biting of tongue are usually absent; the post-epileptic coma is slight, of short duration or entirely absent; in the so-called *etat de mal* there is no rise of temperature; finally the history of the case, in particular the age at which the first attack occurred.

Common or tactile sensibility is supposed by some authors to be localized in the psychomotor area. Some even go so far as to claim that destruction of these parts does not cause any disturbance of motility primarily, but only in so far as disturbances of sensibility interfere with the voluntary use of our muscles. Others again claim that the motor and sensory centers are distinct and separate. One of the latter group, Ferrier, has collected 284 cases in which paralysis was caused by cortical lesions, and has found that in 100 of these nothing was said about the condition of sensibility, that in 121 it was found intact, and in the remaining 63 affected. Counting only those cases in which the condition of sensibility is mentioned—and it seems extremely probable that in some of the first 100 it was not mentioned, because intact—we would find it normal in about two-thirds of all cases. Where anesthesia does exist, it often does not correspond in extent to the area of paralysis, and is usually more transitory. This has induced Charcot and Pitres to conclude that in most cases of anesthesia with cortical hemiplegia the former is purely functional, "analogous, if not identical, with hysterical anesthesia," just as we see a purely functional loss of sensibility in organic paralysis of spinal or peripheral origin. (Erb's case of progressive muscular atrophy, Gowers' case of peripheral facial paralysis, etc.)

Goltz has found that in dogs even the ablation of an entire hemisphere causes only hypesthesia, not anesthesia, and he himself admits that this may possibly be due to destruction of fibers below the cortex.

Horsley found that when parts of the motor cortex were removed in man slight loss of tactile sensation, difficulty in localization stimuli, and loss of muscular sense resulted. Most authors, I believe, concede that the latter, the muscular sense, is most intimately associated with the Rolandic area, but it can not be denied that even it may remain intact when the cortex is destroyed by disease. Ferrier has sought for another localization of common sensibility, and claims to have found it in the hippocampus major and gyrus fornicatus. Observations in the human being, tending to prove the correctness of his views, are not known to us. The entire problem of cortical localization of sensibility, you see, still remains to be solved.

---

[1] The patient has since died. No additional symptoms of any importance developed, excepting that just before death the temperature reached 108. Unfortunately we could not make a post-mortem examination.

[2] Other types of epilepsy may of course occur in cortical lesions, but they are not characteristic

One of the clinically most important centers of the Rolandic area we find in the posterior of the third left—in right-handed persons—frontal convolution, the seat of the faculty of articulated speech. Its destruction deprives the individual of the power of speech, with conservation of the faculty to understand, read and write. Broca is generally thought to have discovered this important fact, while in reality he was only one of several, each of whom contributed his share. When he published his first "memoire" he did not, apparently, know that this center was found in the left hemisphere only, a fact which had been noted by Dax twenty-five years before; but the most important work of the latter had been noticed by few, so that Broca received all the credit. In about the same region, as nearly as we can locate it to-day, is the center for musical expression, which, however, may remain intact in cases of motor aphasia. Lesions in the second left frontal convolution probably cause agraphia, i. e., loss of the memory for written images. On account of the proximity of this center to Broca's convolution, motor aphasia and agraphia are very often found in the same case.

Some authorities have claimed to have found other centers in the motor area, but their observations are all lacking convincing confirmation. Thus, Herrington claims to have located a center for the contraction of the sphincter ani in the paracentral lobe, while an area controlling movements of the bladder is supposed to be located in the front part of the gyrus sigmoides. According to Raudnitz, stimulation of the vasomotor centers in the Rolandic region decreases the temperature in the corresponding extremity, while destructive lesions cause the opposite effect.

Unverricht and Preobraschewsky claim to have found a center controlling respiration near the fissure which separates the second from the third frontal convolution.

About the symptoms caused by disease of the cortex of the insula we know practically nothing. Perdrier states that they consist in paralysis of arm and leg, without involvement of face or trunk, that the paralysis is very much more marked in the upper than in the lower extremity, that it is flaccid, without contractures, is neither accompanied by disturbances of sensibility, nor by any characteristic changes in cutaneous or deep reflexes.

Parietal lobe.—The most important portion of this lobe is the gyrus angularis. It appears to have some relation to our visual apparatus. Irritative lesions occasionally give rise to optical illusions or flashes of light, followed by temporary amblyopia, while destructive pathologic processes, more particularly in the left hemisphere, usually cause word-blindness. Bruns calls attention to the occurrence of hemi- or mono-ataxy in lesions of the parietal lobe and believes with many other observers that this part of the brain is intimately associated with the muscular sense.

It is possible, though not proved definitely, that centers for the movement of the eyeball and upper lid may be in this region. Charcot and Pitres publish an interesting case in which a small focus of superficial hemorrhagic softening in the inferior parietal lobe caused ptosis. But Surmount has collected 61 cases of disease in the parietal lobe, in only 11 of which ptosis had been found. Conjugate deviation of the eyes and the head is also supposed in some instances to have been due to lesions in this region. But it is a rare symptom, occurs most frequently in cases of general meningitis, and is usually transitory in hemiplegias, so that we have few data for definite localization. It may also occur in disease of the mesencephalon. When it is cortical in its origin, the patient is said to look toward the convulsed extremities in case of irritation; at the lesion, in case of destruction, a law which is exactly reversed in case the mesencephalon is affected.

The cortex of the occipital lobe contains the visual centers. Their exact location is still somewhat doubtful. The symptoms characteristic of cortical lesions in this region are the following: The visual disturbance is homonymous, there are no ophthalmoscopic changes—unless due to increased cerebral pressure—the pupilary reflexes remain intact, even if a pencil of light be thrown upon the blind half of the retina only. Visual hallucinations or scintillating scotoma frequently precede or coexist with the hemianopia. It is claimed by some that in the occipital lobe are to be found the psychomotor centers for the eye-muscles and that lesions limited to its anterior portion may cause color hemianopia.

In the temporal lobe we find the auditory centers. Destruction of the left superior temporo-sphenoidal lobe causes loss of the auditory images of words, word-deafness; destruction of both temporal lobes total deafness, while irritative processes in the superior temporo-sphenoidal gyrus often give rise to auditory discharges and subjective auditory sensations, so that a spasm which begins with an auditory aura always suggests that localization.

On the lower surface of the brain are supposed to be centers of the olfactory and gustatory senses, on the region of the gyrus uncinatus. Whether the fibers preceding from them cross or not has not been ascertained definitely; for those of the sense of smell it seems very improbable.

If the large mass of white matter under the cortex is the seat of disease there may either be no focal symptoms at all, or else those of a cortical lesion or of one in the internal capsule, according to the seat of the pathologic process. Jacksonian epilepsy, however, is but rarely met with.

In the capsula interna motor and sensory tracts lie closely together, so that hemiplegia and hemianesthesia must occur in extensive lesions. The order of representation of movement is from before back: opening and turning of eyes, opening of mouth, turning of head and eyes simultaneously, turning of head alone, moving of tongue, of angle of mouth, of shoulder, elbow, wrist, fingers, thumb, hip, ankle, knee, hallux, toes. Back of the motor tracts are the fibers conducting sensibility. The group of symptoms which is characteristic for disease of the internal capsule is hemiplegia with hemianesthesia including hemianopia, but without disturbance of the pupilary reactions to light. This hemiplegia differs from that due to cortical lesions in this, that the loss of sensibility is often not only more pronounced, but also more permanent, that all qualities of sensibility are usually affected and that all of the mucous membrane with the exception of part of that of the eye may be anesthetic. Hearing, smell, taste often suffer as in hysteria. Post- or pre-hemiplegic hemichorea or hemiathetosis are almost pathognomonic of disease in this region. Grasset has also observed hemiataxy. In most of the cases in which intense neuralgiform pain occurred on the paralyzed side, the internal capsule or its imediate neighborhood was the seat of the lesion.

About the functions of the optic thalami but little is known. They are supposed to control to some extent mimic expression; so that destructive lesions would cause loss of this function, while irritative lesions may cause spasmodic crying and laughing, particularly if situated in the anterior portion of this ganglion. In most cases the symptoms will be about those just described for disease of the internal capsule and due to involvement of these paths: hemiplegia, hemianesthesia, hemichorea, etc. A very pronounced atrophy of paralyzed muscles, developing rapidly with quantitative and qualitative changes in their reaction to the electric current, was supposed by some to indicate trouble in the optic thalami, but the same phenomena have been seen in disease of the cortex.

Destruction of the striated bodies causes no focal symptoms as far as we know. These ganglia are said to contain thermic centers, but as there are some in other parts of the brain, we can not utilize this fact in localizing.

The diagnosis of a lesion in the corpus callosum is also usually impossible. The following signs are supposed to be of some importance in case of tumor:

1. The existence of symptoms of an organic cerebral trouble which develop slowly and increase constantly in intensity.
2. Hemiparesis, usually combined with more or less weakness of the opposite side of the body.
3. Very pronounced dementia, which contrasts strikingly with the insignificance or total absence of the so-called general symptoms of tumor—headache, vomiting, convulsions, optic neuritis.
4. Existence of dysarthria.
5. Absence of any symptoms suggesting any other localization.

Of these diseases which may affect the lateral ventricles directly we can recognize with some degree of certainty only hemorrhage. Its onset is naturally very sudden and violent, the coma is very profound from the beginning, convulsions and contractures are frequent, while paralysis is in some cases entirely absent, in others general. Vomiting is relatively infrequent. Recovery is rare; in the majority of instances the patients died within a few hours.

The symptom which characterizes disease in the region of the third ventricle is the nuclear ophthalmoplegia. The nuclei of the eye-muscles are arranged so that the cells for the ciliary and sphincter iridis muscles are placed anteriorly, those of the trochlear and abducens nerves posteriorly. If an ophthalmoplegia is bilateral and affects all ocular muscles, whether they be paralyzed or only paretic, it is almost certainly nuclear in its origin; the same symptoms may occur, but are very rare in lesions at the base. If an ophthalmoplegia is unilateral and affects all muscles of that one side it may be due either to disease in the region of the third ventricle or to some disturbance at the point at which the nerves enter the orbit, more probably the latter, and then often combined with some degree of exophthalmus.

The cerebellum is relatively often the seat of disease. Tumors, particularly tubercles, are often met with in children, and sarcomata and cystic growths are not at all rare. The most important topical symptom is the so-called cerebellar ataxy, a peculiar reeling gait, closely resembling that of an intoxicated person, with a tendency to fall toward the affected side. Another form of disturbance of co-ordination has been seen in some few cases of cerebellar lesions, an ataxy which differs in no way from that of tabes. Second in importance as a cerebellar symptom comes vertigo; it is true that a disturbance in almost any other part of the brain may cause this phenomenon, but in disease of the cerebellum it usually appears early and throughout the course of the malady remains a very prominent and annoying feature. Exactly the same is to be said of vomiting and headache. If a tumor, etc., affects only the cerebellum and not the neighboring parts there is no distinct paralysis, but a certain amount of weakness is often found in the extremities corresponding to the side on which the lesion is located. Some authors even go so far as to hold a paresis of the muscles of the trunk and legs responsible for the ataxy. In quite a few cases intention tremor of the upper extremities has been observed, the occipital region is often sensitive to percussion, and the knee-jerk is relatively often not obtainable. Paralysis of ocular muscles, paretic nystagmus, dilatation or immobility of the pupils, paralysis and anesthesia are very common, but they are due to pressure on neighboring parts, not to the cerebellar lesion proper. Formerly it was thought that the occurrence of cerebellar ataxy always meant involvement of the central lobe of the cerebellum, the vermis superior, but we know now that this is incorrect. I have myself seen a case in which an angiosarcoma had almost totally destroyed that part and there had never been any indication of inco-ordination.

Lesions in the anterior corpora quadrigemina may cause associated movements of the extrinsic ocular muscles, those in the posterior bodies paralysis of these muscles, particularly of the recti superiores et inferiores. The intrinsic muscles are often intact in such cases, as their nuclei are placed anteriorly to the parts we are now discussing. Ataxy, both of the cerebellar and the tabetic type, occurs frequently, particularly in the form first mentioned and in a few instances choreiform movements have been recorded. Deafness is rather a common symptom, crossed in unilateral disease. Whether the hemianopia which has been seen, is due to disease of the corpora quadrigemina proper or to involvement of the external geniculate bodies is doubtful; the fact, however, remains that it is a frequent symptom. It is thought by some that this region contains centers which control perspiration.

Disease of the hypophysis is thought to be the cause of acromegaly, although in some cases of this disease the pituitary body has been found intact. Only recently I saw a case of psammoma of this region with stunted growth and with but very few of the symptoms which are supposed to be characteristic for this localization. They are: Pain in the frontal and temporal region, shooting toward the orbits; early involvement of both eyes in form of an amblyopia with temporal hemianopia, followed later by so-called primary optic atrophy, paralytic squint, somnolence, weakness in the lower extremities, occasionally dementia and diabetes mellitus or insipidus.

If the crura cerebri are affected we most frequently find that type of alternating hemiplegia, which is known under the name of hemiplegia alterans superior, i. e., paralysis of the oculomotor nerve on one side, that of the lesion, and of the muscles of the lower face and the tongue and the extremities on the opposite side. Ptosis is usually pronounced and often one of the first, if not the first, symptom. The intrinsic eye-muscles usually remain intact. In some cases paralysis of the extrinsic muscles of the eye has been associated with a tremor of the opposite side of the body, resembling either the intention tremor of disseminated sclerosis or that of paralysis agitans; in other instances the oculomotor nerve of one side and the contralateral facial—lower branches—have been paralyzed. Frequent micturition and incontinence have been noted in a number of cases. It is rather common to see the disease begin in one crus and spread to the other one.

Another type of alternating hemiplegia is seen, when the pons is the seat of a pathologic process. Here it is the facial on the side of the lesion and the extremities and hypoglossal nerve on the other side of the body that are affected. Paresthesia and anesthesia of the latter half of the body may or may not occur. Another form of alternating hemiplegia due to disease of the pons, but less frequent than the one just mentioned, is that of the abducens on one, of the extremities on the other side. Again, in other cases the abducens of one side and the rectus internus of the other one are paralyzed, so that both eyes are turned toward the seat of the disease. In a third, the rarest, form of alternating hemiplegia finally the trigeminus—its motor or sensory branches or both together—are paralyzed on one side, the extremities on the other. Occasionally we see trophic disturbances in the trigeminal region, such as neuroparalytic keratitis. The hearing is quite frequently affected to some degree, although complete deafness is exceptional.

It is a matter of course that various combinations of the types just described may occur and that such an alternating hemiplegia is possible only in unilateral lesions. It is needless to enter into a description of the symptoms caused by bilateral lesions; a moment's thought will show what they must be; but I might add that the nerves in the medulla oblongata are usually affected more or less, thus giving rise to the additional symptoms of bulbar paralysis, difficulty in swallowing, dysarthria, paralysis of soft palate, pharyngeal and laryngeal muscles. Among the rarer symptoms the following may be worth mentioning: Albuminuria, mellituria, polyuria, and very pronounced rise in temperature. Convulsions resembling those of epilepsy are rarely seen, but more tonic contractions, especially of the muscles of the trunk and neck are not uncommon. Choked disc usually appears very late in pontine lesions and there is but little disturbance of the intellect.

The medulla oblongata contains the nuclei of the ninth to twelfth cerebral nerves, sensory, motor and vasomotor paths and centers controlling the actions of heart and respiration. Hence lesions of this part cause partial or total deafness, paralysis of the soft palate and of the larynx, of the vocal cord, disturbance of cardiac action and of respiration, paralysis and atrophy of the tongue with dysarthria and paralysis of motility and sensibility in the extremities. Since the nuclei of these cerebral nerves are mostly placed close together near the median line, unilateral paralysis or alternating hemiplegia must necessarily be infrequent. Diabetes mellitus, polyuria or albuminuria are common.

This is rather a hasty and incomplete review of what is known of cerebral localization. I would add but one point, and that is in attempting to localize a lesion in the brain we should always be prepared for surprises. I have mentioned a few of the curious cases I have seen, such as the case with convulsions on the side of the cerebral tumor, the tumor of the hypophysis with stunted growth, and as a warning to those who would still be too confident of our ability to determine the seat of brain-disease would say that I have seen typical Jacksonian epilepsy on the same side of the body in which the disease was located in an abscess of the cerebellum.

BIBLIOGRAPHY

1. J. M. Charcot et A. Pitres: Les centres moteurs corticaux chez l'homme. Paris, 1895.
2. P. Flourens: Recherches expérimentales sur les propriétés et les fonctions du système nerveux, 2d edition. Paris, 1842.
3. J. Grasset et G. Rauzier: Traité pratique des maladies du système nerveux. Paris, 1894.
4. Kussmaul: Die Stoerungen der Sprache. Leipzig, 1877.
5. Wernicke: Der aphasische Symptomen Complex. Breslau, 1874.
6. Raymond: Etude anatom., physiol. et chirurgie sur l'hémichorée, l'hémianesthésie et les tremblements symptomatiques. Thèse de Paris, 1876.
7. Perdrier: Thèse de Paris, 1882.
8. Raudnitz: Arch. f. path. Anat. und Phys., cl, 276.
9. Bechterew und Mislawski: Neurol. Centralbl., 1888, No. 18.
10. Féré: Traité des épilepsies et des épileptiques, 1890.
11. Bruns: Berl. Klin. Woch., May 24 u. 31, 1886.
12. Sanders: The American Journal of the Medical Sciences July, 1881.
13. H. Munk: Ueber d. Functionen d. Grosshirnriude. Berlin, 1881.
14. D. Ferrier: The Croonian Lectures on Cerebral Localization. London, 1890.
15. Mills: Cerebral Localization in Its Practical Relations. Brain, 1889.
16. H. Bennett: Excessive Sensory Cortical Discharges and Their Effects. Lancet, March 30 and April 6, 1889.
17. H. Nothnagel: Topische Diagnostik d. Hirnkrankheiten. Berlin, 1879.
18. P. J. Moebius: Abris. d. Lehre v. d. Nervenkrankh. Leipzig, 1893.
19. Chas. L. Dana: Text-Book of Nervous Diseases. New York, 1892.
20. Chas. E. Beevor: Diseases of the Nervous System. Philadelphia, 1898.
21. H. Oppenheim: Lehrbuch d. Nervenkrankh. Berlin, 1894.
22. W. R. Gowers: A Manual of Diseases of the Nervous System. London, 1893.
23. Debove-Achard: Manuel de Médecine, Tome iii, iv. Paris, 1894
24. Church and Peterson: Nervous and Mental Diseases. Philadelphia, 1899.
25. Charcot: Clinique des Maladies des Système Nerveux. Tome ii. Paris, 1893.
26. J. M. Charcot: Oeuvres complètes, Tome ix. Paris, 1890.
27. E. Brissaud: Lecons sur les maladies nerveuses. Paris, 1895.
28. P. Blocq: Etudes sur les maladies nerveuses. Paris, 1894
29. Oppenheim: Die Geschwuelste d. Gehirns.
30. E. v. Hippel: Ein Beitrag. zur Casuistik d. Hypophysis-Tumoren. Virchow's Archiv. Bd. cxxvi, 1891.
31. H. Levy: Ein Beitrag zur Casuistik d. Hypophysis-Tumoren. Inaugural dissertation. Berlin.
32. J. Collins: The Faculty of Speech. New York, 1898.
33. A. Kussmaul: Die Stoerungen d. Sprache. Leipzig, 1885.
34. Ferraud: Le langage, la parole et les aphasies. Paris, 1894.
35. M. Knies: Die Beziehungen d. Sehorgans und seiner Erkrankungen, etc. Wiesbaden, 1893.
36. E. Siemerling: Ueber d. chronisch progr. Laehmung d. Augenmuskeln. Berlin, 1895.
37. P. Flechsig: Gehirn und Seele. Leipsig, 1896.
38. D. Hack Tuke: A Dictionary of Psychological Medicine. Philadelphia, 1892.
39. Edinger: Giebt es central entstehende Schmerzen, etc. Deutsche Zeitschr. f. Nervenheilk., Bd. i, H. 3 u. 4. 1891.
Zeitschrift f. Nervenheilk. Bd. iii. H. 4 u. 5. 1893.
41. M. Dinkler: Ein Fall von Hydrocephalus und Hirntumor (Hemiplegia dextra, Sarcoma lobi parietalis dextri). Deutsche
40. C. Eisenlohr: Beitraege z. Hirnlocalisation. Deutsche Zeitschrift f. Nervenheilk. Bd. vi, H. 5 u. 6. 1895.
42. A. H. Reichenberg: Central entstandene Schmerzen, Deutsche Zeitschrift f. Nervenheilk., Bd. iii, H. 4 u. 5. 1893.
43. Mirallie: Ch. de l'état du facial supérieur et du moteur oculaire comm. dans l'hémiplegie organique, Arch. de Neurologie. Vol. vii, No. 37. Paris, 1899.
44. L. Bruns: Die Geschwuelste des Nervensystems. Berlin, 1897.

Death-Rate of British Capitals.—According to *The Lancet* the annual rate of mortality in London during the four weeks preceding July 28 was 16.2, in Edinburgh 17.2, and in Dublin 19.4 per 1000.

MEDICINE AND MEDICAL MEN IN THE UNITED STATES.

A. JACOBI, M.D.

NEW YORK CITY.

(Concluded from page 431.)

It is hardly necessary to say that for those of you for whom the practice of medicine is not only diagnosis and autopsy, but the treatment and cure of the patient in whose behalf a consultation is to be held, when medicinal treatment is in question you can not agree with a homeopath who is a Hahnemannian; and you do not want to meet a homeopath, who, because the name is still fashionable and for a portion of the misinformed public the subject of an almost religious fanaticism, employs that title for meretricious purposes. Still there are cases in which it would be inhuman to refuse a consultation in an urgent case.* Not only were such consultations held from olden times, but even in large cities, exceptions to the rule were always frequent, indeed too frequent in my opinion. Moreover, whoever is acquainted with smaller cities and villages, where a homeopath is the only rival or companion of the regular physician, knows that for either it would be suicidal to refuse a consultation. Only lately one of the medical men most widely known for his wisdom, in the American Medical Association and in the profession at large—Dr. S. C. Busey of Washington—proclaimed that the rule forbidding such consultations should be so modified or explained as to permit them in cases of emergency. This is exactly what the Medical Society of the State of New York made its official policy in 1882. We considered it more honest to admit by law what was constantly being done, and to decree precisely, that for reasons of humanity and in an urgent case a consultation should not be refused. For this sin we, the body of the Medical Society of New York, were expelled from the American Medical Association. You see we have in America our persecutions for heresy, when we have not even the recognition of religions in our constitution. It was in their names only that auto da fés were held and the bodies of men were burned. In these eighteen years, however, the animosities have not died out. You see we are a people of surprises, and have not yet found out our equilibrium. What indeed does all the discord amount to? The whole profession agrees about the inadvisability of consultations, in the very interest of the patient, with a certain class of practitioners, in the average case of illness. In emergency cases such consultations are deemed permissible for reasons of humanity by both parties of the profession. One of them bases its action on the written code of ethics, the other believes a written code to be unnecessary for its guidance. A third forms its own code of ethics, like the Medical Society of the State of Massachusetts, in 1871, and those of other states, without any recrimination on the part of the American Medical Association.

It is my opinion that our successors will hardly believe we ever were serious men when they learn that an enlightened and public-spirited profession could go to war over differences of motives and methods when the end in view was the same.

It would not be proper to dismiss the subject of the position of medical men without referring to them as sanitarians. It is to be taken for granted that all family physicians are sanitarians in the families they have charge of. In their societies public hygiene is frequently the subject of discussion. Practical work in that direction is evidenced by the Sanitary Commission of the Civil War, the effective labors of the New York Academy of Medicine in the reconstruction of the Quarantine Islands in the harbor of New York, and its defensive work in cholera times, the—it is true futile—efforts of all the large societies of the country in favor of the re-establishment of the National Board of Health which perished because a short-sighted Congress refused the required appropriation, and the intelligent activity under the direction of medical men, of our municipal boards of health. It is true they are hampered by the greed of politicians. Imagine that in New York the President of the Board of Health must not be a physician. Whether this is more sad or more ludicrous does not matter. The only consolation the citizens of a republic have when they contemplate such an anachronism, is that they have nobody to blame for it, and have nobody to correct it, but themselves.

But I do not wish you to believe that we American doctors are altogether angelic. Wings have not grown from our scapulæ yet. We are not such good citizens as you may believe from what I had to praise. Indeed there is no class of citizens that takes less interest in municipal, and political, other than sanitary, affairs, than doctors. It is true their vocation takes all their time and is exhausting; but the examples of European parliaments in which good medical men are representing the people, should not be lost on us. With us, however, most of the medical men in state legislatures are not the best representatives of the profession from which they claim to come, and wherever there is a medical man in the Congress of the United States, you would not know he was one unless you were told. There is at present a Senator of the United States—think of Rome and of Emilius Paulus and of Cato; of France and Arago and Nélaton; of Germany and of Virchow—who calls himself a homeopathic physician, no: a homeopathic doctor, and is the staunchest adversary of the medical profession and the solidest champion of the antivivisectionists. There is one weakness from which the medical profession of the United States does not appear to recover. In order to explain I should say that in the early times of the Colonies and the United States, when medicine was immature and doctors scarce, the population was obliged to rely on domestic remedies and later on proprietary and quack medi-

---

[*It may not be inappropriate in this connection to print the following from the Code of Medical Ethics of the American Medical Association, last edition, p. 19.—Ed.]

EXPLANATORY DECLARATIONS.

Whereas, Persistent misrepresentations have been and still are being made concerning certain provisions of the Code of Ethics of this Association, by which many in the community, and some in the ranks of the profession, are led to believe those provisions exclude persons from professional recognition simply because of differences of opinions or doctrines; therefore,

1. *Resolved*, That clause first, of Art. IV, in the National Code of Medical Ethics, is not to be interpreted as excluding from professional fellowship, on the ground of differences in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

2. *Resolved*, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper, to assume a name indicating to the public a sectarian, or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

3. *Resolved, That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the Code which relates to consultations can not be correctly interpreted as interdicting under any circumstances, the rendering of professional services whenever there is a pressing or immediate need of them. On the contrary, to meet the emergencies occasioned by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire Code.*

cines. It is estimated that our people spend at present 200 millions of dollars annually on proprietary medicines; I think that this estimate is too low. Unfortunately medical men rather sustain than combat that bad habit. Our wholesale manufacturers of drugs are always busy, their agents are everywhere, their wares are dumped on the tables of the physicians of the country. The vast majority of the physicians accept them, employ them, and recommend them, and their prescriptions are frequently nothing else but the name of an American or a foreign proprietary compound. I am certain that amongst the most meritorious and instructive books of America there are none less known and appreciated than the Pharmacopeia of the United States and the Formulary of the National Pharmaceutical Association.

If there is any way to lower the regular profession and to raise and enrich the manufacturers of drugs, and drug compounds that is the way. I emphasize this, because I know from the advertisements in your journals, and from the attention paid in your articles and laboratories to proprietary stuffs of all kinds, both medicines and foods, and from oral reports of friends in all countries, that you Europeans are not much, if any, better than we; that our bad example has not taught you and that you are swamped, or about to be swamped in the cloud-burst of greedy commercialism.

Specialism is as rampant with us as it is with you. In all doctrines and branches of practice there are with us, as with you, men who know medicine and practice a specialty. But there are thousands who do not care to know medicine, but mean to make both a reputation and riches out of a limited degree of dexterity and a boundless ocean of self-assertion. That will in time correct itself, but it takes time. I trust it will disappear, if not before, when the meretriciousness of trade and industry will have found its legitimate termination in the establishment of a sounder and juster policy of human society.

In democratic communities the free will of the collective individuals takes the place of government dicta. In place of orders coming from above, rules are obeyed that are universally agreed upon by co-operating individuals. That explains the early formation of medical societies in our thinly settled country. Two were formed during Colonial times, namely, the Medical Society of the State of New Jersey in 1766, and of Delaware in 1776; in 1876 there was only one State in the whole Union that did not have a State Medical Society. Affiliated with the state medical society, and sending delegates to it, there are societies in many of the thirty to sixty or more counties of a state. The state societies as a rule meet annually, the county societies monthly, or quarterly, according to their membership, isolation and distances.

All these societies are represented in the American Medical Association, which was formed in 1847, with the exception of the Medical Society of our great State of New York, which was deprived of its membership since 1882 for a reason to which I have referred.

I should state here that the homeopathic and the eclectic practitioners of the United States are legally recognized as separate bodies like ourselves, and are similarly organized. It should also be known that there is a certain relation, legally established, between most of the state medical societies and the legislatures of their states. This legal position is not, however, possessed by the American Medical Association.

Still, the voice of that body, powerful through its numbers and the character of its membership, is frequently raised in connection with public questions. So is that of other large societies. The New York Academy of Medicine, for instance, has often advised and co-operated with official bodies of New York City and State, though originally it was not intended that it should exercise any such influence. Other societies which in large cities are formed for special scientific purposes, have no such influence or activity and do not claim it.

The number of medical societies in large cities has probably become too large. There are many practitioners who are members of many more than one society. Beside the legalized society of the County—I now speak of New York City—having about 1500 members, there is the "Association of the County," with about 800, and a third one lately formed—the Society of Greater New York. If our brethren would only remember that there is more strength in forceful consolidation than in fanciful expansion or multiplicity—but then, it is not always strength and harmony that some men seek, but egotistic self-assertion and envy of the success of others. Besides, we have many societies limited to certain neighborhoods on account of the great distances, and special societies such as the Pathological, Neurological, Ophthalmological, Dermatological, Obstetrical; also a large and active German Medical Society, and last, but by no means least, the New York Academy of Medicine, which I mentioned before. Let me say a few words about it, for it illustrates some of the differences between America and Europe.

NEW YORK ACADEMY OF MEDICINE.

When our New York Academy of Medicine was founded in 1847, it was well understood that it was to differ materially from what is called an Academy of Medicine in Europe. The latter is always a government institution, and in some way or other is supported by centralized national means, or accumulated funds. Its members comprise the intellectual and sometimes the social heads of the profession only. Young faces are seldom seen amongst its fellows. Membership is, as a rule, obtained after a long life of successful scientific pursuits only. Their labors and efforts are not always intended for immediately practical aims or objects, but become beneficent by the action of that logical force which ordains that there is no scientific result, no truth ever so abstruse, that will not finally terminate in some tangible application. Though all this be true, the limitation and exclusiveness of membership results in a sort of aristocratic estrangement from the masses of the medical profession, and still more from the community at large.

The New York Academy of Medicine has a broader democratic basis. The high and the lowly, the old and comparatively young, the mature and the youthfully ambitious combine for the same purpose. The Academy is not connected with any school or college. It is self-supporting, and is carried on in the interest of the whole profession, whether members or not. There are no fees or emoluments of a private or individual nature. It is a democratic community, with equal duties and rights. It is not subsidized by the state or municipal corporation. Its aims are the elevation of the profession to a higher scientific standard for increased public usefulness. Having been a member for forty-three years I have known it when it was small, and followed its growth with grateful and hopeful eyes until it was established in its present palace, with its ever-increasing public medical library, second in size and importance in the country; its absence from medico-political fights about the advisability or superfluousness of a written code of ethics; its impartial and non-political interest and co-operation in all public sanitary questions; its labors in matters of quarantine, cholera and watershed; its generosity to members and non-members alike; its rooms taken up by many large and small special societies so as to form the medical center of the metropolis; and its ten sections in constant working order. These have given the young and deserving men, during more than a dozen years, the opportunity for legitimate competition, for obtaining a hearing and making their reputations, which are due—next to themselves and their honest work—to the New York Academy of Medicine. Ask me, for a medical institution, democratic, enlightened, independent, generous, and progressive, the daughter of a country free, independent, progressive, and in spite of the present plutocratic clouds overhanging its clear democratic sky, the hope of future mankind, and I shall give you the name of the New York Academy of Medicine.

SOME FACTS ON MEN AND INSTITUTIONS.

During the time of the War of Independence there lived Bard, whose papers on diphtheria are to-day examples of good observation and elegant diction; and Rush, one of the signers of the Declaration of Independence, a fertile writer and famous teacher; a little later Dunglison the lexicographer, Drake, the author of the "Diseases of the Mississippi Valley," and Mitchell; then men like Wormley, whose "Microchemistry of Poisons" appeared in 1867. Contemporaneously there was Bigelow, the inventor of litholapaxy, and Oliver Wendell Holmes, who wrote on the contagiousness of puerperal fever in 1843; then came Harry P. Bowditch, Meigs, Clark, Flint, J. W. Draper and Beard. Remember, I speak of the dead, of some of the dead, only. Of modern times I shall mention no names, but the many studies on malaria, amebæ, blood, and diagnosis in general, commend themselves to the studious expert. The literature of these few generations is very fertile; even smaller men did meritorious work. In 1835 it was Fisher of Boston who discovered the fontanelle murmur, and in 1832 it was a country doctor in Canandaigua who gave the first plausible explanation of the crepitant râles of incipient pneumonia. What should always be remembered is this, that all the men I mentioned were engaged in the practical work of their profession; and that some of them had enjoyed no other instruction than what the insufficient schools of the country could furnish.

Thus it appears that no faulty system of teaching, no defectiveness of schools, hamper a man whose stimulus is necessity from within, and an ideal. Sometimes this alone is sufficient for unusual results. Think of Marion Sims, and, in spite of his insufficiency as a pathologist, of the impetus his genius gave to gynecology.

But this is not what is best known in Europe about us. We are principally credited with the introduction of anesthesia into practice.

Dr. Long, of Jefferson, in the State of Georgia, removed a tumor under ether. But it was a dentist, William Jennings Morton, who successfully gave ether to a patient on whom Dr. J. Collins Warren operated for a tumor, in the Massachusetts General Hospital in Boston, on October 16, 1846. Before this assembly of medical and laymen I confine myself to what Lecky says in his "History of European Morals": "It is probable that the American inventor of the first anesthetic has done more for the real happiness of mankind than all the philosophers from Socrates to Mills." Nothing remains to be said, except that not only was the discovery made in America, but even the name anesthesia was coined by an American, Oliver Wendell Holmes, great as an anatomist, as a physician, a poet and a scholar.

Our perfect ambulance system has been largely imitated in Europe, and to a small extent also, the night medical service for the poor.

Thus, for the humane purposes of medicine you admit America exhibits a good record; in many other respects it does not excel, but equals Europe. Its hospitals, and operating rooms are like yours, many I have been told are better than yours. There is no country in which the demands of antisepsis and asepsis are more scrupulously obeyed than ours. The medical attendance on hospitals, however, is capable of improvement. In Europe a distinguished man is known for his life-long connection with a special hospital. That is less so with us. The ambition to be on a hospital staff, the democratic tendency of the authorities to be fair to the greatest possible number, are the reasons why the hospital staffs are unduly large, and the year is divided up in alternating temporary services, and men are compelled, in order to have hospital services through the whole year, to seek them in different institutions. The improprieties and drawbacks of this arrangement have so long been felt that the establishment of permanent services, mostly of a special nature, has been resorted to in some hospitals. One particular disadvantage of our system of cutting up our hospital services, which you may have noticed, is that our hospitals, while a source of constant improvement to the lucky incumbents of the medical places, have not contributed to medical literature in the shape of special scientific reports, with the exception of the last few years.

The assistantships are in almost every case in the hands of young graduates who obtain their places after competitive examinations. Their terms of service range from one and a half to two or two and a half years, in semi-annual advances from grade to grade. This method affords a great many young physicians an opportunity for more or less independent work guided by their superiors who make gratuitous daily visits during their term of service. That is how the people of the United States derive immense benefit from the facilities afforded to a very large number of young graduates before they enter into private practice.

When I rose, I did not mean, nor was I expected to entertain, but to communicate facts. I spoke good and evil of medicine and the medical men of my country in order to secure knowledge and appreciation in Europe. What I briefly wrote for you could be only flashlight pictures, which, when more closely inspected, may be apt to convey some information; what I could say are but fragments; what I wished all the time was to help in relieving mutual isolation. This isolation has sometimes led to misapprehension and estrangement, but, I think, you have lost more from them than we, for our eyes were and are always directed to the East, whence we came one-half, one, two centuries ago, and where the sun rises. But it takes the sun only four or five hours to come to us, and it is the same sun. Your books are on our shelves, our students and doctors go to you to learn and to compare, and they return, and the time is fast approaching, I hope, when yours will travel with the sun to enjoy the light of the West. In this way mutual appreciation and respect will engender tolerance and justice, and kill chauvinism. Modern chauvinism is just as much a people's overestimation of its own old methods and actual or alleged achievements as original hatred. That is why every nation is infected with it; for its cause is ignorance, owing to the narrowness of mental horizons. When vision is locked up in valleys, the sun rises late, or too late, or not at all.

Of jealous rivals, mutual appreciation makes eager collaborators. That I take to be the sacred office of international meetings. That is why, as I have done these twenty years, I gladly came and, with the approval of your officers, selected this subject, to do away with errors and misapprehensions, and aid in procuring mutual understanding and fraternity. Cosmopolitanism does not advance on parallel lines. Some classes of men, some branches of science, must be the first to force a breach. Such a class of men, and such a science is medicine, most humane, both as theoretical knowledge and applied art.

Perhaps I had an additional reason. I come from a country that at present is believed by many of us, and of you, and, I regret to confess, by myself, to be not true, at least temporarily, to its principles and its history, though all firmly believe and trust that the soul of the people is sound and its feeling is conservative.

If only the political and social development were founded on the same basis of methodical research as modern medicine! That soundness, conservatism and method in evolution I claim for American medicine. Having the great advantage of developing out of Anglo-Saxon medicine, with its sober observations and cool thinking, no Schellingian mysticism ever led it astray, and popular fads did not permanently pollute it. It never forgot that the human body is not a mechanism, but an organism, that no specialties can legitimately exist apart from medicine, that the special doctrines and studies in books and clinics and laboratories are its handmaids, but not its equivalents, that what the great American, Benjamin Franklin, said is true, viz.: That the knowledge of natural history is nothing if not applicable to some service to mankind, and, finally, that the object of medicine is always the prevention or cure of disease in man, community or mankind. That is what makes medicine, in its broadest sense, the example and harbinger of what we all should work for, the future enlightened policy of fraternal, cosmopolitan and humanized mankind.

ANESTHESIA.

COMPLETE FAILURE TO SECURE IT WITH CHLOROFORM; PERFECT SUCCESS WITH NITROUS OXID AND ETHER.

D. H. GALLOWAY, M.D.
CHICAGO.

The following case is reported as an example of the value of nitrous oxid as an aid to anesthesia with ether or chloroform:

About 5 o'clock one afternoon I was called to a suburban town to administer an anesthetic, and on arrival received the following history of the case. About 1 o'clock that afternoon, the patient, a young man, met with an accident in a factory, by which one of his legs was completely severed. The accident was such that there was almost no hemorrhage; his fellow workmen put a tight constrictor about the stump and conveyed him to the hospital. A surgeon was sent for and at 3:30 p.m. they prepared to amputate the stump. One of the physicians began the administration of chloroform, but in a moment the patient began to struggle and then ceased breathing. The anesthetic was stopped and the patient resuscitated without much trouble. The chloroform was reapplied and again the patient stopped breathing. The chloroform was removed and the patient resuscitated, and when his condition seemed normal the anesthetic was reapplied repeatedly, but always with the same result. After some time spent in fruitless attempts to get the patient anesthetized, this physician refused to continue the effort and his place was taken by another, who met with no better result. A third one then tried, and after a few trials, in which he met with the same difficulty, and three-quarters of an hour had been spent, the effort to secure anesthesia was abandoned.

On examining the patient I found his respirations rather shallow and 24 to the minute, pulse 92 and good. The pupils were greatly contracted and, although he answered questions rationally, he seemed to be in a partial stupor. I learned that he had received two ¼-grain doses of morphin hypodermically previous to the attempt to anesthetize him, and another of the same amount while awaiting my arrival. I began the anesthesia with nitrous oxid gas; in 30 or 40 seconds the patient was unconscious, ether was substituted and in two or three minutes he was profoundly anesthetized, and in five minutes the operation was begun. The patient did not move a muscle or utter a sound, and the amount of ether necessary to maintain anesthesia was less than half the amount which is usually required. Pulse and respiration did not noticeably change during the continuance of the anesthesia—fifty minutes.

The trouble with the chloroform was doubtless due to the large dose of morphin, to which he seemed to be abnormally susceptible.

THE BACILLUS OF PHILIPPINE DYSENTERY.

Extract of a Report by Assistant-Surgeon R. P. Strong, U. S. Army, and Dr. W. E. Musgrave, 1st Reserve Hospital, Manila, P. I.

The authors describe in detail the typhoid-like bacillus they found and the cases in which they encountered it, as follows:

Morphology.—Bacilli with rounded ends which differ in morphology in various culture-media. On agar cultures they generally appear as short rods with rounded ends measuring 1 to 3 microns in length and about .4 to .5 broad, occurring not frequently in pairs. In 24-hour bouillon cultures the rods are always longer, often measuring 3 or 3.5 microns in length, occurring frequently in pairs, and occasionally—particularly in old bouillon cultures or in fresh bouillon cultures made after many generations on artificial media—the rods may be seen even longer; and it is not infrequent then to observe filaments of several organisms. The organism possesses no capsule and does not form spores. No flagella have been demonstrated.

Staining Properties.—They stain readily and evenly with ordinary aniline dyes and are easily decolorized by Gram's method, but not decolorized by alcohol except by prolonged treatment. Old bouillon cultures sometimes show slight irregularities in staining.

Cultural Characters.—Anaërobic and facultative anaërobic, very slightly motile bacillus. Spore formation has not been observed. It grows on the usual media both at room temperature and in the incubator.

On agar-plate cultures after twenty-four hours in the incubator superficial and deep colonies develop. The surface colonies are round, of a distinctly bluish-white tinge and delicate, measuring from about .5 to 1 mm. in diameter; under a low magnifying power these colonies are often nucleated, having a darker center with a gradually growing lighter periphery. They are granular with often a tendency toward central radiation of the granules. These colonies are generally round with even borders. The colonies in the depth are small, more yellowish, oval or round, and present nothing characteristic.

Often from the 24-hour plate cultures, made from the stools of acute dysenteric cases, when the plates are held up to the light the colonies of dysenteric bacilli can be picked out from the colon colonies by their more delicate growth and by their bluish tinge. In older plate cultures the colon demonstrates that it is a heavier grower. From close observation of many plate cultures we have concluded that in a 24-hour plate culture certain colonies of bacillus coli communis resemble the colonies of those of bacillus dysenteriæ so closely that they can not be told apart either by the naked eye or by a low magnifying power. On the other hand colonies of the bacillus of dysentery never resemble certain common forms of colon colonies.

On agar slants with bacillus dysenteriæ a moderately heavy growth appears after twenty-four hours, bluish-white by transmitted and whitish by reflected light. The growth is lighter than that of bacillus coli communis and sometimes even lighter than that of bacillus typhosus.

On glycerin agar the growth is about the same as on ordinary agar. In gelatin stick culture the organism grows along the track of the needle without liquefying the medium.

In glucose-agar stick cultures there is never any production of gas. The growth occurs along the track of the needle and slightly on the surface about the point of inoculation of the medium. Litmus milk is always slightly reddened after twenty-four hours. The red color does not change further and no other change occurs after one week. Ordinary milk is neither coagulated or peptonized, but appears unchanged though the organism grows well in it.

Litmus-lactose agar is apparently not changed after twenty-four hours. There is no gas formation; neither is there any fermentation in saccharose cultures.

On fresh potato cultures after twenty-four hours there is generally apparently no growth or only slight moisture about the track of inoculation; after three days there is a light straw-colored growth, which gradually becomes heavier and a little darker by the end of a week. Coverslips show that the organism grows well on this medium. In bouillon cultures there is moderate clouding of the media in twenty-four hours, with the formation of a light precipitate. No pellicle on the surface ever occurs. Dunham's solution is clouded in twenty-four hours with the formation of a slight sediment. Neither in Dunham's solution nor in Smith's sugar-free bouillon is there any indol production.

The bacillus is pathogenic for mice, rats and rabbits, when injected either subcutaneously or intraperitoneally. White mice when inoculated with one-half to one c.c. of a 24-hour bouillon culture, generally die within forty-eight hours, but may live three days. Post-mortem the organism may be obtained from the visceral organs and from the heart's blood. When the same amount is injected intraperitoneally the animal dies generally in from ten to twenty-four hours. Post-mortem there is generally edema of the abdominal walls, and a little fibrin over the surfaces of the intestines. The organism may be obtained from the abdominal cavity, visceral organs and heart's blood.

Manila gray rats, when inoculated with one-half to one c.c. of a 24-hour bouillon culture subcutaneously, generally died on the third or fourth day. The organism may be obtained from the visceral organs and sometimes from the heart's blood. When inoculated intraperitoneally with the same amount, death takes place in from twenty-four to thirty-six hours. Post-mortem there is a little fibrin over the intestines. The organism may be obtained from the liver, and generally from the spleen and heart.

In rabbits subcutaneous inoculation of 1 c.c. of a 24-hour bouillon culture generally causes death on the third day. At necropsy the vessels of the epicardium are injected; the vessels of the mesentery are also brightly injected; the gall bladder is swollen; there are small hemorrhages in the liver; the stomach and small intestine contain a small amount of mucus. The cecum and large intestine are distended with apparently normal feces.

Intraperitoneal injection into rabbits causes death with a more marked peritonitis; otherwise the changes are the same as when the inoculation is made subcutaneously. The organism is found in greater numbers in the liver than elsewhere.

Four monkeys were fed for two weeks daily, with a 24-hour bouillon culture of bacillus dystenteriæ. Two of the monkeys were fed 10 grains of sodium bicarbonate previous to taking the bouillon culture. Three of the cases had at times a moderate diarrhea; at no time was there blood in their stools. Bacillus dysenteriæ was recovered from their stools. In the fourth case, there appeared after about ten days' feeding a little mucus and blood in the stools for two days. Microscopical examination showed the trichomonas intestinalis, red blood-cells and epithelial cells; no amebæ. Bacillus dysenteriæ was obtained from the stools. The feeding was continued, but the stools became normal, with no further result.

Cats and dogs were injected per rectum with large amounts of fresh, bloody, mucous stools from acute dysenteric cases in which the bacillus dysenteriæ had been demonstrated. No dysentery was obtained and no changes in the large intestine.

Cats were given enemas of bouillon cultures of bacillus dysenteriæ. Only slight diarrhea for a few days was produced. One cat was killed nine days after the injection; at necropsy there was no swelling of the mesenteric glands. On opening the large intestine the rugæ were seen well marked, the surface of the bowel bathed in a light layer of mucus. Microscopical examination showed only epithelium and epithelioid cells. No hemorrhages nor ulcerations of the large bowel.

Subcutaneous injection of one c.c. into a Manila pony causes a rise of temperature in the neighborhood of 105 F.; after a few days' illness the temperature declines to normal.

The virulence of the organism varies greatly in different cultures. The organism quickly loses its virulence when grown for any length of time on artificial media. Thus it will be seen that the disease, acute specific dysentery, can not be produced as such in animals any more than typhoid fever can.

We will now attempt to describe the type of dysentery which we have called *acute specific dysentery.*

Acute Specific Infectious Dysentery.—Definition: An acute infectious disease characterized anatomically by an extensive superficial necrosis of the mucosa and by hyperplasia and hemorrhagic infiltration of the lymph-follicles of the large intestine, with induration and thickening of its walls; by hemorrhagic swelling of the adjacent mesocolic glands; and often by parenchymatous changes in other organs. The bacillus dysenteriæ is present in the acute stage of the disease, both in the discharges and in the superficial necrotic layer of the intestinal mucosa. Clinically the disease is marked by an acute onset, by very frequent mucus bloody stools, accompanied by intense tenesmus and by an abrupt termination either in death—usually in from four to fifteen days—or by a gradual improvement, from which an early recovery takes place, or the disease may apparently pass into a subacute stage.

Etiology.—The disease seems widely spread over the island of Luzon, but has occurred particularly among our troops in certain districts. The cases often appear in groups. It is not the rule to find sporadic cass. In one regiment in which in the neighborhood of twenty cases of typhoid fever occurred within a short space of time, there were almost twice that number of acute specific dysentery cases within the same space of time, as verified by the clinical histories and by the blood-serum reaction. It is not possible for us to say just now if the disease is spreading to any great extent. The conditions under which our troops are living are very different from what they were last year; the troops all practically being in garrison now. The disease appears to occur more frequently toward the end of the rainy season. Thus in the latter part of July and in August and September, 1899, there were more cases which came to necropsy with this type of the disease than in the remaining nine months of the year together.

Infection.—Infection probably occurs generally through the drinking water. Milk is a possible means of infection, but not a practicable one here, owing to the scarcity of cows' milk in the Philippines, and to the little use of other fresh milk as food. Infection through uncooked food—salads, cresses, etc.—can not be excluded. Undoubtedly infection is markedly influenced—as in cholera—by the existence of catarrhal troubles, irritating food, bad food, constipation, starvation, physical exhaustion, exposure to wet, etc. Infection with malarial plasmodia can hardly be considered an important predisposing factor, for it occurred in only two of our acute and in only one of our subacute cases.

The Bacillus Dysenteriæ.—The researches of Shiga have shown that a bacillus similar to, if not identical with, the one we have described above, is probably the cause of a certain form of acute dysentery in Japan. Our own researches seem to show that this organism is probably the etiological factor in the acute specific form of dysentery which occurs here, and which we are attempting to describe. We have isolated this bacillus from twenty-eight cases of dysentery. Nineteen of these cases came to necropsy and all showed similar lesions of the large intestine, to be described below. This bacillus was isolated in eighteen of our twenty-one necropsies on acute dysentric cases. In our first acute case it was not sought for; in the remaining two it was not found. In our subacute cases it was obtained twice out of eleven necropsies. In two cases it was unfortunately not looked for. In the other seven it was not found. We shall refer again to the difficulty in finding the bacillus in the later stages of the disease.

The organism has been sought for in normal stools, in the contents of the large intestine of those dying from other diseases than dysentery and in the feces of monkeys and rabbits, but has never been encountered on any of these occasions. In twenty-six cases of dysentery which presented post-mortem an entirely different anatomical picture of the large intestine, and in all of which amebæ dysenteriæ were present, this bacillus was carefully sought for, and never found. Lastly, the disease has been produced in man on one occasion by inoculation with this organism.

Serum Reaction.—The blood-serum of the acute and subacute cases shows usually a marked agglutinative reaction for this bacillus. The reaction may be present as early as the third day and is usually marked by the fifth or sixth. In one grave acute case which died on the fourth day of the disease, there was no reaction with the serum, either ante- or post-mortem, with this organism. The reaction may persist for several months but usually seems to disappear in a shorter time. In one case of our series it persisted for six months, but has since disappeared.

General Description.—The period of incubation probably lasts not over forty-eight hours. In one case, to be referred to later, in which a pure culture of the organism was swallowed, symptoms of the dysentery began to appear after twenty-four hours. The onset of the disease is usually abrupt; there being no prodromal symptoms generally. Often a patient goes to bed feeling perfectly well; during the night he is suddenly attacked with dysentery, and it is not infrequent for these cases to have from twenty to forty stools during the night. The stools at first contain a small amount of mucus; this mucus rapidly increases in amount, however, and soon becomes blood-streaked; generally within forty-eight hours, or a shorter time, the stools consist of nothing but reddish, bloody mucus. Microscopically these discharges consist, in the later stages, of many red blood-cells, leucocytes, epithelial cells and large epithelioid cells. No amebæ are present in unmixed infections. The movements increase in frequency until finally there appears to be no control whatever over the sphincter ani, and the patient is almost continually on the bed-pan or pad. The straining and tenesmus are often excessive. Toward the end the movements become less frequent, and may cease altogether shortly before death. Extensive hemorrhages are very unusual, but occasionally occur, always mixed, however, with more or less mucus. Excessive thirst is usually a prominent symptom. The tongue is generally coated with a whitish fur.

Fever.—The temperature is very irregular and variable, though almost always is there some pyrexia present. It may often reach 103 or 104 F., or it may not rise above 102 F. Just before death the temperature may rise rapidly, or it may fall as rapidly to a subnormal point; the latter is always a very unfavorable sign.

The blood changes are not constant; there may be a moderate leucocytosis, but in the rapidly fatal cases often the number of leucocytes is not increased. The red blood-cells in the first forty-eight hours are often increased in number, doubtless due to the early loss of water through the bowel; but shortly after the appearance of blood in the stools, notwithstanding this concentration of the blood, the blood count from the corresponding loss of red cells may fall below four million to the cubic millimeter. Differential counts show that when a leucocytosis occurs it is the polymorphonuclear variety of white cells which is increased in number.

Pulse.—The pulse in the early stages of the disease is in the neighborhood of 100. As the disease progresses, particularly in unfavorable cases, the pulse becomes very rapid and may reach 150 or more. The extremities become cold and the patient generally dies in coma, from cardiac exhaustion.

Cardiac complications are rare. Neither acute endocarditis or pericarditis has occurred in any of the cases studied. In the grave cases the sounds early become rapid and feeble and running; they soon lose their normal rhythm and approach that of embryocardia.

Nausea and vomiting are also somewhat uncommon, but occasionally occur, particularly in the earlier stages of the disease. Acute gastritis was found to be present in one subacute case at necropsy. There is often abdominal tenderness, particularly about the region of the colon, on deep pressure. No particular part of the colon appears constantly more tender than the rest. The abdomen is generally not distended. The spleen is generally not enlarged.

Respiratory System.—Pulmonary complications have been occasionally present; lobar pneumonia occurred in one subacute case, and bronchopneumonia in three acute and one subacute case. Acute bronchitis and fibrinopurulent pleurisy have been found, each once in two of the acute cases of dysentery.

Nervous System.—There is no complaint of intense headache. Delirium may occur toward the close, particularly in the prolonged fatal cases. Convulsions have not been noted in any case, nor has neuritis or paralysis been observed as a sequela.

The urine is always decreased in amount, and may contain a small amount of albumin. Retention is often an early symptom. The diazo-reaction does not occur. Acute glomerular nephritis has been found post-mortem in one case.

In none of our cases has the liver been found much enlarged or tender. It is perhaps hardly necessary to mention that liver abscess has not been found in this form of dysentery.

Recovery from the most severe form is rare; in those cases which recover, the loss of weight may be very marked; a loss in the neighborhood of 20 to 30 pounds may occur within two weeks. The patients, after the acute form, are generally left in a weakened state. After convalescence has been established, they do not seem to suffer from dyspeptic or intestinal troubles. One attack does not necessarily protect, for one of our cases writes to us from a distance that he has had a similar attack to his first, which was a severe one and studied clinically by us. The second attack occurred five months after the first, convalescence had been long established between the two. The most violent stage of the disease rarely lasts a week, although patients have lived for ten days in this stage. We have referred before to the fact that the cycle of this type is different from that of the amebic type of dysentery. In the former it is brief; thus of our twenty-one acute cases which came to necropsy, four died on the fourth and four on the fifth day of the disease. None of our cases died before three complete days of illness. Ten others died before the fifteenth day. In those cases which recover, the urgency of the symptoms gradually diminishes, the stools gradually lessen and the temperature declines. Recovery then may be early and convalescence well established by the end of the second week, or the disease may sometimes become subacute and last for months. One of our cases died on the sixty-fourth day of the disease. We regret that we have not as yet studied clinically this subacute stage as carefully as we could wish. These patients are usually poorly nourished and have thin bloody mucus stools from time to time; often not over from three to five in twenty-four hours. These stools in unmixed infections do not contain amebæ. The blood-serum of these cases shows a well-marked agglutinative reaction with the bacillus dysenteriæ, and sometimes an agglutinative reaction with certain colon bacilli; particularly for varieties of colon which show feeble power to ferment sugars, and which only faintly redden litmus milk without coagulating it, and which perhaps should be more correctly referred to as paracolon bacilli. These subacute cases with their serum reactions will be more fully described in a later paper.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, AUGUST 25, 1900.

MEDICAL SCHOOLS AND HOSPITALS.

Medical education in the United States has made wonderful progress during the last decade. The day of the two-year year school is gone; that of the three-year school is rapidly drawing to a close; and already we hear talk of establishing courses of medical study extending over five years of eight to nine months each. Simultaneously, scientific medicine has also reached a higher plane than ever before. Original research, new discoveries, and finished clinical and other studies are making their appearances in a manner that betokens a sound foundation, thorough training, and fully equipped hospitals and laboratories. That this progress of medicine in general is gratifying to all who have its true interests at heart, naturally goes without saying. But there is much to be done. The great majority of our medical schools fail to adequately meet the responsibilities they shoulder in offering young men and women "full opportunities" to secure a thorough medical education. The crying need at this time is greater facilities for proper clinical instruction. In this respect, perhaps, all our schools fall short, although there is a heaven-wide difference between the two extremes reached.

One of the necessities of a properly equipped medical school is a large hospital. It does not suffice that this hospital is adjacent to the college; it must be under the full and unrestricted management of the college, as far as the medical work is concerned. It should form one essential part of the machinery for giving instruction, as it is the mainstay of the college. Indeed, to a large extent the hospital, with its wards, its outpatient department, its operating-rooms, its dead-house, and its laboratories, is the medical school. All other instruction is naturally preliminary to observation and study in the hospital. The eager, intense competition on part of recent graduates for all kinds of interneships is sufficient evidence of the need the students themselves feel of further clinical training. Give a student but fair opportunities to work in the hospital and he is more than willing to spend a year or more after graduation. He asks no pay, simply a chance. Indeed, in some medical centers, the best students spend the last year or more of their medical course in the most arduous special training for the hospital examinations—a system fostered by the antiquated method of examining applicants for interneships and by the absence in the college of the necessary facilities for proper clinical instruction. The day of exclusively hearsay learning in medical schools is past.

Like the student of other biologic sciences, the student of medicine demands the chance to see and to feel with his own senses. And he should have it. But how? In the first place no medical school should be considered fully organized without a well-established general hospital under the unquestioned and permanent control of its faculty, as the first and fundamental requisite. It is high time that the state take cognizance of the opportunities for, and the character of, the practical, clinical instruction offered by the various corporations that send up graduates as applicants for state license to practice medicine. At present the state pays little or no attention to this part of the medical schools.

Secondly, the existing hospitals, city, county, and endowed, should be organized and utilized to the fullest extent. Educate the governors of hospitals and the public so that they may see that the use of the hospitals for clinical study by medical students, when rightly conducted, means improvement in the treatment of the patients and of the scientific work of the hospitals. There are neglected opportunities of clinical instruction in all our large cities. The number of interneships may be increased quite generally without detriment to the service.

In the third place, the clinical teacher should be in such a position that he would feel more his responsibilities. The clinical departments should be reorganized, and men should be placed at their head who are properly paid and of whom more may be demanded than of those who regard their clinical services merely as a means of rapidly acquiring a large private clientèle. Commercialism and clinical teaching do not harmonize. There are able young men springing up who are willing to devote their energies to scientific clinical teaching and work for a financial return commensurate with that received by scientists in other departments. This means money, and we are fully aware of the status of our medical schools in this respect. Progress, however, lies in this direction. Finally, it may be emphasized again that in order to realize for our medical students the best opportunities for correct clinical teaching, the hospital must be an integral part of the school, and as completely under its control as the chemical or other laboratory—all other arrangements are in the end unsatisfactory, temporary, and often irksome and unsafe.

THE BACILLUS DYSENTERIÆ.

Reports have been received at the office of the Surgeon-General of the Army as a result of the requirement of the Surgeon-General that a careful study of the dysentery of the Philippine Islands be made in the bacteriological laboratories of the large military hospitals. Assistant-Surgeon Strong, in charge of the First Reserve Army Laboratory, in Manila, and Hospital-Steward W. E. Musgrave, M.D., pathologist of the hospital, have reported[1] that during ten months 9063 cases were admitted to the First Reserve Hospital, and that in 1328 of these cases, or 14.65 per cent. of the total, a diagnosis of dysentery was entered. Of the dysentery cases 125 died, a mortality of 9.4 per cent., which, however, by no means represents the fatality of the disease, for 338 of the cases were transferred to the United States, as there seemed little hope of their recovery while in the Philippines, and 283 were sent to other hospitals. Only 581 were returned to military duty from the First Reserve Hospital.

The report of these officers is based on careful clinical and post-mortem observations. The anatomical changes found in 111 fatal cases of dysentery enabled them to divide the cases into two distinct types: a specific dysentery, of which 21 of the cases were acute and 11 subacute; and an amebic dysentery, which included the remaining 79 of the fatal cases examined. It is claimed that when the type of each case, as determined at the necropsy, was compared with its associated clinical history, the two types might easily be separated during life, the clinical cycle of the disease as well as the onset being generally somewhat different in each type, and while one may be recognized by its specific blood-serum reaction on the bacillus dysenteriæ, which was isolated in each case, the presence of ameba dysenteriæ in the stools is characteristic of the other.

The disease associated with the infection of the bacillus dysenteriæ is said to be characterized anatomically by an extensive superficial necrosis of the mucosa, and by hyperplasia and hemorrhagic infiltration of the lymph follicles of the large intestine, with induration and thickening of its walls. Clinically the disease is marked by an acute onset and an abrupt termination either by death—usually in four to fifteen days—by an early improvement and recovery, or by passing into a subacute and prolonged stage. In the amebic form there is, on the contrary, an irregular course, marked by intermissions and exacerbations of the diarrhea with a tendency to chronicity and the frequent occurrence of abscess of the liver.

Drs. Strong and Musgrave review the history of the bacteriology of dysentery to 1898, when Shiga, working in Kitasato's laboratory in Tokio, described a bacillus in connection with the epidemic of dysentery then prevailing in Japan. He obtained a specific organism in thirty-four out of thirty-six cases studied, which he believed to be the *vera causa* of the Japanese epidemic. The bacillus is a short rod much resembling the bacillus typhosus or the greater portion of the coli group. Flexner and Barker, who investigated the prevalent diseases of the Philippines[2], state in regard to their bacteriological results in dysentery that tests for agglutination developed two groups of bacilli, one having affinities with the coli communis, the other with the bacillus typhosus. "A bacillus," they say, "belonging to the second group, which is still under study, would seem to agree with the bacillus dysenteriæ isolated by Shiga from cases of endemic dysentery occurring in Japan. It is regarded by us as an important factor in the causation of the dysentery of the Philippine Islands." Strong and Musgrave recognize this bacillus as the cause of their specific dysentery.

Many of the cases of Philippine dysentery which were not expected to recover in the Philippine climate were sent on transports to San Francisco. Here, they were studied by Dr. Charles F. Craig, who examined the stools of 205 cases and the morbid anatomy of 25 fatal cases, reporting on these without any knowledge of the results of the investigations by Drs. Strong and Musgrave. The ameba coli was found in the stools of only three of these cases. Craig, however, isolated a bacillus identical with that found by Flexner in Manila, previously described by Shiga. The bacillus was practically identical with the bacillus typhosus. It agglutinated with the blood of the cases from which it was isolated and also with the blood of a few other cases of dysentery, but not of all, suggesting the possibility of the agglutinating power being lost, or that there were different varieties of dysentery in the hospital.

It would seem, therefore, that in Manila, we have two forms of dysentery, one an amebic form, in which the patient recovers or dies before reaching San Francisco, and the other due to a specific bacillus which if not promptly fatal persists for a long period in a subacute or chronic form.

QUACK DOCTORS, QUACK MEDICINE, AND A LAY JOURNAL.

Mr. Ewing Herbert publishes the *Brown County World*, at Hiawatha, Kansas, a paper that deserves commendatory mention in every respectable medical journal. Without going into any prior advertising of his course or making, so far as we know, any special religious pretenses, he publishes in a recent issue the following editorial announcement:

"We have at last done what we have wanted to do for many years—thrown out of this paper every advertisement that can be by any chance considered objectionable in any degree. And hereafter we shall print no offensive advertisements. . . . If persons are ailing they should not hesitate to consult a reputable physician. No medicine acts the same way on different persons. What benefits some harms others. From this time on we will not print advertisements of traveling quack doctors. We want clean advertising matter, or none. . . . Last year our patent medicine 'ads' amounted to $800. With one dash we have practically swept aside this source of income. We believe that the people who have glanced at Lydia Redham's offensive propositions, and at Slow's Specific, Bradshaw's Regulator, et al., including the bids of various quack doctors to cure weak and suffering men and women, will miss them in this paper with not a little pleasure. If you are ailing see a home physician, some good doctor you can confide in. It does not make any difference what ails you, do not be afraid to tell an honorable physician about it, and submit to his advice and treatment. Beware of quack doctors; they want your money and they will get it. And they can not cure you. If your home physician can not cure you, he will probably tell you of some eminent man in the medical profession who can help you; but he should warn you in a conscientious and disinterested way never to permit a quack doctor to treat you. Young folks should talk freely to their parents when ill. The parents will call a physician, if one is needed. Do not read filthy 'ads.' Do not buy quack medicines. Do not have anything to do with strange doctors. They are generally disreputable, and entirely unable to do any more for you than to mercilessly take your money."

---

[1] See page 193.

[2] Johns Hopkins Hospital Bulletin, February, 1900.

This, a New York paper characterizes as a "step so radical that to read it will cause the hair of every normally constituted publisher to stand erect." We are glad that there are such abnormally constituted ones in the wild and wooly West and trust that time will develop more of them. When the newspaper leaders of public opinion, generally, denounce quackery we will have advanced a long step toward the millennium. At present they mutually defend themselves by each other's example and plead the rule that we should be suspicious of scruples that do not trouble other good men. A little more independence of conscience like that of Mr. Herbert would be a good thing if more generally distributed.

THERAPEUTIC PESSIMISM.

Whatever the scientific qualifications and aims of the practitioner of medicine, his especial function is the prevention and the cure of disease, the prolongation of life and the relief of suffering. He must be ever resourceful, and from the therapeutic point of view an optimist. In discussing the causes of therapeutic pessimism among the better men in the profession, Barker[1], in a recent address, points out that when therapeutics is spoken of, disproportionate consideration is given to pharmacotherapy. It is because they are insufficiently known and appreciated that dietotherapy, climatotherapy, hydrotherapy, kinesitherapy, electrotherapy, and psychotherapy are not ranked with pharmacotherapy, and yet in the majority of cases with which the physician has to deal, one or more of these is of far greater importance than treatment with drugs. Psychotherapy especially has a great future. Not until physicians become better psychologists and learn better how to apply psychic methods in the treatment of disease can the disappearance of such psychic epidemics as that represented by so-called christian science be hoped for. In the near future psychopathogenic mechanisms should be carefully studied in order that psychoprophylaxis can have a wider field.

BITS OF MEDICAL HISTORY OF PURITAN BOSTON.

A series of articles on "Doctors and Apothecaries of Puritan Boston," by A. Corbett, Jr., has been appearing in the *Boston Globe*. There are many interesting stories of their often varied experience, professional and otherwise, and of their queer ideas of disease and the remarkable remedial agencies employed. In the issue for August 15 is an account of the two Firmins. Giles Firmin was the first apothecary in Boston, "a godly man and an apothecary," is his epitaph. Firmin's son, also named Giles, was a chirurgeon and gave lectures on anatomy, illustrated by the use of a skeleton; he returned to England in 1645 and sought refuge, from starvation, in the ministry. Admitted to the ministry he settled in Stratford; after the restoration he was ejected from the ministry because he was a dissenter; he continued to preach, however, and to practice medicine gratuitously. He advocated the union of all churches. He died in 1697, 82 years old. The patent medicine trade got an early start in Boston. The means of advertising resorted to quite equal in their presumption those of to-day. In a souvenir booklet, "suitable to be given at funerals," entitled, "The Mourner's Cordial Against Excessive Sorrow," there occurs the statement that the publisher has a remedy on sale which "if taken, cureth grippings of the gutts and preventeth dry belly ach."

THE CHOICE OF A SITE FOR VACCINATION.

From the prophylactic point of view it is a matter of indifference on what part of the body vaccination is practiced. For the prevention of smallpox it is only necessary that the procedure be adopted early in life and be repeated at intervals—say seven years, unless special conditions seem to justify making the interval shorter. In order that the protection shall be most effective, the vaccinal lesion should be a positive and well-defined one. A scar that would be designated "good" from the professional point of view, may, however, be a source of disfigurement to personal beauty, and, as the world goes, it will not be wondered at that occasionally fond mothers will object to its presence in a conspicuous place. The arm is probably the most common site for vaccination, but in deference to the wishes of some mothers and out of regard for the sensibilities of esthetic young women, girls are not rarely vaccinated on the thigh. Other sites have also been proposed, such as the arm-pit, the popliteal space, etc., but none has proved universally acceptable. A French physician has recently suggested the sole of the foot as the best place for the purpose, on the ground that, with the individual in the erect posture, this is the only portion of the body that is not in the range of vision, and hence it can exhibit no unsightly scar. This may be thought a joke, but the suggestion is made in earnest. Other advantages claimed for this situation are the convenience of operation and of applying the dressings, the avoidance of complications and the possibility of bathing. The method is readily applicable in the case of children, while an adult could decide for himself or herself whether to submit to confinement in bed or the recumbent posture for the necessary period of time, or to select a more acceptable site.

---

[1] Johns Hopkins Hosp. Bulletin, July-August.

COMPARATIVE THERAPEUTIC VALUE OF DIGITALIS AND ITS DERIVATIVES.

There are probably few subjects in pharmacodynamics that have been more extensively investigated and more fully discussed than the physiologic action and the therapeutic application of digitalis and its derivatives, and there has been no want of contrariety of opinion with regard to some aspects of the matter. As the result of a research undertaken with the object of harmonizing some of these differences, Arnold and Wood[1] found that digitalin and digitoxin each represent the full circulatory power of digitalis. Digitalis, digitalin and digitoxin, stimulate the cardio-inhibitory mechanism, both centrally and peripherally. In larger doses they paralyze the intrinsic cardio-inhibitory apparatus. They all cause a rise of blood-pressure by stimulating the heart and constricting the blood-vessels. Excessive doses paralyze the heart-muscle in mammals, the organ stopping in diastole. Digitalin of German origin is a stable compound, 1 gram being equivalent to about 70 c.c. of tincture of digitalis. Digitoxin is not to be recommended for human medication on account of its irritant action, which makes it liable to upset the stomach when given by the mouth, or to cause abscesses when given hypodermically: and on account of its insolubility, which renders its absorption slow and its elimination irregular and causes a marked tendency to cumulative action. It is further pointed out that the failure to obtain clinically the good results that experimental observation would lead one to expect from the administration of digitalin may be due, as was formerly the case with digitalis, to the employment of too small a dose. That ordinarily prescribed is from 1/60 to 1/30 gr., while it has been shown that doses of ½ gr. can be administered safely and with advantage.

THE FEAR OF TUBERCULOSIS.

The antituberculosis agitation has its inconvenient features. It is impossible for a medical subject to be so generally discussed without exciting popular interest, and this is especially true in this case. A large portion of the public is already hysterical on the subject, and the California preacher who, though a prohibitionist, would rather have his home surrounded by dram-shops than to have a consumptive settle near him is a typical instance of the irrational terror that has been aroused. Even the efforts to aid the tuberculous are sometimes balked by this public craze. A physician, said to be a thoroughly competent specialist, was recently heavily fined in a Canadian city for attempting to start a sanitarium for consumptives; and at Limoges, France, a similar institution was ordered closed by the authorities after it had been mobbed and some of its inmates injured by missiles. This is what we may expect if the output of popular information of the quality now in vogue is kept up, as it has been during the past year or two. Every medical writer who has nothing better about which to write has his say on tuberculosis, seldom imparting anything new and often only reiterating the most extreme statements as to its mortality and contagiousness. Consumption is bad enough; it is probably the most deadly of our diseases, though there are one or two others that are close seconds, but it is made no better by creating an unreasonable fear of its deadliness. We can educate the people to avoid it without scaring them to death, or making them act like brutes to those that are its victims. It would be just as near the truth if we told them that it is an infection that few or none can avoid, but that this infection is comparatively harmless in at least the great majority of cases, and even in the minority the developed disease is not so hopeless as it was formerly thought to be. We can instruct the public that it is not viciously contagious, that its fatality largely depends on predisposition, and that there is far more danger from the promiscuous spitting in houses and conveyances than from contact with a consumptive, if reasonable and easy precautions are taken. While its mortality is apparently steadily, though slowly, decreasing with our better knowledge of the disease, it is only arousing a foolish hope to tell the public that it can be extirpated entirely—certainly not merely by quarantine or isolation.

ROUTINISM IN MEDICINE.

An English contemporary[1] takes occasion to criticise Dr. Osler's recent address at the opening of the Museums of the London Polyclinic. It objects to his inference that practitioners may be divided into routinists and rationalists, at least as far as Great Britain is concerned, and it evidently wants us to believe that there are no routinists in Great Britain. Noticing Professor Osler's related experience with a back-number country practitioner, it says: "We are happy to think that in this country no such person as the Pennsylvania routinist exists. . . . In this land we can assure the Professor he would seldom be able to go into the country without enjoying that pleasure which he proclaims so rare in America—the finding of a practitioner capable of diagnosing mitral stenosis, leucemia, myxedema and such diseases." The first part of this quotation appears to us like the judicious choice of a blissful ignorance, the second part is a misrepresentation: Dr. Osler never proclaimed any such thing and we would not believe he ever intended to infer such a libel. The diagnostic ability of the average regular physician in this country is not, from all we can learn, so far behind that of the representative average British physician—we certainly would not fear a fair test of the question. If we were to judge of the ignorance of the British practitioner by that of the editor of our contemporary on American matters, we should say it was very dense, as shown in his editorial referred to. He complains that the pictures drawn, "as far as his country is concerned, were overdrawn and not altogether kind," but he himself has shown altogether too little consideration for others in exercising his own imagination. Dr. Osler was right, and we believe his remarks will apply as well to Great Britain, France and Germany as to this country, and the picture he drew is as true to life in one way as that of the genial poet-physician whom our contemporary quotes is in another. It is the rationalist who knows how to dispense with superfluities and who is also the best practical man. Like "Dr. Benjamin," he too "flings off his scientific wrappers and goes at the work of curing stomach-ache and all the other mean unscientific complaints that make up the larger part of every doctor's business." But he does not fail with the larger problems and he may often see even farther into these minor ones of a physician's life to his patients' and his own advantage. It seems almost ridiculous to solemnly repeat such a self-evident truth, but its aspect to our contemporary as almost "claptrap," has tempted us.

---

[1] American Journal of the Medical Sciences, August, 1900, p. 165.

[1] The Physician and Surgeon, July 19.

Medical News.

The New Hospital of the Mexican Central Railroad at Aguas Calientes, Mexico, will soon be in operation.

The medical staff of the British army in South Africa consists of 466 army and 440 civilian surgeons, 566 female nurses and 5668 male nurses and orderlies, exclusive of local nurses and surgeons.

Dr. McCall Anderson, professor of clinical medicine in the University of Glasgow, has been appointed to the chair of systematic medicine made vacant by the resignation of Sir W. Gairdner.

Major-Surgeon John Van R. Hoff, of the Army, passed through Chicago August 21, on his way from Porto Rico to China, where he is ordered as medical director of the United States expeditionary forces under General Chaffee.

Dr. Tarnier's monument, a high relief in marble nine feet tall, will be placed in the wall of the hospital at Paris, where the famous surgeon held his clinics. The artist has represented him as operating on a patient, assisted by three students.

The Marquis of Bute has offered the University of St. Andrews, Scotland, the sum of £20,000 to be held as a fund for endowing a chair of anatomy in that institution. The subject will come before the University Court at a special meeting called for September 1.

Registration at International Medical Congress.—Up to August 5, 6170 members had registered at the Congress in Paris. Of these 2293 were from France; 805 from Russia; 572 from Germany; 412 from the United States; 324 from Italy; 222 from Great Britain; 219 from Spain; 147 from Belgium; 141 from Austria; 108 from the Argentine Republic and 101 from Switzerland.

Testimonial to Christian Fenger.—The Chicago Medical Society has appointed a committee, consisting of Drs. W. A. Evans, W. L. Baum, and J. B. Murphy, to arrange for a testimonial banquet to be tendered to Dr. Christian Fenger on his birthday, November 3. The affair will be national in character and is intended as a token of respect to Dr. Fenger, to show that his colleagues appreciate the services he has rendered his profession and humanity.

Dinner in Honor of Lord Lister.—Lord Lister was honored in Paris by a dinner given by the "Scientia" Society, August 1, at the *Restaurant des Congrès* in the Exposition grounds. About 60 guests were present. Lucas-Championnière told of his journey to Glasgow to see Lister, and how after seeing and working with him, he returned as an apostle to Paris but was not listened to. Pinard spoke of the debt owed by accoucheurs and their patients to Lister. In his own simple and quiet way, Lord Lister responded, telling of his early struggles, which were without result until Pasteur showed the way, and disclaiming credit for the benefits of his work to humanity, which he said was due to the happy accident of his epoch.

Vital Statistics of Scotland.—The Registrar-General's report for 1899 shows that 130,656 births were registered, of which 8488 were illegitimate, a birth-rate of 30.5 per thousand. The number of deaths registered was 79,548; 39,919 males and 39,629 females, a mortality-rate of 18.6 per thousand. The eight principal towns of Scotland had a birth-rate of 31.3 per thousand and a death-rate of 20.4 per thousand. Greenock had the highest birth- and the highest death-rate. Zymotic diseases caused 14.57 per cent. of the total mortality; influenza, 1.13 per cent.: measles, 2.92 per cent.; whooping-cough, 2.51 per cent.; fevers, 1.07 per cent.; diphtheria, 0.81 per cent.; cancer, 4.40 per cent.; phthisis, 9.43 per cent.; nervous diseases, 11.33 per cent.; circulatory diseases, 8.47 per cent.; respiratory diseases, 19.49 per cent.; digestive diseases, 7.41 per cent: violence, 4.07 per cent.

ALABAMA.

Dr. Robert E. Noble, Anniston, has been appointed acting assistant-surgeon in the army and is now on his way to China.

Dr. T. C. Thorington, city physician of Montgomery, gives the annual mortality of that city at 12.93 per 1000, for the year ending May 31, 1900. He states that it is the best record of any city in the Southern States.

CALIFORNIA.

Riverside County is erecting a hospital on a commanding site near the village of Arlington.

The Redding board of health met for organization August 8, and elected Dr. B. E. Stevenson president.

Bubonic Plague Reports have been decided by Superior Judge Hart, San Francisco, to be public property. The *Bee* of that city instituted mandamus proceedings to compel Secretary Mathews of the State Board of Health to produce the reports on bubonic plague given by Drs. Mouser and Ryfkogel. Dr. Mathews made answer that the reports were not public property, that the discretion for giving or not giving them out lay with the board of health, and furthermore that they were in the custody of the governor of the State.

DISTRICT OF COLUMBIA.

Dr. Larkin W. Glazebrook, Washington, has been reappointed deputy coroner of the District.

The Commissioners of the District, on August 9, appointed Dr. J. Ramsay Nevitt, Washington, coroner of the District, to succeed Dr. William P. Carr, term expired.

FLORIDA.

Key West presents a good showing from the health standpoint. Dr. John V. R. Plummer, city health officer, reports 28 deaths for July, the lowest mortality ever noted for that month. The lowest mortality in previous years was 40, in 1899. A peculiar feature in the report is that 4 deaths, or more than 14 per cent., are said to have been due to tetanus neonatorum, and 1 death to tetanus (adult).

ILLINOIS.

Dr. Robert Williams, of Carthage, will locate in Alden, Minn.

Dr. C. A. Fowler, Galena, has purchased the practice of Dr. Lucas, of Malta, and will locate there.

Dr. E. Sargent, who has been resident-physician at Mercy Hospital, Chicago, has opened an office in the Chase building, Moline.

St. Mary's Hospital, Quincy, is being enlarged by the erection of a new wing. When this is completed the hospital will accommodate 200 patients.

Dr. George N. Lucas, who has been practicing in Malta for five years has sold his property and will move to Elgin.

A hospital is to be established at Pekin, provided the necessary funds can be raised. Subscriptions to the amount of $9,000 have already been secured.

The report of the Harvard Cottage Hospital shows that during the year ended August 1, 115 cases, all surgical, were treated, with only one death. Dr. Colonel M. Johnson, Harvard, is surgeon.

Dr. Henry Hatch, Quincy, has agreed to establish a hospital of 35 beds and to cost $30,000, at Hannibal, Mo., provided that city will donate $15,000, a lot for the hospital, and free gas and water for five years.

The club system, with which we have fortunately been little afflicted in the United States, has invaded this state. An association has been incorporated recently in Bloomington, which for a "small consideration paid each month," agrees to pay the physicians' and druggists' bills of its membership. The explicit statement is made that any physician or druggist desired by the member can be employed.

Chicago.

Dr. E. H. Ochsner returned from Paris August 19.

Dr. Leo Loeb went this week to Woods Holl, Mass., for a few weeks.

Dr. E. Russell Ogden has returned. He spent his vacation in New London, Conn., and at other New England points.

Dr. Gustavus M. Blech and Miss Rose Bergenstadt were married August 9, at Wicker Park Hall, by Rabbi Bauer.

Drs. Homer O. Bates and Laura C. Bates are at their summer home, Thousand Island Park, N. Y., for the month of August.

Dr. John B. Murphy has returned from Paris bringing the first personal information about the International Medical Congress. He says that the attendance was fair, but that the foreign representation was not so large as had been expected. Germany, England and the United States had meager delegations. The work of the Congress was up to the average. The plans for official entertaining were crippled by the death of the King of Italy.

The Medical Arrangements for the thirty-fourth national encampment of the Grand Army of the Republic, are in the hands of Dr. T. Jay Robeson, late Major-Surgeon First Illinois Cavalry, U. S. V.; Dr. Arthur R. Reynolds, Health Commissioner, and J. F. Hultgen, who acts as secretary. They will be assisted by about 150 physicians, who will be assigned to meet all trains containing soldiers; they will visit quarters free morning and evening and will be designated by a badge and a G. A. R. hat. A temporary hospital has been arranged for at Medical Department Headquarters in the Keith building, Wabash avenue and Monroe street. Field hospitals provided with ambulances will also be established at various points along the line of march to care for emergency cases.

HEALTH DEPARTMENT.

According to precedent the mortality of the week following the heated term should have been as high as, if not higher than, that of the hot week itself. Precedents, however, have been set at naught, this year in many ways, and the recorded deaths last week are 27 per cent. fewer than for the week of continuous highest temperature on record in thirty years. Based on the Department's estimated population of 1,750,000, the death-rate for the week is only 13.5 per thousand, an unprecedentedly low figure for midsummer and marvelously low considering the high temperature immediately preceding. The most gratifying features are the decrease in the deaths of infants and children under 5 years of age, 192 last week and 275 the week before, and the decrease in deaths from the impure-water diseases, 121 last week, 191 the week previous. Of the 12 deaths from sunstroke, 9 occurred during the previous week, the reports from the coroner's office and from hospitals having been delayed. The department records show a total of 26 deaths due to sunstroke as the direct cause, besides many from chronic diseases hastened to a fatal termination by heat exhaustion. While all deaths are, of necessity reported to the Health Department, it is estimated that only about 70 per cent. of the births are so reported. Notwithstanding this discrepancy, the reported births last week outnumbered the deaths by one-third, 454 deaths and 605 births. The deaths reported for the week ended August 18, were 454, 38 less than in the corresponding week of 1899; the death-rate per thousand was 13.51 as compared with 14.75 in 1899. Males to the number of 259 died and 195 females. Of children under 1 year of age 130 died; between 1 and 5 years, 62, and over 60 years, 99. The principal causes of death were: Acute intestinal diseases, 116; consumption, 45; heart diseases, 31; nervous diseases, 27; violence, 19; Bright's disease, 16; cancer, 14; sunstroke, 12; convulsions, 10; apoplexy, 9; suicide, 5. The number of contagious diseases reported during the week was 49, of which 23 were scarlet fever and 26 diphtheria. Antitoxin was employed in 126 cases. At the stockyards, 31,715 pounds of meat were condemned. In the laboratory, 451 samples of milk and cream were analyzed, 7.53 per cent. of which were found to be below grade.

INDIANA.

Dr. A. B. Darby, of Waterloo, has received the Republican nomination as state senator for his district.

A physician of Monticello was fined $10 in a justice court for failing to put a "whooping cough" card on a house in which several children were suffering with the disease.

The Indiana State Medical Board has under consideration a uniform code of medical laws for the United States. Until this shall be accomplished, the board will adhere rigidly to the rule requiring all applicants from other states to pass the examination required before they are granted licenses to practice.

A committee from the Delaware County Medical Society, met the county commissioners and requested an appropriation of $10,000 for the establishment of a county hospital, of which there is urgent need. They agreed that if this appropriation was made, $10,000 additional would be provided from other sources. The commissioners temporized and pleaded poverty.

IOWA.

Some miscreant has twice in one week set fire to the office of Dr. Edward H. Knittle, Onslow.

Dr. G. L. Everall, of Farmersburg has sold his property and practice to Dr. Irving Munger, who moves to that place from Elkader.

KENTUCKY.

Dr. J. A. Averdick, Covington, returned from a three-months tour of Europe, August 11.

Two Kentucky physicians, Francis Wells, Louisville, and David Hampton, Covington, have started for the seat of war. They have recently been appointed acting assistant-surgeons in the army.

Dr. T. Hunt Stucky, Louisville, has been chosen medical director for the Triennial Conclave of Knights Templar. Upon him will devolve the organization of first-aid and hospital service during the conclave.

LOUISIANA.

The quarantine against Tampa, Fla., was raised August 18, by the State Board of Health.

Dr. Henry E. Menage, New Orleans, returned, August 8, from his service with the Army in Manila.

The "Senses Hospital," or Eye, Ear, Nose and Throat Hospital of New Orleans, realized $6,632.66 August 17, as the proceeds of a festival held for its benefit.

MAINE.

Dr. W. A. Purington, of Sangerville, was recently married to Miss Susie Weeks, of Chicago.

Dr. S. Watson Bragg was married to Miss Adele L. Leland of Enfield, August 14. Dr. Bragg is a practitioner of Montague and his wife received training as a nurse at the Eastern Maine General Hospital. They will reside in Montague.

MARYLAND.

The death-rate in Baltimore for the week ending Aug. 18 was 25.08, viz., whites 23.81 per cent., colored 32.66. These proportions show the greater effect of high temperature on the white race, the usual proportion being between the two races about 1 to 2½. The total number of deaths was 261, as compared with 174 for the corresponding week of last year; 85

were in children under 5, and 43 are attributed to "sunstroke." Cholera infantum caused 38, dysentery and diarrhea 13, typhoid fever 9, and consumption 20.

The law requires persons removing night soil in Baltimore to secure a permit from the city commissioner of health and haul it through the streets to the city scows, where a fee is paid for dumping it. Instead of doing this, many persons employed in this work have been selling it to farmers living around the city. The practice has become so general, as to threaten to pollute the streams supplying a part of the city. The law is now openly violated. The State Board of Health, the city commissioner of health and the county officials are working together for the correction of the evil. It is thought that if the fee for dumping were abolished, there would be more ready compliance with the law.

MICHIGAN.

Dr. A. N. Treadgold, of Kilmanagh, is going to locate in Cass City.

Dr. J. C. Rutledge, Detroit, has been appointed acting assistant-surgeon in the army and expects to be ordered to the Orient.

Dr. J. Irving Mabee, of Rockwood, has joined the army medical department as acting assistant-surgeon, and started for the seat of war in the far east, August 15.

Dr. Louis W. Pease, Saginaw, has been ordered to report for duty at San Francisco as acting assistant-surgeon, U. S. Army. He served throughout the Spanish-American war as surgeon in the Thirty-third Michigan Infantry, U. S. V.

MINNESOTA.

The annual meeting of the board of trustees of the state asylum for the insane was held at Fergus Falls, August 9. Dr. David N. Jones, Gaylord, was re-elected president of the board.

"Electrical Institutes" in Minnesota are soon to have their rights tested by the State Board of Medical Examiners, which claims that no one has a right to administer electrical treatment for disease without first possessing a physician's license. The question hinges on whether or not electrical treatment constitutes practice of medicine under the statute.

MISSOURI.

The Macon County (Mo.) Medical Society will hold a clinical meeting at Macon, September 4.

Dr. Thomas J. Thorpe, St. Louis, was accidentally, and probably fatally shot on August 11.

Dr. Harry Tatum, a recent graduate of Jefferson Medical College, Philadelphia, has located in Brunswick.

Dr. Henry J. Schenck, of St. Louis, is to be married, August 30, to Miss Natalie Altheimer, of the same city.

Dr. Charles Gowans, St. Louis, was married to Miss Hermione Hinton, August 15. They will reside at 6013 Cates avenue.

The Bill authorizing the erection of a new city hospital on the site of that destroyed by the tornado was passed by the St. Louis city council, August 7.

Dr. Heber Robarts, of St. Louis, editor of the *X-Ray Journal*, is at the head of a syndicate which proposes to build a sanitarium devoted to the treatment of disease by electricity.

Dr. Edward Wallace Lee, who has just returned from Europe, will locate in St. Louis and devote himself exclusively to surgery. Dr. Lee was for some years professor of surgery in the Creighton Medical College, Omaha.

Kansas City quacks are to be vigorously attacked by the State Board of Health. If the local member of the board, Dr. S. C. James can make good his assertions and is backed up by law, great results should ensue, but most medical practice acts are noteworthy for the way in which they can be ignored and that with impunity and immunity.

MONTANA.

The epidemic of smallpox at Anaconda has cost Deer Lodge County nearly $20,000, since October last.

NEBRASKA.

Dr. L. A. Lansing, of Buffalo, N. Y., has located in Emerson.

Dr. P. T. Conlan, who has been practicing in Columbus, has located at Platte Center.

NEW JERSEY.

Dr. Peter B. Davenport has been appointed health officer of Vailsburg.

An automobile accident, which caused the death of a woman, is the reason for a $25,000 damage suit brought against Dr. W. L. Vroom, of Ridgewood, coroner of Bergen county. An endeavor is also being made to indict him for criminal negligence.

The management of the Children's Seashore House in Atlantic City is making an urgent effort to raise the sum of $4,000, which is required to keep this house open for its customary season. The establishment was erected in 1872 and has accommodations for 225 children. Up to the time the Children's Seashore House had closed last summer it had since its foundation treated 16,947 children, and 4088 mothers, or a total of 21,035 patients.

NEW YORK.

Dr. A. M. Leonard, Cicero, was married to Miss E. Vickery, of Clay, August 8.

The will of the late Dr. J. C. Rappold, Brooklyn, was filed for probate, August 9. His estate is valued at $12,000.

The Geneva City Hospital, Ontario county, N. Y., will receive $10,000 by the will of the late Judge Francis O. Mason, and an additional $80,000 on the death of his two sisters.

OHIO.

Dr. E. Homer Gee, of Xenia, a graduate of Rush Medical College, and late interne at the Freedmen's Hospital, Washington, has located in Zanesville.

Dr. Henry Verdier, Cincinnati, has started for San Francisco. He has been assigned to duty as acting assistant-surgeon in the army.

Smallpox appeared in 103 places in 53 different counties of the state between January 1 and August 1, according to the state health board's report. The total number of cases was 1647 and the deaths numbered 20.

The staff for the Protestant Hospital for the ensuing year was announced by the trustees, August 14. Dr. David N. Kinsman was appointed chief of staff; Drs. Charles W. McGavran and Clarence F. Schlitz, resident physicians, and George M. Waters, radiographer.

PENNSYLVANIA.

Dr. S. G. Burkholder, has removed from Chicago and will locate in Rothsville.

The little town of Catawissa is suffering from a mild epidemic of typhoid fever. During the week two new cases have occurred.

Anthrax has broken out among a large herd of cattle at Tunkhannock. Five have died, while 150 have already been exposed to the infection.

Seven cases of smallpox have developed at Erie, and a number of persons have been exposed to the disease. A rigid quarantine is being maintained.

The causes of death, reported by census enumerators to the clerk of the Orphan's Court in Buck's County, include "hart parlias," "paraliya," "hart truble," "newmonia" and "live cuplat," the latter being interpreted to mean liver complaint.

Thirteen employes of the Pennsylvania Railroad at Altoona were, August 17, taken seriously ill with nausea and cramps, supposed to have been due to polluted drinking water.

In Allegheny Furnace, a suburb of Altoona, a very large number of persons are suffering with diphtheria. Five new cases were reported on August 17.

Vineland and Millville, two adjoining towns, are waging war against each other over the proposed establishment of a system of sewage by the former town. It is believed that should it drain into Maurice River the water-supply of Millville will become infected. One attorney has heretofore attended matters for both places, but he is now in Paris. Millville threatens to get an injunction in regard to the matter.

Dr. L. B. Olinger, Pittsburg, has been made an acting assistant-surgeon in the army, and has been ordered to leave for the Pacific coast, there to report to the surgeon-in-charge for assignment to duty in China.

Philadelphia.

Dr. W. W. Keen will return from Europe about the end of September.

Dr. Wharton Sinkler sailed for Europe, August 18, to be gone several weeks.

Dr. H. W. Cattell has resigned from his position as pathologist to the Philadelphia Hospital.

Through the bequest of George W. Cross, of Lower Merion, the Wills Eye Hospital has become beneficiary to a considerable estate.

Different manufacturers of quinin of Philadelphia are now busy endeavoring to supply large orders for that drug to be sent to the army in China.

The physician to the Empress of China is Dr. Hu King Eng, who graduated from the Woman's Medical College in this city several years ago, and is now in Pekin.

The Board of Health has recently purchased two new ambulances for the Philadelphia Hospital, and also four disinfecting wagons, which will soon be completed for service.

One of the daily papers—*Bulletin*—of this city has for some time been exposing another fraud in the shape of a "Doctor of Suggestive Therapeutics," who has been duping the unwary.

The Dairy and Food Commissioners have now on file twenty-three bills against persons selling adulterated articles of food. Most of these are for selling oleomargarin under the guise of butter.

Dr. George S. Mintzer, resident-surgeon at the Medico-Chirurgical Hospital, has been appointed surgeon in the United States Army. He has been ordered to report for duty at San Francisco and left, August 18.

A mild epidemic of typhoid fever has broken out in the northwestern section of the city, which has been attributed to drinking impure water. Many of the cases have been admitted to the German and St. Joseph's Hospitals.

The Children's Country Week Association during the past week despatched 350 more children to the surrounding country districts. Within the past three weeks this association has sent 4000 children to spend a few days at country homes.

The roof garden on the top of the Children's Hospital at Twenty-second and Walnut streets has proved of the greatest utility in keeping down the mortality of the hospital during the extreme hot spell which has been prevailing here for several weeks.

Saturday, August 11, was the hottest day that has ever been recorded for this month in Philadelphia. The maximum temperature was 100.06. The next day, Sunday, was the fourth hottest day ever recorded, and registered 99.2 at 3:50 p. m. These figures, it must be remembered, were those obtained on the fourth floor of the postoffice building. On the ground the heat was almost intolerable. On August 12, ten deaths were attributed to the heat.

A material increase in the mortality is noted for this week, the total number of deaths being 550, an increase of 98 over that of the previous week and an increase of 169 over the corresponding period of last year. The principal causes of death were: sunstroke, 56; apoplexy, 16; nephritis, 26; cholera infantum, 42; tuberculosis, 54; marasmus, 27; inflammation of stomach and intestines, 24; diphtheria, 64 cases, 10 deaths; scarlet fever, 22 cases, 1 death; typhoid fever, 77 cases, 8 deaths.

RHODE ISLAND.

An emergency hospital is to be established in Pawtucket under the charge of Dr. Francis M. Harrington. An option has been secured on a suitable house at 374 Main street and the promoters intend to have the hospital ready for use by September 1.

SOUTH DAKOTA.

Charges have been preferred by H. Kautzman, editor of the *Yankton Beacon Light*, against Dr. Ross, the superintendent of the state asylum for the insane at Yankton. The charges include official misconduct, selling of state property and drunkenness. It is believed that the fight is purely political, as the management of the asylum has been satisfactory.

TENNESSEE.

Dr. H. F. Ham has been selected by the county board of health to take charge of the Emergency Hospital, Memphis, vice Dr. McKay, suspended.

Erlanger Hospital, Chattanooga, is soon to have a modern operating-room. Dr. Henry Berlin has secured donations to the amount of about $1000 for this purpose, and the work will be undertaken at once.

Dr. Alexander B. Dancy, who has been taking a post-graduate course in New York, has returned to Jackson. He has had inflammatory rheumatism for two months and is unable to resume practice at present.

Dr. Benjamin B. Cates has been elected to fill the chair of surgery in the Tennessee Medical College, Knoxville. Dr. H. J. Kelso takes the chair of anatomy: Dr. S. R. Miller takes Dr. Kelso's old place as professor of clinical and operative surgery, while Dr. C. R. Zemph becomes professor of materia medica and therapeutics. The chair of obstetrics was united with that of gynecology under Dr. S. M. Miller. Those changes were necessitated by the recent death of Dr. John L. Howell.

TEXAS.

The cost of fighting smallpox in Galveston, from February till May was $2748.74. In his report to the Board of Health Dr. C. H. Wilkinson, health physician, states that 30 cases of smallpox were cared for in the camp, and 13 suspects were held in detention. The health department made 1410 out of the 2427 vaccinations reported, inspected 2053 premises, removed 10,184 dray loads of garbage and 1026 dead animals.

VIRGINIA.

Dr. Warren Jacobson, Richmond, has been appointed acting assistant-surgeon in the army and has been assigned to duty in China.

Eighty-nine candidates were successful in passing the recent examination before the state medical examining board at Lynchburg.

WASHINGTON.

Dr. W. C. Cox, Everett, has been appointed by Governor Rogers a member of the State Board of Medical Examiners, to succeed Dr. Van Zandt, of New Whateom.

The citizens of Spokane living near the proposed site of the Sisters of Providence Hospital are making the usual protest against the location of the hospital and threaten to bring injunction proceedings.

WEST VIRGINIA.

Forty new cases of smallpox were reported from the interior of Taylor County, and a general quarantine has been established.

WISCONSIN.

Dr. G. I. Hogue, who has been interne at the Milwaukee Hospital, has been appointed acting assistant-surgeon in the army, and will leave for San Francisco in a few days.

CANADA.

Dr. Harry J. Watson, Ottawa—Trinity, 1896—has been appointed a surgeon in the United States Army for service in China.

Dr. James Third, superintendent of the General Hospital, Kingston, Ont., has resigned that position. It is understood that Dr. Herald, of the same city, is likely to be appointed his successor.

Dr. A. D. Stewart, late of the house staff of the Toronto

General Hospital, has been appointed surgeon of the C. P. R.'s palace steamer Empress of Japan, plying between Vancouver and Yokohoma. He took charge August 20.

Dr. Gordon Bell, secretary of the Board of Health of Manitoba, is investigating outbreaks of typhoid fever in Winnipeg and other places throughout that province. On the completion of his inspection, a pamphlet will be issued on the subject.

The Board of Health of Woodstock, Ont., has decided to compel bakers to give up the present bread system of giving small tickets to their customers, as they consider the distribution of these around to different houses is liable to spread disease.

Dr. J. N. E. Brown, Dawson City, for several years secretary of the Ontario Medical Association, who went to the Yukon two years ago as secretary to Governor Ogilvie, has been promoted to the position of secretary of the Yukon Territory.

Dr. A. C. Sinclair, Rossland, B. C., local Dominion Health Inspector, reports that there have been no fresh cases of smallpox in Rossland or Nelson since he assumed charge of the maintenance of quarantine, May 1.

The nurses who were sent by the Victorian Order of Nurses to Dawson City two years ago, and who did such heroic work, have been withdrawn, because the improvement in the conditions of life has rendered their further presence unnecessary.

The chief of the Dominion Health Department, Dr. Montizambert, Ottawa, is on his way to Dawson City to investigate smallpox there and to take action to prevent the spread of the disease. He will also determine whether it is expedient to raise the quarantine.

THE CANADIAN RED CROSS COMMISSIONER TO SOUTH AFRICA.

Dr. George Stirling Ryerson, founder of the Canadian Red Cross Association, has returned to his home in Toronto, and in an interview accorded the daily press gives some very interesting opinions regarding hospital work in that country during the progress of the war. One of the interesting statements made by him is to the effect that Lady Roberts' hospital for sick and wounded soldiers at Bloemfontein is almost entirely fitted out with supplies furnished by Westmount—a suburb of Montreal—contributors. He considers the insinuations of Mr. Treves in regard to "the plague of women" as ungracious and uncalled for, as he is loud in his admiration for the good work performed by Lady Roberts, her daughters, and other English ladies of wealth and station. Shortly after Dr. Ryerson's arrival in South Africa, where he went as Canadian Commissioner of the Red Cross Association, he was appointed British Commissioner at Lord Roberts' headquarters. Here he had abundance of opportunity of observing in every direction. At Bloemfontein there were sometimes five thousand sick at one time; fifty-three deaths occurred there in one day, and altogether there occurred there 1900 deaths in six weeks. Being interrogated as to what foundation existed for Mr. Burdett-Coutts' charges, he declared that these accusations were substantially incorrect. He had never made any complaint to Dr. Ryerson while in South Africa, although he knew that the Canadian Commissioner had a large amount of money and stores at his disposal. When one considers the difficulties that had to be surmounted, Dr. Ryerson states that the hospital arrangements could not have been more admirable. Rudyard Kipling he also scores. As a Canadian he is very proud of the laurels won by his countrymen in South Africa.

STATE OF HEALTH IN THE YUKON DISTRICT.

The report of the Medical Health Officer of the Dawson district, dated June 23, refers to the state of health in the Yukon at that time. Dr. J. W. Good states there is no typhoid, no diphtheria, no smallpox—five cases since reported—and no dysentery. This condition of affairs is very gratifying and is said to be due largely to the fact that Dawson has now a good supply of drinking water. At the date mentioned, the number of pay patients in the Good Samaritan Hospital was 11; number of non-paying, 12; total, 23. The number of pay patients in St. Mary's Hospital was 4; non-paying patients, 14; total, 18. The system of having all non-paying patients make declaration as to the state of their finances, certified to by a friend, before their admittance into either of the hospitals is said to work with great smoothness. During the time the smallpox was prevalent in different portions of the United States and Canada, the medical health officer urged the board of health to be prepared for an outbreak of the disease by laying in a quantity of vaccin, as vaccination had not as yet been performed to any extent in that district. The vendors of diseased meats, rotten eggs, and unsuitable foods of all kinds have been watched very closely during the past year, and prosecutions along these lines have resulted in much good in this direction. It is stated that the water supplied by the new company is of a good quality, and the source of the water-supply is believed to be good. Improvements have been made in the way of drainage, and obstructions of various kinds have been removed from the streets.. The question has arisen as to what shall be done with a few patients in the hospitals at municipal expense who will never recover their health and strength in Dawson. The health officer advises, to save these from becoming a chronic burden on the community, that they be especially examined, and then all of them shipped out simultaneously in charge of an intelligent nurse. From an economical standpoint this would pay Dawson City.

THE ONTARIO MEDICAL LIBRARY ASSOCIATION.

The thirteenth annual meeting of this association was held in the library rooms on June 28, the president, Dr. J. F. W. Ross, in the chair. The secretary, treasurer and curator read encouraging reports, showing that substantial progress was being made, and that the library was of very great value and usefulness. The president is of the opinion that next year the provincial government will apportion a grant for the benefit of the association. The by-laws and catalogues of the association are now in the printer's hands, and in the course of a short time will be sent out to members of the profession in Ontario. Dr. N. A. Powell, as curator, reported that 161 new volumes and three cases still unopened had been added to the library during the past year. Dr. Powell is a member of the American Association of Librarians and is enabled to secure duplicates from other libraries in exchange. At a meeting of the board of directors, held on July 4, Dr. Ross was re-elected president; Dr. R. A. Reeve, first vice-president; Dr. A. A. Macdonald, second vice-president; Dr. G. H. Carveth, third vice-president; Dr. H. J. Hamilton, secretary; Dr. H. A. Bruce, treasurer; Dr. N. A. Powell, curator, and Dr. W. J. Wilson, assistant curator.

ASSOCIATION OF EXECUTIVE HEALTH OFFICERS.

The fifteenth annual meeting of this association met in Kingston, Ont., on August 14 and 15. In the absence of the president at the opening of the session, Dr. T. V. Hutchinson, London, Dr. William Oldright, Toronto, took the chair. Mayor Minnes delivered an address of welcome. Mr. A. McGill, B.A., assistant analyst of the Department of Inland Revenue, Ottawa, read the first paper. The subject was the "Effects of Food Preservatives on Public Health," and the essayist took the stand that the use of chemicals to destroy the germs in milk was dangerous to human life. Dr. Sheard, Toronto, stated that he had had several cases come under his notice where persons, especially young children, were poisoned by the re-freezing of ice-cream. Dr. Bryce thought that the importance of cleanliness in the dairy had not made the advances it should have in the last twenty-five years. Dr. Sheard read a paper on his experience in recent vaccination work. In the evening the delegates enjoyed a moonlight excursion among the Thousand Islands, given in their honor. On the meeting assembling on the second day, Dr. Cassidy, of Toronto, read an interesting paper on tuberculosis and means for its cure. The president, Dr. Hutchinson, of London, delivered the annual address. It dwelt with the sanitary progress of the century. The education problem was the subject of a well-prepared paper by Dr. Bryce, as viewed from a public health standpoint. Dr. E. E. Kitchen, St. George, delivered an address on "The Sanitary Needs of Cheese Factories and Creameries." Dr. Herald gave a brief outline of the sewer system of Kingston. Dr. Bryce read a paper by Mr. Willis Chipman, C.E., Toronto, on "Septic Tank Method of Sewage Precipitation." Dr. W. T. Connell, pathologist to Queen's University, contributed a paper on "Vitality of Typhoid and Diphtheria Bacilli in Milk." A paper on the use of antitoxin in the Toronto Contagious Disease Hospital, prepared by Professor Shuttleworth, was read by the secretary. A motion to establish laboratories at London and Kingston was carried unanimously. Dr. W. T. Connell was elected president, and Brantford was chosen as the next place of meeting.

LONDON LETTER.

The British Medical Association.

(Continued.)

PROBLEMS IN RURAL SANITATION.

Dr. John C. Thresh, president of the Section of State Medicine, in his introductory remarks, said that one of the most interesting problems which has engaged the attention of scientists during recent years is that of the period for which man will continue to live on this earth. The effect of overpopulation is well exemplified in the periodic famines generally associated with pestilence, which affect wide areas and millions of people in India and China, countries in which the population has attained its maximum density.

The purely rural population is slowly decreasing and the urban population rapidly increasing; therefore, year by year the feeding problem becomes more serious. Land is going out of cultivation and decreasing in value, yet it is often impossible to obtain a small quantity to effect sanitary improvements. In most of our towns every house is efficiently drained and abundantly supplied with pure water, in the rural districts, nuisances from the improper disposal of filth abound on every side, and the water-supplies too often are unsatisfactory in both quantity and quality.

One of the greatest problems of the age is how to bring back the people to the land. One of the chief requirements for restoring prosperity to our rural districts is increased facilities for acquiring small areas of land for sanitary improvement. With a sufficiency of land adjoining or near each house, the necessity for sewers would be avoided in most of our rural districts. The supply of water to our cottages is another important problem. Sanitary authorities are averse not only to the expenditure necessary to provide a public supply of water, but also to causing landlords to provide such a supply.

A vitally important requirement is decent cottages for our rural laborers. Many acts of parliament have been passed, having for their object the better housing of the working classes. Those who drafted these acts worked on the erroneous assumption that unless carefully restrained, sanitary authorities would be infected with a mania for building. Consequently, the utility of these laws has been practically nullified in the rural districts. What is needed is an act which will encourage sanitary authorities to build and will offer them every possible facility to provide decent accommodation for the laborer with the least possible trouble and at the lowest possible cost.

TREATMENT OF THE WOUNDED AT SEA.

Inspector-General Belgrave Ninnis, M. D., R. N., in the opening address of the Section of the Navy, Army and Ambulance, spoke of the means at the disposal of the naval medical officer for the treatment of the injured on board a man-of-war, more especially during an action.

The essentials of a fighting ship comprise the maximum of offensive and defensive armament combined with capability of rapid motion and a steady platform. Light and fresh air are especially necessary to the sick, but these can be obtained in sufficient quantity only above the water line where the sick and injured would be exposed to danger during an action. For these reasons the naval medical officer must not be judged by the ordinary standard, as he is obliged to work under great disadvantages. He must depend entirely on himself, and history has shown that zeal and resourcefulness are notable characteristics of the naval branch of the profession.

It is intended in the future to supplement fleets in war times with floating hospitals, having modern fittings and appliances. During action these ships would keep out of range, but would collect the wounded when the battle was over, and as they sailed under the regulations of the Geneva Convention would be free from molestation or capture.

ADDRESS IN OBSTETRICS.

The address in Obstetrics was delivered by Dr. W. J. Smyly, vice-president of the Royal College of Physicians in Ireland. He said that though some knowledge of midwifery had existed since the earliest times, scientific midwifery commenced with Ambrose Paré, in the sixteenth century. In the first half of the present century the mortality of childbed, especially in hospitals, was probably greater than in any other period of the world's history. Toward the close of the seventies, however, an improvement suddenly took place. In the Paris Maternity, for example, the mortality dropped in one year from 8 to 4 per cent. and in 1881 to 1 per cent., and has since improved. Semmelweis showed that the heavy puerperal mortality at the Vienna Hospital was due to infection from the fingers of students engaged in post-mortem examinations. But his discovery fell on deaf ears and he fretted himself into insanity. With a little more patience he might have discovered that the seed he had sown was slowly bearing fruit. Michaelis and Lange adopted his views with success. Simpson warmly advocated them in England. The wonderful discoveries of Pasteur, published two years before the death of Semmelweis, confirmed his views and placed them on a scientific basis. Lister completed the work by his discovery of antisepsis. But it was not until 1870 that antiseptic principles were applied to obstetrics and practically banished puerperal fever from the hospitals. At first the Listerian method was closely followed, but it was too cumbrous for general practice. The spray was replaced by the douche, and the uterus was washed out after every labor. This process reached its climax when permanent instillation was introduced by Schücking. Soon serious accidents and even deaths from injection of antiseptic fluids and air into the veins began to multiply. Döderlein then showed that douches acted injuriously by removing natural secretions, which had in themselves antiseptic properties. Consequently, at the Leipzig Hospital, prophylactic douching was abolished and the mortality fell 10 per cent. The fact taught by Semmelweis and Sir J. Simpson, that infection is carried chiefly by the hands, shows the importance of attending to this detail. "No handling, no septic infection," was not far from true. Leopold has proved that patients delivered without vaginal interference make a better convalescence than those who have been examined even with the most scrupulous antisepsis. Experience, therefore, proves—what bacteriological investigation leads us to expect—that aseptic hands can not be produced by any known process. Local interference should, therefore, be restricted within the narrowest possible bounds. The best method to insure this was to resort to diagnosis by external examination. Dr. Smyly's advocacy of this, which he considers the most important advance in modern midwifery, is the most valuable and practical point advanced in the whole meeting of the British Medical Association. In 1888 Credé wrote, "Even the simplest manipulation may cause infection . . . internal examination should be avoided altogether." By external examination the presentation and position of the fetus, whether the fetus be living, dying, or dead, and whether there are one or more children, whether labor has set in or not, and its course and progress, can all be ascertained. Pelvic deformity is suggested by pendulous abdomen and abnormal mobility and obliquity of the uterus, especially in primiparæ. It is an ominous sign to find the head above the brim after labor has commenced. In prolonged labors danger is indicated by thickening of the upper, and thinning of the lower, uterine segments, elevation of the contraction-ring and prominence of one or both round ligaments. External examination is equally useful in the third stage of labor, but not only is external examination safer than vaginal, but it is also more reliable. In the Rotunda Hospital, Dublin, where the students are obliged to write the results of their examinations, the speaker found that mistakes in diagnosis were much more frequent with vaginal than with external examinations. But there are two things which can be made out only by vaginal examination—the condition of the os and prolapse of the cord. If for any reason, such as inexperience or a very fat and rigid abdominal wall, external examination is unsatisfactory, the vaginal method becomes necessary.

PREVENTION OF INSANITY.

In the Section of Psychology, Dr. Percy Smith read a paper bearing this title. There were, in 1899, 105,086 lunatics in England, an increase of 3114 on the previous year, which was the largest increase recorded. There was also an increase in the ratio of the insane to the general population. Heredity was given as a cause in 20.4 per cent. of male, and in 25.9 per cent. of female patients, according to the figures of the Commissioners of Lunacy for 1893-1897. Next to heredity, alcohol was the most prominent cause, accounting for 22 per cent. of the male and 9.1 per cent. of the female cases. Simple drunkenness should render an individual liable to arrest, and it should be made penal to serve a habitual drunkard with liquor. As to general paralysis of the insane, the yearly average of cases was 13.1 per cent. of the male, and 2.8 per cent. of the female cases. The predominating influence of syphilis in its causation is now generally recognized. Syphilis should be made a notifiable disease—a course which would check its ravages and prevent general paralysis.

OCULAR HEADACHE.

Mr. W. A. Brailey (Guy's Hospital) read a paper on this subject. It is a general law that the greater the error of refraction, the less the effect on the head, because a great defect leads to abandonment of the effort of accommodation the patient seeing as best he can without it. Uncorrected presbyopia is a rare cause of headache, except just at its commencement. It might cause strain and burning, but not headache. Similarly great inequality of refraction gives comparatively little trouble, the worse eye being unused.

GASTRIC ULCER.

Dr. J. F. Payne (St. Thomas' Hospital) read a paper on this subject. He said that the condition was becoming increasingly prevalent. Statistics of the six quinquennial periods, 1870-1899, showed that the number of cases of gastric and duodenal ulcer admitted to St. Thomas' Hospital were respectively 30, 38, 70, 103, 174, and 216. This was parallel to the increase of other digestive diseases, e. g., appendicitis. Only one diagnostic sign had been added in the last thirty years—hyperacidity of the gastric juice. The peculiar pain was present in only a minority of cases, and in some, pain was entirely absent. As to hematemesis, he was surprised to find that out of 48 fatal cases, it had occurred in only 14, while in non-fatal cases it had been present in 95 per cent. His explanation was that many cases proved fatal by perforation, in which complication hemorrhage was known to be uncommon, while non-fatal cases were often sent to hospitals for that very symptom. As to the hyperacidity, he knew little about it, for it was not justifiable to pass a tube into a stomach, possibly the seat of ulceration. The main principle of treatment was to give rest to the stomach by rectal feeding. It was doubtful whether the rectum absorbed much food. Peptonized food was the most likely to be absorbed. He allowed a little warm water by the mouth, but not for the first twenty-four hours after hemorrhage. A danger of long-continued rectal feeding was syncope. Rectal feeding might safely be continued for sixteen days if water was given by the mouth, and for seven days if water was withheld.

CEPHALOTRIPSY OF THE AFTER-COMING HEAD.

Mr. J. H. Targett (London) said that this operation was hardly referred to in the text-books. It was, of course, only rarely required. He had performed it in one case in which no doubt Cesarian section would have been the better operation, but this was declined. The patient was a rickety dwarf, aged 29 years, and was near the end of the ninth month. Labor was induced by hydrostatic bags, after which a leg was brought down. Delay took place and it was decided to extract. The trunk was delivered, but the head remained in a position of flexion above the contracted brim. As no impression could be made on it, and as the funis had ceased to pulsate, craniotomy was performed. The suboccipital region was chosen as the most accessible. On applying the cephalotribe, the lower blade was in apposition with the face, but the upper could not be passed over the occiput, owing to lateral contraction of the pelvis and incomplete dilatation of the lower segment of the uterus. The result was that the end of the blade repeatedly caught in the edge of the perforation. The blade was, therefore, passed into the skull through the perforation and the base crushed in its anteroposterior diameter. The plan succeeded admirably. The cephalotribe was, he thought, best applied in the manner followed in this case, because subsequent experiments gave the same result.

Correspondence.

State University and Higher Medical Education.

St. Paul, Minn., July 31, 1900.

To the Editor:—In your editorial of July 21 you specifically mention Michigan, Minnesota and Iowa, and allege that by low fees and mediocre requirements for entrance and for graduation, university medical schools acquire larger classes than they can properly instruct, that their clinical material is insufficient, and inferentially they are obstructive to the advance of medical education. Michigan and Iowa will doubtless resent this attack and defend themselves.

Minnesota's fees are $100 per annum. There are none higher to my knowledge, excepting a small number of schools in our largest cities. Our entrance requirements are equaled by few and *excelled by none excepting* Harvard and Johns Hopkins' Universities and possibly the College of Physicians and Surgeons, New York. Our entrance examination is now equivalent to that required for admission to the academic department of the University of Minnesota. In two years' time it will be equivalent to a sophomore, and in three years time to a junior entrance in the academic department, The twin cities of Minneapolis and St. Paul, with a population near 400,000 and numerous hospitals of modern type, afford unlimited facilities for clinical instruction, while our laboratories are not surpassed in America.

Parks Ritchie,, M.D.
Dean, College of Medicine and Surgery, University Minnesota.

[Dr. Ritchie evidently did not read very carefully the editorial referred to. The reference to the three universities named was certainly complimentary rather than otherwise. The main point of the editorial is not touched on, viz., that the medical departments of state universities have not taken the lead in the movement for higher medical education. There was no intention to reflect on the medical departments of the Universities of Michigan, Iowa or Minnesota, as each of these is recognized as being in the front rank of medical educational institutions.—Ed.]

Castor-Oil in Neuralgia.

Ashton, R. I., Aug. 13, 1900.

To the Editor:—As touching the treatment of facial neuralgia by castor-oil, your correspondent, Dr. W. S. Caldwell, in his "Rambling Notes of a Roving Doctor," in The Journal of August 11, page 368, says the theory entertained in the Allgemienes Krankenhaus, Vienna, is that the beneficial effects of this mode of treatment result from the elimination of toxins, which, absorbed into the circulation, produce this disease.

About a month ago a young woman appealed piteously to me for relief from supraorbital neuralgia, from which she suffered excruciating agony. She had been treated with various remedies by her brother, who is a physician in good practice, without benefit. On the advice of a young hospital surgeon the brother intended to have the supraorbital nerve resected, but deferred the operation until after his return from Europe, where he had gone, and was expected back in three weeks.

I prescribed castor-oil to be taken two or three times a week, from which she obtained immediate relief, continuing to the present. She still takes the castor-oil at less frequent intervals. Strange to say the oil does not purge her, which would seem to indicate that the remedy, in this case at least, exerts a beneficial influence apart from its cathartic effect.

N. O'D. Parks, M.D.

Not a Case of Death from Nitrous Oxld.

In the symposium on anesthetics presented before the New York County Medical Association last Spring—see The

Journal, vol. xxxiv, pp. 705-712—reference was made to a fatal case from nitrous oxid, reported in Philadelphia. The case occurred in the practice of Dr. John D. Thomas, who sends the following letter to correct the erroneous impression that death was caused by the nitrous oxid.

New York City, Aug. 18, 1900.

To the Editor:—This was not a case of death under nitrous oxid. A personal friend of mine had taken the gas on three previous occasions, and there was no apparent indication that he should not take it again. The gas was given and the right upper second and third molars were extracted. His recovery was complete in the usual time, and he rinsed his mouth with a tumbler of water while sitting in the chair. I had gone to my desk in another part of the room, and he arose from the chair and walked to the washstand, ten feet away. He filled the glass and returned to the cuspidor beside the chair and continued rinsing the mouth while standing. He conversed with me in the meantime. This, he repeated until he had used three glasses of water, occupying at least twenty-five minutes, after which he stood before the mirror, and with his right hand drew back his lips and endeavored to see where the teeth had been taken from. As he removed his hand he looked at it and said: "That hand feels numb." He looked a little pale, and as my first thought was that looking at the wounds had made him feel faint, I directed him to lie down on the couch while I proceeded to get him some brandy, and then I realized that his speech was thick and indistinct. Physicians were immediately summoned, and everything was done to save him, but he died about four hours afterward. The coroner's jury gave a verdict of death from apoplexy, and that the gas was not the cause of it, in accordance with the medical testimony given there.

The gentleman was certainly in such a physical condition that any exciting cause might have produced the same effect, and his taking the gas was but an incident leading to that effect." Yours respectfully,

John D. Thomas, M.D.

Deaths and Obituaries.

William J. Musgrove, M.D., was found drowned in the river at Hudson, Wis., August 11. He was graduated from McGill University, Montreal, in 1882, had practiced for several years at Drayton, N. D., and since 1892 at Grafton, N. D. He was Vice-President of the State Board of Health, and of the State Medical Society. He had been out of health and despondent for some time, and it is supposed that he committed suicide.

David W. Conaughy, Latrobe, Pa., died August 10, after a long illness, from asthma complicated by the extreme heat, at the age of 72 years. He was a graduate of Jefferson Medical College, Philadelphia, of the class of 1858; a member of the American Medical Association, State Medical Association, etc. He was highly esteemed and was intimately associated with all plans for the growth and betterment of Latrobe.

William J. Elstun, M.D., formerly of Indianapolis, died at Washington, D. C., August 10, at the age of 62 years. He was a graduate of Bellevue Hospital Medical College in 1866, served as a physician at the Central Hospital for the Insane, Indianapolis, and was appointed special medical examiner in the pension department by President Harrison.

Henry S. Hurd, M.D., died August 11, at the home of his son, Dr. Henry M. Hurd, superintendent of Johns Hopkins University Hospital. Another son is Dr. Arthur W. Hurd, superintendent Buffalo State Hospital for Insane. The deceased was born in Roxbury, Conn., in 1815, and had practiced in Galesburg, Ill., from 1854 up to three years ago.

Elam L. Stewart, M. D., died at Carmi, Ill., August 11, aged 76 years. He was a graduate of Jefferson Medical College, Philadelphia, of the class of 1860; served during the Civil War as surgeon of the 87th Illinois Regiment, and was the first mayor of his native town, Carmi.

George W. Livesay, M.D., died at Ironton, Ohio, August 5, aged 75 years. He was born in West Virginia, took his academic course in the University of Virginia and Columbia College, N. Y., and was graduated in medicine from the University of Pennsylvania in 1848.

Edwin Evans, M.D., died at Rome, N. Y., August 16, aged 56 years. He was graduated from the College of Physicians and Surgeons, New York, in 1870, and was a member of the visiting board of the Oneida County Hospital.

Edgar A. Grafton, M.D., Montreal, P. Q., was drowned while bathing in the St. Lawrence river at Berthier, P. Q., July 29. He was 33 years of age and a graduate of McGill University, Montreal, of the class of 1891.

Fred W. Meyer, M.D., died recently at Aguas Calientes, Mexico, of typhoid fever. He was a graduate of the College of Physicians and Surgeons, Chicago, 1899. He was buried at his former home, Montezuma, Ia.

John L. Ancrum, M.D., Abbeville, S. C., died at Rossdhu, August 6. He was graduated from the Medical College of the State of South Carolina, Charleston, in 1860, and retired from practice a few years ago.

Charles W. Parsons, M.D., Louisville, Ky., dropped dead from heat exhaustion, August 18. He was a graduate of the medical department of Washington University, St. Louis, of the class of 1857.

Albert Paul Ruedi, M.D., Forest Hill, Cal., committed suicide by shooting himself through the heart, August 6. He was 56 years of age, and had had a hemorrhage from the lungs a few days before.

Thomas H. B. Brown, M.D., died suddenly at his home in Bridgewater, Va., August 13, at the age of 65 years. He was graduated from Jefferson Medical College, Philadelphia, in 1859.

John F. Kincheloe, M.D., Conway, Ark., died August 5, after a long illness. He was a graduate of the medical department of the University of Nashville, Tenn., of the class of 1871.

William B. Winston, M.D., of Memphis, Tenn., died August 12, from gastric cancer. He was a graduate of the medical department of the University of Nashville, 1861.

Theodore C. Laverty, M.D., of Middletown, Pa., died at that place on August 15. He was a graduate of the Jefferson Medical College, class of 1854.

Henry J. Costello, M.D., a resident of Philadelphia, died on August 13. He was a graduate of the Jefferson Medical College, 1895.

Julius C. Rappold, M.D., Brooklyn, N. Y., died August 3. He was a graduate of New York University of the class of 1861.

DEATHS ABROAD.

Sir William Stokes, surgeon-in-ordinary to the queen and consulting surgeon to the British forces in South Africa, died at Durban, Natal, August 19, at the age of 61 years. He was the son of Dr. William Stokes, regius professor, Trinity College, Dublin. In 1861 he was awarded the gold medal of the Pathological Society, and in 1864 he was made surgeon to the Meath Hospital. He was examiner in surgery in Queen's University, and had been president of the Pathological Society, the Irish Graduates' Association, and the Royal College of Surgeons. He was a member of numerous medical societies and an extremely prolific contributor to the literature.

Dr. Girard, of Puy de Dome, at the age of 71 years, who was a member of the Chamber of Deputies for several years, and had served in the Riom city council and as mayor from 1863 till 1893.

Dr. Quintaa at Poret, his native town, at the age of 57 years. He was a republican senator from the Basses-Pyrénées, and had represented his province in the national legislature for eleven years.

John Stuart Stevenson, M.R.C.S. Eng., L.R.C.P. Lond., Captain Indian Medical Service, died from heat apoplexy at Lucknow, India, July 20, at the age of 28 years.

Dr. Franz Michl, professor extraordinary of surgery at Prague.

Dr. E. LeGall, who co-operated with Berillon to found the "Institut Psycho-Physiologique" in 1890, has committed suicide. He was a chevalier of the Legion of Honor, 52 years of age and universally respected, but was financially unsuccessful, lived alone and in poverty.

Societies.

Coming Meetings.

American Academy of Railway Surgeons, St. Paul, Minn., Sept. 5-6.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 2-5.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 9-11.

Vermont State Medical Society, Rutland, Oct. 11-12.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The Delaware County (Pa.) Medical Society held a meeting in Chester, August 9, at which Dr. Thomas C. Stellwagen, Jr., of Media, read a paper on "Blood Examinations."

The Medical and Surgical Society of Southwestern Illinois convened in Jerseyville, August 3. Dr. Edward L. H. Barry read a paper on "Pneumonia." Dr. Carl Black, Jacksonville, also read a paper.

The Jackson County (Ind.) Medical Society met at Seymour, August 8. Dr. J. K. Ritter read a paper on "Medical and Surgical Diseases of the Rectum," which was followed by a general discussion.

The Breckenridge County (Ky.) Medical Society was organized early in August, at Hardinsburg. Dr. R. T. Dempster, Glendeane, was elected president, and Dr. Milton Board, Jr., Hardinsburg, secretary. Smallpox was the subject discussed at the initial meeting.

The Madison County (Ala.) Medical Society held its regular meeting at "Doctors Home," Huntsville, President J. P. Burke, Meridianville, in the chair. The discussion of the day was on "Summer Diarrhea of Infants." Dr. B. E. Graham, Gurley, presented a paper on this subject.

The Williams County (Ohio) Medical Association was organized at Montpelier, August 9, and will hold monthly meetings. Officers elected are: Dr. H. W. Wertz, Montpelier, president; Dr. T. E. Schrider, Bryan, vice-president; Dr. Warren L. Hogue, Montpelier, secretary, and Dr. L. A. Beard, Pioneer, treasurer.

The Jo Daviess County (Ill.) Medical Society met in Galena, July 25, for its second annual session. After a short business session, the society adjourned to the Grant Hotel, where it was entertained by the president, Dr. H. T. Godfrey.

The Muskingum County (Ohio) Medical Society met at Zanesville, August 9. Dr. C. M. Lenhart read a paper on "Fracture of the Neck of the Femur in the Aged;" Dr. J. M. Fassig, a paper on "Whooping Cough," and Drs. E. C. Brush and E. C. Logsdon reported cases.

The Morgan County (Ill.) Medical Society convened for its regular monthly meeting at Jacksonville, August 9. Dr. Moffett read a paper on "Acute Miliary Tuberculosis." Miss Abbie Pierson, through the secretary, Dr. Carl E. Black, presented the society with some valuable books and manuscripts.

The Susquehanna County (Pa.) Medical Society met at Heart Lake, August 7, Dr. C. W. Caterson, Franklin Forks, presiding. The delegates to The American Medical Association made their reports, and several cases were reported and discussed.

The Wabash County (Ill.) Medical Society held its annual meeting in Mount Carmel, July 31, and elected the following officers: President, Dr. Norman Leeds, Bellmont; vice-president, Dr. Jacob Schenck; secretary, Dr. John B. Maxwell, and treasurer, Dr. George C. Kingsbury, all of Mount Carmel.

The Union Medical Association of Northeastern Ohio held its 116th quarterly session at Massillon, August 14, at which Dr. Joseph F. Hobson, Cleveland, read a paper on "Fractures of the Pelvis With Injuries of Its Contents," and Dr. E. O. Leberman, Akron, read one on "Treatment of Certain Skin Diseases."

The Fairfax (Va.) Medical Society, at its annual meeting, August 7, elected the following officers: President, Dr. T. M. Lynch, Annandale; vice-president, Dr. James T. Jones, Ashburn; secretary, Dr. George B. Fadeley, Falls Church; treasurer, Dr. Edwin L. Detwiler, Herndon, and corresponding secretary, Dr. Frederick M. Brooks, Swetnam.

The Keokuk County (Iowa) Medical Society met at Sigourney, August 8. Papers were read by Miss M. Sherlock, on "Trained Nurses;" Dr. L. B. Oliver, on "Prostatic Enlargement;" Dr. J. C. Williams, on "Smallpox;" and Dr. C. J. Lukens, Oskaloosa, on "Simple Eye Diseases Encountered by the General Practitioner."

The Muscatine County (Iowa) Medical Society met, August 9, at Wilton for its regular quarterly session, Dr. Henry Munson Dean, Muscatine, in the chair. Papers were read by Dr. George Morgridge, Muscatine, on "Inflammation" and by Dr. H. Johnson Dean, Muscatine, on "Injuries of the Cornea," and several interesting cases were reported.

The Washington County (Pa.) Medical Society met at Washington, August 14, President Dr. J. B. Irwin, Washington, in the chair. The subject for discussion was "Diarrheal Affections of Summer," and papers were read by Dr. W. V. Riddle, Burgettstown; O. P. Dearth, Washington; W. H. Alexander, Canonsburg; F. C. Stahlman, Zollarsville, and N. S. Veatch, California.

The Chambers County (Ala.) Medical Society held a meeting, July 26, at Lafayette. Hon. A. J. Driver, Jr., delivered an address on "Chambers County and Her Medical Profession," and State Health Officer Dr. W. H. Sanders, Montgomery, an address on "Importance and Duties of County Health Officers." Dr. W. H. Hudson read a paper on "Appendicitis," and Dr. W. D. Gaines one on "Typhoid Fever."

The Fort Dodge (Iowa) District Medical Society met in Webster City, August 14. Papers were read by Dr. A. G. Shillito, Independence, on "Appendicitis;" Dr. C. W. Rummel, Webster City, on "Exophthalmic Goiter;" Dr. Matthew D. Mann, Buffalo, N. Y., on "Some Common Mistakes in Gynecological Practice;" Dr. A. M. Pond, Webster City, on "Drainage;" Dr. C. H. Churchill, Fort Dodge, on "Two Surgical Cases," and Dr. G. A. Geist, Stanhope, on "Hypnotism and Applied Therapeutics."

The Cayuga County (N. Y.) Medical Society met in Auburn, August 8. The committee reported on "Public Danger from Distribution of Samples of Poisonous Medicine in Advertising." Papers were read by Dr. George Slocum, Genoa, on "Observations of the Scarlet Fever Epidemic of Spring of 1900;" Dr. Charles L. Lang, Meridian, on "Pine Bluff, N. C., as a Health Resort," and Dr. B. C. Loveland, Syracuse, on "Treatment or Care of Functional Nervous Disease." Dr. Amelia W. Gilmore, Auburn, made an appeal for a public medical library, and Prof. James Law, of Cornell University, delivered an address on "Rabies and Hydrophobia."

The Medical Section of the National Fraternal Congress will meet in Boston, August 27. The program includes the address of the president, Dr. R. E. Moss; committee reports by Drs. Moss, Millman and McCollom on "Height and Weight," and by Drs. McCollom, Moss and Grosvenor on "Mortality from Cancer and Consumption;" also papers by Dr. J. Millman on "Result of Correspondence With Medical Examiners;" Dr., E. Francis Morrill, on "Appendicitis from an Insurance Standpoint;" Dr. A. H. Warner, on "How We May Secure Better Medical Examinations": Dr. J. O. Davis, on "The Local Examiner and His Responsibility," and Dr. Mary Danforth, on "Female Risks."

Colorado State Medical Society.

Thirteenth Annual Convention, Denver, June 19-21, 1900.

(Continued from page 449.)

SYPHILIS. MODES OF INFECTION.

Dr. E. P. **Hershey**, in opening the symposium on syphilis, said that it is astonishing that this loathsome disease does not spread more among the innocent than it does, through the carelessness displayed by those who are afflicted. Syringes, money, cigar-cutters, lead pencils, soap, towels, and drinking cups have all been responsible for the inoculation of the innocent. It is the duty of every physician to warn his patient not to trust too implicitly in the purity of his neighbor.

PROBLEMS OF DIAGNOSIS OF INITIAL SYPHILITIC LESIONS.

Dr. W. B. **Davis** said that the differential diagnosis is to be made from chancroid, herpes progenitalis, gumma, epithelioma and lupus vulgaris. Between chancre and chancroid, differentiation is not always satisfactory, even after careful consideration of established points of contrast; and a degree of uncertainty will continue to linger until the bacillus—or whatever it is—of syphilis is discovered. The diagnosis, therefore, should always be given guardedly.

BACTERIOLOGY OF SYPHILIS.

Dr. W. C. **Mitchell** reviewed the literature on the subject, and came to the conclusion that the question is as far from solution as possible. One of the principal difficulties in the way seems to be the fact that animals are not susceptible to syphilitic virus, thus limiting the experimentation on this subject. He said that almost nothing of importance had been added to the rules formulated by Fernelius some 400 years ago, namely, 1, that the syphilitic virus first infects one portion of the body and then spreads through the entire organism; 2, all the tissues and fluids are finally drenched with the syphilitic poison; 3, that the tissues and fluids are the vehicles of the contagion; 4, that the infection occurs only by direct contact on a portion of the mucous membrane or skin denuded of its epithelium; 5, that syphilis dating from birth has had its origin in the parents; 6, that syphilis may remain latent in the system; 7, that a person suffering from syphilis can not receive a fresh infection.

CUTANEOUS MANIFESTATIONS OF SYPHILIS.

Dr. J. M. **Blaine** does not attach much importance to the color of syphilitic eruptions. An albino would show a pink lesion, while a negro would present a black one, and the various shades of color would represent the colors of the rainbow. The sensation of burning, stinging, itching and pain so common in most dermatoses are, in almost all cases of syphilis, entirely absent. The earliest skin eruption in secondaries is the erythematous. There is enlargement of the post-cervical and epitrochlear and other glands. The papular syphilid makes its appearance usually about two months after the chancre. It may be mistaken for lichen planus, but the latter shows a tendency to grouping and is rarely found on the palms and soles. There is no condition likely to be mistaken for pustular syphilid unless it is on the face, chest and back, in which case one might think of acne vulgaris. Acne comes about the age of puberty, and is always associated with comedones. Pigmentary syphilid is not influenced by syphilitic treatment; it disappears of its own accord. Papulo-squamous syphilid may closely resemble lupus erythematosus and psoriasis. Lupus is a disease of slow progress, and occurs about the nose and cheek; the syphilid occurs on the face. Psoriasis when removed shows a bleeding surface, and decided preference for extensor surfaces, and soon develops into larger, scaly patches. There is no other condition for which tubercular syphilid could be mistaken if the central cicatrix is carefully observed.

SYPHILIS OF THE BRAIN.

Dr. J. T. **Eskridge** in discussing this subject said that acquired syphilis of the brain is found nearly three times more frequently in the male than in the female. The proportion of syphilitics manifesting brain symptoms is between .5 and 1.5 per cent. The time between the primary lesion and the appearance of brain symptoms is variable and indefinite. There are the so-called precocious cases in which the brain symptoms appear within the first year of the infection. He has seen a young man with syphilitic derangement of the cerebral arteries, who was stricken down with apoplexy three months after the initial lesion. At no time can it be asserted that the danger of brain lesion is passed. Chronic alcoholism renders the brain vulnerable to the poison of syphilis. Only the specific lesions, those that occur as a direct result of the poison of syphilis, are especially amenable to antisyphilitic treatment, while the numerous injuries caused by the presence of specific lesions, or the degeneration resulting from toxemic or other blood states which may result from syphilis, are in no way specific in character, and respond tardily to antisyphilitic treatment, as do the lesions resulting from causes wholly unassociated with syphilis. Gummata vary in size from a line to several inches in diameter, the tendency being to degenerate, and they may be single or multiple. If appropriate treatment is instituted early, before caseous fibroid degeneration takes place, the whole morbid process may be removed and a cure, so far as local brain trouble is concerned, may be complete. He has not met with a case of venous hemorrhage due to syphilitic degeneration of the vessel.

One of the marked features of syphilis of the nervous system is the irregularity and multiplicity of the symptoms. Headache is a prominent one, as is also insomnia, or when pressure is present, somnolence. Jacksonian epilepsy or mental defect is present, according to the site of the lesion.

It is a common occurrence that in a few hours, or a day or more after the development of pronounced paralysis in syphilitic subjects, the limbs may in some cases begin to move at will and soon regain partial or complete power of motion. There are three possible explanations for this phenomenon which is not found in hemorrhage, thrombus or embolism: 1. A small vessel has been occluded, though on account of the disease of numerous other vessels, the shock has been so great that immediate and almost complete paralysis has resulted, but as soon as there is recovery from the shock, collateral circulation is established. 2. The occluded vessel may supply an area just without the motor region, but owing to the crippled state of the general circulatory brain apparatus, function is temporarily lost in the adjacent or motor area. 3. The collateral vessels to the affected area are diseased but their calibers are not occluded. The beginning of mental failure is represented by a group of symptoms—dizziness, absent-mindedness, forgetfulness and loss of ambition. At first the patient takes an interest in himself, but as the trouble increases he is apt to become indifferent to his condition, and, if not treated will eventually have dementia. The treatment may be divided into prevention, general management, and antisyphilitic remedies. Active treatment from the outset is the most reliable prophylactic. Potassium iodid in 15-gr. doses three times a day gives the best results; and tonics should not be neglected.

There are numerous non-specific intracranial lesions resulting from specific causes which fail to yield to specific medication. It is pitiable to see a hemiplegic or dement whose helplessness has been caused by thrombotic occlusion of a vessel, indirectly due to syphilis that has been treated by mercury or potassium iodid for months. The profession must learn to treat syphilis of the brain according to the lesion from which the patient is suffering, and have some regard for the patient, notwithstanding that he is so unfortunate as to be the victim of syphilis.

OCULAR MANIFESTATIONS OF SYPHILIS.

Dr. **Edward Jackson** said that of all the cases of syphilis only 3 per cent. suffer from iritis. Iritis occurs as a tertiary lesion in connection with gumma of the iris, with interstitial keratitis, and without notable lesions of the cornea. Cataract occurs in syphilitics by mere coincidence, sometimes, however, as a result of extensive diseases of the uveal tract, on which the nutrition of the crystalline lens depends. The transparency of the vitreous suffers more frequently. Choroidal lesions are almost always present. Syphilitic retinochoroiditis comes on during the secondary period, optic neuritis and neuroretinitis are sometimes tertiary lesions. Tarsitis, dacryoadenitis and gumma of the orbit also occur; and 60 per cent. of palsies of the ocular muscles are due to syphilis.

(To be continued.)

Therapeutics.

Treatment of Headache.

Prof. J. C. Wilson, of Philadelphia, gives the following classification for the etiological causes of headache:

1. *Reflex Irritations.*—*a*, the eye; *b*, the nose; *c*, the teeth; *d*, the ear; *e*, the reproductive organs.
2. *Toxemia.*—*a*, infectious diseases; *b*, autointoxication; *c*, drugs—opium, alcohol, quinin; *d*, poisons—lead, tobacco, tea, coffee.
3. *Disturbance of Circulation.*—a, congestions; b, anemia; *c*, arterial changes.
4. *Neuroses.*—*a*, epilepsy; *b*, hysteria; *c*, neurasthenia.
5. *Organic Disease.*—*a*, syphilis; *b*, meningitis, etc.

Dr. F. Windscheid, of Leipsic, in an article on headaches, states that in no ailment must the causal indication be so closely adhered to as in headache. Consequently, in outlining the treatment of headache as given in the above classification it will not be possible to deal with each class.

As Dr. Collins states, the treatment of headache accompanying the infectious diseases can best be remedied by combating the cause. The treatment of those arising from drugs consists in the discontinuance of those preparations taken therapeutically—mineral or vegetable—proper care, when required by occupation to come in contact with the metals, such as lead, mercury, etc., and the promotion of the elimination of any poison which may be in the system. But, aside from these cases where the treatment is strictly etiological, there are a variety of idiopathic forms which require special treatment.

HEADACHE OF EYE-STRAIN.

℞. Ext. nucis vomicæ ....gr. viii |5
Ext. cascaræ sagradæ ....gr. xii |8
Ext. gentianæ ....gr. xxiv 1|50
M. Ft. capsulæ No. xxiv. Sig. One capsule every four hours.

℞. Ext. cimicifugæ fluidi ....℥i 32|
Syrupi simplicis, q. s. ad................℥iii 96|
M. Ft. mistura. Sig. One teaspoonful after each meal.

℞. Butyl-chloral-hydratis ....ʒi 4|
Aquæ cinnamomi ....℥ii 64|
M. Sig. One teaspoonful every four hours.

Butyl-chloral-hydrate—croton-chloral—is made by passing a current of chlorin through paraldehyde until saturated. It is soluble in thirty parts of water.

These preparations are indicated only when there are no organic changes in the eyes.

HEADACHE ACCOMPANYING THE MENOPAUSE.

℞. Sodii arsenatis ....gr. i |06
Ext. cannabis indicæ..................gr. iiss |15
Ext. belladonnæ ....gr. iv |25
M. Ft. pilulæ No. xv. Sig. One pill twice daily.

HEADACHE ARISING FROM OVARIAN TROUBLE.

℞. Ammonii bromidi ....ʒiii 12|
Ext. hydrastis fluidi ....ʒii 8|
Tinct. gentianæ comp...................℥iss 48|
Aquæ destil., q. s. ad....................℥iv 128|
M. Sig. One dessertspoonful in water three times a day.

Or,

℞. Ext. cimicifugæ fluidi......................℥ 32|
Sig. Twenty drops in water three times a day.

Cimicifuga is especially indicated in neuralgias or headaches of ovarian origin.

HEADACHE AFTER INFECTIOUS DISEASES.

℞. Pulveris opii
Zinci phosphidi, āā.... ....gr. ss |033
M. Ft. capsulæ No. xx. Sig. One capsule three times a day after meals. —*Collins.*

Or.

℞. Ferri et ammonii citratis............gr. xl 2|66
Liquoris potassii arsenitis............m. xl 2|66
Syrupi zingiberis ....℥ss 16|
Infusi calumbæ, q. s. ad..............℥iv 128|
M. Sig. Two teaspoonfuls after each meal in water.

For adults, Dr. Collins prefers liquoris ferri et ammonii acetatis—Basham's mixture—to the citrate.

HEADACHE OF ATONIC DYSPEPSIA WITH LITTLE FLATULENCY.

℞. Sodii arsenatis ....gr. i |06
Quininæ sulphatis
Ferri sulphatis, āā....................gr. xl 2|66
Pulveris rhei.
Pulveris zingiberis, āā................gr. xx 1|33
M. Ft. capsulæ No. xx. Sig. One capsule after each meal

HEADACHE ASSOCIATED WITH FLATULENCY.

℞. Sodii bicarbonatis
Bismuthi subgallati
Pulveris acaciæ, āā.......................ʒi 4|
Aquæ menthæ pip........................ʒii 8|
Aquæ destil., q. s. ad..................℥viii 256|
M. Sig. Shake. Two teaspoonfuls before each meal.

RHEUMATIC HEADACHE.

℞. Potassii iodidi
Sodii salicylatis, āā......................ʒii 8|
Vini pepsini, q. s. ad....................℥iii 96|
M. Sig. One teaspoonful three times a day after meals.

℞. Ext. colchici ....gr. v |33
Ext. digitalis ....gr. iv |25
Quininæ valerianatis ....gr. xxiv 1|50
M. Ft. capsulæ No. xv. Sig. One capsule four times a day.

℞. Chloralis hydratis
Camphoræ
Olei cajuputi, āā..........................℥i 32|
M. Sig. Apply locally for the relief of pain in rheumatic or neuralgic headache.

RHEUMATIC HEADACHE.

℞. Salipyrini ....ʒii 8|
Ft. pulveres No. xii. Sig. One powder three times a day.

Salipyrin is composed of antipyrin 42.3 parts and salicylic acid 57.7 parts, therefore it exerts the combined effects. It is soluble in 200 parts of cold water. Reliable authorities state that salipyrin does not produce the bad effects that follow the administration of other similar preparations.

HEADACHE OF GOUT WITH ANEMIA.

℞. Sodii salicylatis ....ʒiv 16|
Glycerini ....℥ii 64|
Olei gaultheriæ ....m. xx 1|33
Tinct. ferri chloridi ....ʒiv 16|
Acidi citrici ....gr. x |66
Liquoris ammonii acetatis, q. s. ad.....℥iv 128|
M. Sig. One dessertspoonful three times a day in water. —*Solis-Cohen.*

GOUTY HEADACHE WITH ANEMIA.

℞. Acidi salicylici
Ferri pyrophosphatis, āā..................ʒi 4|
Sodii phosphatis ....gr. xii |72
Aquæ destil., q. s. ad....................℥vi 192|
M. Sig. One tablespoonful in water.

—*Peabody.*

℞. Vini colchici seminis......................℥ss 16|
Potassii acetatis
Potassii iodidi
Tinct. cimicifugæ, āā......................ʒv 20|
Aquæ destil., q. s. ad....................℥iv 128|
M. Sig. One teaspoonful every four hours. —*Hare.*

In gouty headache colchicum can be employed with greater freedom, care being taken to keep the bowels freely open.

GOUTY HEADACHE.

℞. Sodii iodidi
Vini colchici, āā..........................ʒiii 12|
Ext. cimicifugæ fluidi
Tinct. guaiaci ammoniatæ
Ext. cocæ fluidi, āā......................ʒvi 24|
M. Sig. One teaspoonful after each meal, in water.

HEADACHE OF UREMIA ACCOMPANYING CHRONIC INTERSTITIAL NEPHRITIS.

℞. Potassii citratis.
Tinct. hyoscyami.
Spiritus ætheris nitrosi, āā..............ʒiv 16|
Infusi scoparii, q. s. ad....................℥iii 96.
M. Sig. One tablespoonful three times a day, in water. —*Collins.*

R. Potassii acetatis .... ʒvi 24|
Infusi digitalis .... ℥vi 192|
M. Sig. One tablespoonful in water every five or six hours.

This is indicated in headaches accompanying Bright's disease with low arterial tension. Remember that the effect of digitalis upon the heart and arterial system lasts for five or six hours.

BILIOUS HEADACHE.

℞. Tinct. nucis vomicæ.................... ℥ss 16|
Sig. One drop in water every ten minutes until twelve drops are taken. —*Ringer.*

R. Sodii phosphatis efferv.................... ℥ii 64|
Sig. One teaspoonful one hour before breakfast, in water.

PLETHORIC HEADACHE.

R. Tinct. ferri chloridi .... ʒii 8|
Acidi hydrochlorici diluti .... ʒss 2|
Tinct. cinnamomi
Syrupi simplicis, āā.................... ʒvi 24|
Aquæ cinnamomi, q. s. ad.................... ℥iii 96|
M. Sig. One teaspoonful one-half hour after eating, three times a day.

℞. Olei eucalypti .... ʒii 8|
Sig. Five drops every four hours as a preventive or during the attack.

Eucalyptus has been highly recommended in this form of headache where the coal-tar products have seemed deficient or non-indicated.

CONGESTIVE HEADACHE.

℞. Tinct. aconiti .... gtt. viii |4
Aquæ destil.................... ℥ii 64|
M. Sig. One teaspoonful every hour until headache is relieved.

℞. Ext. ergotæ fluidi .... ℥i 32|
Potassii bromidi .... ℥ii 8|
Elixiris simplicis, q. s. ad.................... ℥iii 96|
M. Sig. One teaspoonful in water three times a day.

R. Tinct. belladonnæ .... ℥ss 16|
Sig. Six drops every three hours in water. —*Ringer.*

SALINE DIURETIC IN PLETHORIC HEADACHE.

The following is recommended as a saline diuretic in plethoric headache:

℞. Potassii acetatis .... ʒii 8|
Potassii nitratis .... ʒi 4|
Spiritus juniperis comp.................... ʒx 40|
Aquæ menthæ pip., ad.................... ℥iv 128|
M. Sig. One teaspoonful twice daily, followed by an aperient at night.

HYSTERICAL HEADACHE.

R. Zinci valerianatis .... gr. xii |75
Ext. belladonnæ .... gr. iv |25
Ext. gentianæ .... gr. xxiv 1|50
M. Ft. capsulæ No. xii. Sig. One capsule three times a day.

℞. Tinct. valerianæ
Spiritus ætheris comp.
Spiritus lavendulæ comp., āā.................... ʒiii 12|
Tinct. hyoscyami .... ʒii 8|
Aquæ camphoræ, q. s. ad.................... ℥iv 128|
M. Sig. One tablespoonful three times a day.

℞. Tinct. valerianæ ammoniatæ
Spiritus ætheris comp., āā.................... ʒiii 12|
Aquæ camphoræ, q. s. ad.................... ℥ii 64|
M. Sig. One dessertspoonful twice or three times a day.

NEURALGIC HEADACHE.

Subjects of neuralgic headache are very anemic as a rule and require diet and rest.

For this form of headache the following prescriptions are recommended:

℞. Ferri sulphatis—exsiccated
Potassii carbonatis—exsiccated—āā .... ʒi 4|
Ext. nucis vomicæ.................... gr. viiss |5
Acidi arsenosi .... gr. i |06
M. Ft. capsulæ No. xxx. Sig. One capsule after each meal, three times a day.

℞. Tinct. nucis vomicæ.................... ʒiv 16|
Liquoris potassii arsenitis.................... ʒi 4|
Aquæ camphoræ, q. s. ad.................... ℥ii 64|
M. Sig. One teaspoonful after each meal, in water.

FOR THE PAIN IN NEURALGIC HEADACHE.

℞. Kryofin .... ʒi 4|
Ft. capsulæ No. x. Sig. One capsule every three or four hours until pain is relieved.

This preparation is closely allied to phenacetin and should be discontinued when the pain has stopped.

SICK HEADACHE.

R. Methylene blue
Pulv. myristicæ—nutmeg—āā.................... gr. xxx 2|
M. Ft. capsulæ No. xx. Sig. One capsule four times a day.

Very favorable reports have been published pertaining to the use of methylene blue in the treatment of headache. The nutmeg is used in combination with it on account of its stomachic qualities and its good effect on the bladder.

NERVOUS HEADACHE.

℞. Potassii bromidi .... ʒii 8|
Spiritus ammoniæ aromatici, q. s. ad.................... ℥i 32|
M. Sig. One-half teaspoonful every four hours, in water.

℞. Tinct. hyoscyami
Spiritus ammoniæ aromatici, āā.................... ℥ss 16|
Syrupi aurantii corticis.................... ℥i 32|
Aquæ menthæ pip.................... ℥ii 64|
M. Sig. One tablespoonful three times a day.

R. Camphoræ monobromatæ .... gr. xv 1|
Acetanilidi .... gr. xlv 3|
Caffeinæ citratæ .... gr. x |66
M. Ft. capsulæ No. xv. Sig. One capsule every four hours.

R. Antipyrini .... ʒi 4|
Potassii bromidi .... ʒiii 12|
Syrupi aurantii.................... ʒv 20|
Aquæ destil., q. s., ad.................... ℥ii 64|
M. Sig. One teaspoonful every three hours until relieved of the headache.

℞. Caffeinæ citrate .... gr. xv 1|
Ammonii carbonatis .... gr. xx 1|
Elixiris guaranæ, q. s. ad.................... ℥ii 64|
M. Sig. One dessertspoonful every hour until pain is relieved.

Guarana contains guaranin as the active principle, which is identical with caffein.

NEURASTHENIC HEADACHE.

R. Zinci valerianatis
Ferri sulphatis
Ext. rhei
Asafetidæ, āā .... gr. xviii 1|20
M. Ft. pilulæ No. xx. Sig. One pill three times a day.

R. Ferri lactatis .... ʒi 4|
Ferri citratis .... gr. v |33
Ext. nucis vomicæ.................... gr. x |66
Ext. gentianæ .... gr. xxv 1|50
M. Ft. pilulæ No. l. Sig. Two pills three times a day.

℞. Ferropyrini .... ʒii 8|
Ft. capsulæ No. xx. Sig. One capsule three times a day.

Ferropyrin is a compound of antipyrin 64 per cent., iron 12 per cent., and chlorin 24 per cent. It is soluble in five parts of water, and is indicated in headaches with anemia present.

R. Potassii bromidi .... ʒi 4|
Ft. chartulæ No. vi. Sig. One powder to be taken in seltzer water two or three times a day.

As a tonic in headache of neurasthenia, the following has been recommended:

R. Tinct. nucis vomicæ.................... ʒiv 16|
Tinct. cinchonæ comp.................... ℥i 32|
M. Sig. Fifteen or twenty drops in water after each meal.

R. Zinci phosphidi .... gr. iss |09
Ferri redacti .... gr. xxiv 1|50
Ext. nucis vomicæ.................... gr. vi |40
M. Ft. capsulæ No. xxiv. Sig. One capsule after each meal.

HEADACHE IN BRAIN SYPHILIS.

R. Tablets hydrarg. chlor. corros., āā....gr. 1-25 |0027
No. xv. Sig. One tablet hypodermically daily.

R. Potassii iodidi
Aquæ destil., āā........................℥i 32|

M. Sig. Ten drops after each meal, in water, and gradually increase to the limit of tolerance.

Sodium, ammonium or strontium iodid can be substituted for the potassium if necessary.

R. Pilulæ hydrarg. iodidi flavi, āā........gr. 1-5 |012
No. xxiv. Sig. One pill three times a day.

Medicolegal.

Damages Awarded for Fracture of Ribs.—The second appellate division of the Supreme Court of New York holds, in the case of Keiffert vs. the Nassau Electric Railroad Company, that $2,500 could not be considered an excessive award of damages for a fracture of three ribs, resulting in an adhesion which would permanently limit the injured party's power of respiration, and consequently his capacity for labor, it being shown that he was able to earn $11 a week before the accident, and only $9 a week after it.

Ten Thousand Dollars for Injury, Mainly Nervous.—A child 5 years of age was injured, while on the street, by a passing team. According to one of the medical witnesses, there was a concussion of the spine, and injuries to the bladder, resulting in chronic cystitis. His opinion was that the spinal trouble was permanent, but he did not say that the cystitis would be. At the time of the trial, her walk was referred to as a shuffling one, indicating a loss of control of the muscles, or nervous shock and hysteria, as it was variously described, with some other indications of nervous disorder. For such injuries, the second appellate division of the Supreme Court of New York holds in McTague vs. Dowst, $10,000 was not an excessive award of damages.

Approves of Removing Cause of Malarial Fever.—The Supreme Court of the United States says, in the case of Leovy vs. United States, that it thinks a court might well take judicial notice that the public health is deeply concerned in the reclamation of swamp and overflowed lands. If there is any fact, it goes on to state, which may be supposed to be known by everybody, and therefore by courts, it is that swamps and stagnant waters are the cause of malarial and malignant fevers, and that the police power is never more legitimately exercised than in removing such nuisances. Nor does it consider that, because a person has acted under an order of local authorities which did not say anything about the subject of health, as where, for example, such an order simply authorized the erection of a dam, so as to exclude the overflow from a river, that he is therefore to be deprived of the defense to his act that he performed it in order to promote the health of the community, as where the general government charged him with building a dam across a navigable stream without the permission of the Secretary of War.

Reduces Allowance for Injury to Hand.—A young man of about twenty years of age had his left hand injured on a machine which he was operating. He lost the whole of the first or index finger. The first and second joints of the second finger were injured permanently, so that the only use he could have of it would be to "push it down," as it was said. Besides, the first and second joints of his thumb were so injured that motion was considerably limited in the first joint, and partially so in the second joint. But the expert evidence was that the thumb would probably get somewhat better. The jury awarded him $4,500 damages. This the trial judge insisted should be reduced to $3,500. And now the Supreme Court of Minnesota thinks that too much, holding, Stiller vs. Bohn Manufacturing Company, that $2,500 would be sufficient compensation. The question, the supreme court says, was not for what sum of money a person would be willing to submit to such injuries, but what sum of money would reasonably compensate the party, so far as money could compensate him, for his injuries, in view of his age, his earning capacity before and after his injury, the disfigurement of his person, and the pain he had suffered.

Restricting Prostitutes to Certain Districts.—The Supreme Court of the United States has been called on, in the case of George L'Hote and the Church Extension Society of the Methodist Episcopal Church vs. the City of New Orleans, its mayor and superintendent of police, to pass, to some extent, on the validity of an ordinance of said city making it unlawful for any public prostitute or woman notoriously abandoned to lewdness to occupy, inhabit, live, or sleep in any house, room, or closet situate without certain prescribed limits in the city, with a proviso that nothing in the ordinance should be so construed as to authorize any lewd woman to occupy a house, room, or closet in any portion of the city. More specifically, the question presented to the court was whether one who may own or occupy property in or adjacent to the prescribed limits, whether occupied as a residence or for other purposes, can prevent the enforcement of such an ordinance on the ground that by it his rights under the federal constitution are invaded. This narrowing of the question is explained, in part, by the court, with perhaps some significance, as due to the fact that no woman of that character was challenging the validity of the ordinance, nor complaining that she was deprived of any personal rights, either as to the control of her life or the selection of an abiding place. In other words, the court points out that the persons named in the ordinance, and against whom its provisions were directed, did not question its validity. Neither, in the second place, did any person owning buildings outside of the prescribed limits complain that he was deprived of a possible tenant by virtue of the ordinance, or say that the abridgement of her freedom of domicile operated to cut down the amount of his rents. Besides, it calls attention to the fact that the ordinance did not attempt to give to persons of such character license to carry on their business in any way they saw fit, or, indeed, to carry it on at all, or to conduct themselves in such manner as to disturb the public peace within the prescribed limits. Under these circumstances, and with nothing in the ordinance to deny the ordinary right of the individual to restrain a private nuisance, the court does not consider it one of which complaint could be made, by such owners or occupants of property as stated, notwithstanding the pecuniary value of their property might be depreciated thereby. The management of those vocations which minister to and feed upon human weaknesses, appetites, and passions, the court continues, comes directly within the scope of what is known as the police power. Obviously, the regulation of houses of ill-fame, legislation in respect to women of loose character, may involve one of three possibilities: 1, absolute prohibition; 2, full freedom in respect to place, coupled with rules of conduct; or, 3, a restriction of the location of such houses to certain defined limits. Whatever course of conduct the legislature may adopt is in a general way conclusive upon all courts, state or federal. It is no part of the judicial function to determine the wisdom or folly of a regulation by the legislative body in respect to matters of a police nature.

Validity of Exemptions in Practice Acts.—In the case of Scholle vs. State, the Court of Appeals of Maryland gives special attention to the contention that the exemptions of the statutes of that State from the burden of obtaining a license to practice medicine invalidate all of the State legislation regulating the practice of medicine. Those to whom the provisions of the latter do not apply, by reason of these exemptions, are: 1, commissioned surgeons of the United States army and navy and marine hospital; 2, physicians and surgeons in actual consultation from other States; and 3, persons temporarily practicing under the supervision of an actual medical preceptor. The argument advanced was that these exemptions were an unjust and unreasonable discrimination between persons engaging in the practice of medicine, and infringed the right of equality guaranteed by the 14th amendment of the Constitution of the United States. In answer the court says that, if the conditions surrounding all persons who desired to practice were alike, there could be no differences made as to the terms upon which a certificate could be obtained. But if there are differences as to conditions and situations, by which it becomes reasonable that greater precautions are required in some cases than in others, classes may be formed by which certificates can be granted to some without examination, and by which others may be exempted altogether from the burden of being registered. But these classes must be created upon considerations only that are promotive of the public interests. If they are so created, they do not constitute an unlawful discrimination, and do not impair the "equal right which all can claim in the enforcement of the laws." And the reasons for the exemptions in question the court thinks are apparent, and are entirely of a public character. The competency of the first class is assured by the exactions required of them before they become commissioned in the service of the United States as physicians or surgeons. So, also, physicians in a marine hospital are selected for their special adaptation and skill for that work. There could be no public reason, therefore, that these medical officers should be required, for the protection of the public, to be registered. Nor can any reason having in view the public protection be assigned for requiring certificates of the remaining classes. Neither of these classes can be said to be practitioners within the state of Maryland. The physician from another state, "in actual consultation," has co-operating with him a registered physician. To require him to license as for general practice would have no other effect than occasionally to deprive the patient and the local physician of the benefit of the advice of some of the most eminent and skillful gentlemen of the profession. Moreover, as to both the second and third classes, the public are fully protected from the incompetency of the foreign physician and the student by the presence and supervision and restraints of the certified physicians of the state. Hence, the court concludes, there can be no objection to these exemptions as in any respect arbitrary or unreasonable, or as in any manner creating any unjust discrimination. Neither does it consider it a valid objection that one of the bodies charged with the duty of appointing one of the boards of medical examiners is the Medical and Chirurgical Faculty of the State of Maryland—a private corporation.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, August 9.

1 Norfolk District Records and Reminiscences, 1850-1900. C. Ellery Stedman.
2 Progress of Medicine. Harold C. Ernst.
3 *Acute Dilatation of the Heart in Influenza of Children. F. Forchheimer.

Philadelphia Medical Journal, August 11.

4 *Military Surgery. W. C. Borden.
5 *Transmission of Tuberculosis Through the Meat and Milk Supply. John J. Repp.
6 Clinical Report of Two Cases of Paralytic Dementia occurring in the Negro. W. K. Walker.
7 Puerperal Eclampsia, with Report of Ten Cases. J. B. Todd.
8 Report of a Case of Rupture of the Perineum in Coitus. R. Abrams.

Medical Record (N. Y.), August 11.

9 *Care of Patients during Surgical Operations; With Some Methods of Preventing Shock and Infection. Fenton B. Turck.
10 *After-Pains from Extraction of Teeth. Charles B. Isaacson.

Medical News (N. Y.), August 11.

11 *Vaccination Eruptions. Jacob Sobel.
12 *Chronic Enteritis and Tuberculous Enteritis treated with Hypodermic Injections of Arsenic. Louis Kolopinski.
13 *School Break-Down. J. Henry Bartlett.
14 *The Automobile in Country Practice. A. D. Hard.
15 Results of Two Hundred Operations on Insane Women. R. M. Bucke.

New York Medical Journal, August 11.

16 *An Investigation into the Causes of so-called Uric-Acid Lesions, and a Rational Therapeusis of the Uratic Diathesis. Alfred Careuo Croftan.
17 *Etiology of Diphtheria, and the Value of Antitoxin. A. Robin.
18 The Spectacle and Eyeglass Habit. Alfred W. Herzog.
19 *Relation of Seminal Vesiculitis to Impotence. Ramon Guitéras.
20 Obstetrical "Don't Fails." Charles I. Page.
21 *Diagnostic and Therapeutic Value of Insufflation of the Esophagus, Stomach, and Colon. C. D. Spivak.

St. Louis Medical Review, August 11.

22 Abscess of the Brain. T. C. Witherspoon.

Cincinnati Lancet-Clinic, August 11.

23 Some Dermatological Cases. M. L. Heidingsfeld.
24 Rupture of Lung by External Violence without External Wound. H. H. Spiers.

Virginia Medical Semi-Monthly, July 27.

25 What Constitutes Conservatism in the Treatment of Appendicitis? Hugh M. Taylor.
26 Some Points on Acute Nephritis or Acute Bright's Disease. S. B. Moore.
27 *Alcohol as a Food. A. T. Cuzner.
28 An Aseptic Soap Container. Stuart McGuire.
29 A Physicians' Home. Jno. S. Harris.

Annals of Surgery (Philadelphia), August.

30 *Best Method of Collecting the Urine from the Ureters for Diagnostic Purposes. Malcolm L. Harris.
31 *Critical Survey of Ureteral Implantations. J. Wesley Bovée.
32 Pathology of Fracture of the Lower Extremity of the Radius. Frederick J Cotton.
33 *Tetanus. Alexis V. Moschcowitz.
34 *Malignant Diseases of the Stomach and Pylorus. William J. Mayo.
35 Note on the Relation of the Os Magnum to Tuberculosis of the Wrist-Joint. David E. Mundell.
36 *A Method of Excision of the Shoulder-Joint. John F. Binnie.
37 Report of a Case of Strangulated Obturator Hernia. John Munro Elder.
38 Report of Case of Irreducible Backward Dislocation of the Bones of the Leg at the Knee-Joint. Leonard C. Hull.

Bulletin of the Johns Hopkins Hospital (Baltimore), July-August.

39 On the Present Status of Therapy and its Future. Lewellyn F. Barker.
40 *Comparative Study of Some Members of a Pathogenic Group of Bacilli of the Hog Cholera or Bac. Enteritidis (Gärtner) Type, Intermediate Between the Typhoid and Colon Groups. Harvey Cushing.
41 Charles Frederick Wiesenthal, Medicinæ Practicus. The Father of the Medical Profession of Baltimore. Eugene F. Cordell.
42 1. Primary Carcinoma of the Appendix Vermiformis; 2. Carcinoma of the Appendix Secondary to Carcinoma of the Ovaries. Elizabeth Hurdon.
43 A Case of Transient Spastic Convergent Strabismus. Samuel Theobald.

American Medical Compend (Toledo, Ohio), August.

44 Gall-Stones with a Report of Some Cases Operated. William J. Gillette.
45 The Abdominal Brain. Byron Robinson.
46 Peroxoles in Nose, Ear and Throat Practice. John North.

Kansas City Medical Index-Lancet, August.

47 What is the True Guide for the General Practitioner as to His Talks and Actions. E. H. Miller.
48 Technique of Normal Salt Solution. E. A. Dulin.
49 Notes on the Therapeutic Action of Cystogen. Virginus W. Gayle.
50 Electrotherapy, When Indicated, and its Advantages. F. H. Clark.
51 Non-Medicinal Treatment of Nervous Diseases. John Punton.

New Yorker Medicinische Monatschrift, July.

52 *Die Bedeutung und Behandlung der Kniescheibenbrueche in moderner Beleuchtung. Von Carl Beck.
53 Geschichtlicher Ueberblick ueber die in den letzten 50 Jahren gemachten Versuche, die Gefahren der Star-Extraction zu vermindern. Von Dr. H. Ruschhaupt.

Indiana Medical Journal, August.

54 Convulsions in Children. A. L. Wilson.
55 Treatment of Diseases of the Stomach. Alois B. Graham.
56 *Conclusions Reached after a Study of Typhoid Fever Among the American Soldiers in 1898. Victor C. Vaughan.

Clinical Review (Chicago), August.

57 Treatment of Placenta Previa. J. B. DeLee.
58 *Unusual Manifestations of Malignant Disease. Chas. W. Oviatt.
59 Acute Confusional Insanity—Cerebral Syphilis—Locomotor Ataxia—Combined Sclerosis and Ataxic Paraplegia—Two Cases of Paralysis Agitans—Left Hemiplegia—Right-Sided Hemiplegia. Daniel R. Brower.
60 *Substitute Feeding of Infants, with Special Reference to the Percentage Method, and Home Modification of Cow's Milk. L. Boorse.
61 Radical Cure of Hernia. H. A. Sifton.
62 Erysipelas. John C. Webster.
63 Pernicious Vomiting of Pregnancy. Frank Burr Tibbals.

Dominion Medical Monthly (Toronto), July.

64 *Nasal and Postnasal Synechiæ. J. Price-Brown.
65 Why Medical Men Should be a Court of Justice in Criminal Cases. J. J. Cameron.
66 Valedictory—Read at Trinity Medical College Convocation. Frank C. Trebilcock.

St. Paul Medical Journal, August.

67 *Thrombosis of the Coronary Arteries, with Sudden Death. J. L. Rothrock.
68 Malignant Diseases of the Stomach and Pylorus. Wm. J. Mayo.

69 *Late Suppuration Following Traumatism of the Skull. R. C. Rugan.
70 Report of Surgical Cases. J. W. Wheeler.
71 Some Conditions Affecting the Present and Future Welfare of the Medical Profession. Walter Courtney.
72 *Spasmodic Lateral Curvature of the Spine. Arthur J. Gillette.
73 *Something about the Nature and Treatment of Sciatica. Haldor Sneve.
74 Gynecology as a Specialty. J. B. McGaughey.
75 Case of Aortic Stenosis. J. I. Christison.
76 Case of Rabies. Arthur Sweeney.

Medical Dial (Minneapolis), August.

77 Progress of Renal Surgery. H. B. Sweetser.
78 Some Diseases of the Intestines, Associated with Catarrhal Enteritis. The Principal Features of their Etiology, Morbid Anatomy and Treatment. H. Jefferson Obrien.
79 Compound Fracture of the Elbow—Fracture of the Patella—Compound Fracture of the Patella—Sarcoma of the Humerus, Disarticulation at the Shoulder-Joint. James H. Dunn.
80 Hay-Fever. A. G. Aldrich.
81 Rupture of an Aortic Leaflet in a Case of Right Hemiplegia with Aphasia due to Cerebral Hemorrhage. Augustus A. Eshner.

Bulletin of the American Academy of Medicine (Easton, Pa.), August.

82 *Some Measures for the Prevention of Crime, Pauperism, and Mental Deficiency. G. Hudson Makuen.
83 *The Principles Underlying Specialism and Advertising in the Medical Profession as Formulated by the Special Committee Appointed by the Academy.

Fort Wayne Medical Journal-Magazine, July.

84 *Exploratory Opening of the Spinal Canal and Cranium. Miles F. Porter.
85 Hystero-Myomectomy with Gravid Uterus—Report of Case. George R. Green.

Railway Surgeon (Chicago), August 7.

86 Fractures Involving Joints. Milton Jay.
87 *Gasoline as a Surgical Detergent. Bruce L. Riordan.

Maryland Medical Journal, August.

88 *Tendencies in Medicine in the Twentieth Century. John C. Hemmeter.
89 Retinitis Albuminurica. James J. Mills.
90 *Myotherapy. Nathan Herman.

Yale Medical Journal (New Haven, Conn.), August.

91 *Bronchial Asthma, Its Relation to Nasal Disease. Henry L. Swain.
92 The Physician. S. Weir Mitchell.
93 Address of the President of the Yale Medical Alumni Association. George Rubens Shepherd.

Atlanta Journal-Record of Medicine, August.

94 Splenectomy for Congestive Hypertrophy. J. Wesley Bovée.
95 Continued Use of the Antiseptic and Eliminative Treatment of Typhoid Fever without any Deaths. T. Virgil Hubbard.
96 Address to Graduates of the Grady Hospital Training School for Nurses. Virgil O. Hardon.
97 Danger to the Eye while Chopping with a Hoe. W. L. Bullard.
98 Treatment of Neuralgia. Robert C. Keener.
99 The "Christian Science" Bubble. C. A. F. Lindorme.

Medical Times (N. Y.), July.

100 National Volunteer Emergency Service Medical Corps. Its Objects, Scope and Importance. J. Adelphi Gottlieb.
101 Shock. H. Gasser.

Cleveland Medical Gazette, August.

102 Submergence of Individual Judgment. T. Clarke Miller.
103 *Appendectomy in the Quiescent Period. William E. Lower.
104 *Convulsions in Children. Wm. A. Dickey.
105 *Use of Rubber Gloves and Gauntlets as a Means of Preventing Infection in Surgery. Hunter Robb.

Medical Council (Philadelphia), August.

106 On the Value of Cinnamic Acid in Pulmonary Tuberculosis. A. H. P. Leuf.
107 *Points in Surgery. Wm. V. Morgan.
108 Preliminary and Minor Railway Surgery. J. M. Salmon.
109 Typhoid Fever. S. M. Dorris.
110 Functional Disturbances of the Heart Caused by Obstruction in the Digestive Tract. J. D. O'Brien.

Charlotte Medical Journal, July.

111 Annual Address Before the Graduating Class of North Carolina Medical College. J. Howell Way.
112 Natural Labor. H. Plummer.
113 Obligations of Humanity to the Medical Profession. Benjamin K. Hays.
114 Whooping Cough. J. A. Regan.
115 The Physician and the Manufacturer of Pharmaceutical Preparations. Ethics of their Relation. M. L. Stevens.
116 Ophthalmic Economics. Edward W. Wright.
117 La Grippe. A. M. Ballard.

Southern California Practitioner (Los Angeles), July.

118 A Product of "Mortal Mind." E. S. Goodhue.
119 *Is the Course of Study in Our Public Schools Detrimental to the Health of Pupils? J. C. King.
120 Ptosis. Geo. J. Lund.
121 *Transmission of Typhoid and Its Prevention. L. M. Powers.
122 Fractures of the Neck of the Femur. F. C. Shurtleff.

Georgia Journal of Medicine and Surgery, August.

123 Splenectomy for Congestive Hypertrophy. J. Wesley Bovée.
124 Some Points in the Prevention of Infection in Post-Operative Dressing. Wm. J. Little.
125 Ectopic Pregnancy. J. G. Carpenter.

New England Medical Monthly (Danbury, Conn.), August.

126 Some Observations on Lithemia. Arch Dixon, Jr.
127 *Why I Use Pepto-Mangan "Gude." An Experimental Demonstration. Wm. Krauss.
128 Forty Cases of Gonorrhea Successfully Treated. Some Uses of Mercurol. F. Gray Blinn.
129 Backaches: Their Causation and Treatment. H. P. Mansfield.
130 Incontinence of Urine in Childhood and its Treatment. William C. Wile.
131 Suggestions on the Causative Relationship Between Uricacidemia and Urticaria, with Report. Halcyon A. Wilbur.
132 Treatment of Pneumonia in Children. Robert C. Kenner.
133 Brief Inquiry into the Etiology and Treatment of Hay-Fever. Edwin Hank.

The Laryngoscope (St. Louis), August.

134 *Physiology of Voice Production. W. Scheppegrell.
135 *Auricular Cataphoresis. Gherrardo Ferreri.
136 *Physiologic Tests as Aids to the Differential Diagnosis of Lesions of the Ear which Produce Deafness and Tinnitus. Wm. Lincoln Ballenger.
137 Nasal Polypi in the Naso-Pharynx. J. M. Ingersoll.
138 *Strong Carbolic Acid Used by Mistake as a Throat Spray. D. H. Galloway.
139 Antero-Posterior Curette-Forceps for Removal of Adenoids. W. A. Martin.

AMERICAN.

3. **Acute Influenzal Dilations of the Heart in Children.**—Four cases are reported by Forchheimer, in all of which the direct cause of the trouble appeared to be heart strain. In two of these there was a predisposing weakness of the myocardium. He thinks we are justified in assuming two forms of heart dilation in influenza: 1. A form produced primarily by action of toxins on the nervous system or heart, and possibly on the myocardium. 2. A form occurring in such conditions in which the outflow of blood is materially interfered with by mechanical conditions. The first form may terminate fatally, but in his own experience it was not the case. The second form is more permanent, but in children generally tends to recover.

4. **Military Surgery.**—Borden describes the different arms used in military operations and shows that it is probable that as many deaths on the battlefield will occur with modern weapons as with the ones of the past. The mortality of the wounded, however, will be greatly lessened by the small-caliber, modern, small-arm projectile, which produces over 90 per cent. of the injuries in war. The special disturbing effect of this bullet in passing through fluids or semi-fluids in confined spaces, its action on the bones, etc., are all discussed and illustrated.

5. **Tuberculosis.**—The veterinarian of the Iowa State Agricultural College, Dr. Repp, reviews the literature as to infection, experimentally and clinically, by tuberculous meat and milk, and argues that the transmission to man has been sufficiently proved, giving all the facts that he has been able to collect on the subject. They are not nearly as numerous as the experimental ones of transmission from animal to animal, but he sums up his evidence as follows: 1. That tuberculosis may be transmitted to animals through their eating the meat of certain other animals which are tuberculous or by their being inoculated with it. 2. That tuberculosis may be transmitted to animals through their ingestion of the milk of certain cows which are tuberculous, or by their being inoculated with it, both when the udder of the cows is diseased and when it is healthy. 3. That, therefore, the meat and milk of certain tuberculous animals contain living, virulent tubercle bacilli. 4. That the tubercle bacilli of cattle are pathogenic for man. 5. That, therefore, the meat and milk of certain tuberculous animals have a tendency to produce tuberculosis in human beings who use these products as food. 6. That there is no evidence that the converse of these conclusions is true.

9.—See THE JOURNAL, xxxiv ¶ 23, p. 1462.

10.—**After-Pain from Tooth Extraction.**—Isaacson thinks that the painful sensations often felt after tooth extraction are due to retention of the pyogenic membrane, expansion of the osseous walls, fracture of the alveolus, retention of the root and spicule, and special conditions due to inflammation and suppuration. He uses the burr to take out the root when it can not be reached by the forceps or is too small, and the use of ethylic chlorid or cocain injection rather than nitrous oxid, which is too temporary in its effects. The chief point of his paper is that these pains are nearly always caused by foreign substances and that removal is preferable to any local treatment that can be used.

11. **Vaccination Eruptions.**—According to the statistics of the dermatologic clinic at the Good Samaritan Dispensary at New York, Sobel finds that about 14 per cent. of the cases present complications or sequelæ and about 2 per cent. generalized eruptions. The most common, generalized eruption was found to be urticaria, sometimes combined with contagious impetigo due to scratching. These urticarial lesions occurred as early as the third or fourth days after inoculation. The morbilliform type, though not very frequent, occurred in several instances, usually ten or eleven days after vaccination. The eruption was differentiated by the history of sudden onset and early disappearance of the rash with desquamation within forty-eight hours. In two or three instances he says he observed conditions very closely resembling rötheln. Of the vesicular eruptions some simulated chicken-pox very closely. He thinks it possible that it may have been complicated with that disease. General scarlatiniform eruptions or pustulobullous lesions were several times entered on the records. Some cases suggested syphilis, others echthyma, conjoined, erythema multiforme and papulo-vesicles, scarlatina, erythema and minute vesicles, urticaria and erythema multiforme, were also met with.

12. **Arsenic in Chronic Enteritis.**—Kolopinski advises the use of arsenic in small doses—1/64 to 1/32 gr.— hypodermically in 60 minims of normal salt solution. This treatment must be associated with regulated diet, excluding desserts, fruits and preserves and allowing milk, cocoa, chocolate, etc. Favorable results are in all cases most certain to be attended by exclusive diet of milk and cocoa. The good effects of treatment are not always certain and he has had some non-successes. On the whole, however, he concludes that this method is safe, painless and effective. The dose is very small, as given above. One, two or three injections per week will cure the milder cases. Other internal medication is avoided and the patient has no daily routine of dosing. Greater latitude of diet can be allowed without detriment.

13. **School Break-Down.**—Noticing a rather sensational article in a lay journal Bartlett analyzes the facts in regard to school break-down in a conservative way. He thinks the assumption that so large a number of cases are due to overstudy is not warrantable and points out other practices and habits that have much to do with the trouble. Most all of these cases occur during the developmental periods. The development processes are more to blame than overstudy. Errors of diet, sleep, etc., are mentioned as probable causes. He thinks that the strain of examinations and pressure of unnatural stimuli in school life are against a rational school system and not the fruits of it, and that we should study the subject of adolescence rather than try to bring about a revolution in our school practice.

13. **The Automobile in Country Practice.**—Dr. Hard, who has the degree of M.E., as well as M.D., notices the different types of the automobile as adapted to the country doctors' use. The electric motor he rejects on account of its weight, limited radius of action and unsuitability to country roads. The hydrocarbon system has the similar disadvantages of weight, unsuitability to country roads and is also disabled in very cold weather. When it breaks or sticks it is almost impossible to get it to work again. It has some good features. It does not depend on an independent power-plant; its expense is slight; it can be left safely standing and does not leak power when it is not in use like the electric vehicle. There is but little danger connected with its use and its manipulations is easily learned by the average individual. The steam-driven carriage is the one with which he has had the best results, but it requires a skilled mechanic. If it breaks down in one part the whole is disabled. The boiler is constantly trying to commit suicide and it is difficult sometimes to keep up steam. Cold weather interferes with the steam production. Unless a careful selection of water is made the boiler foams and blows out its flues. The machinery is all exposed to the dust and it can not be left standing, as it will noisily blow off steam, and if the fire is turned out it takes time to start it. Is advantages are: that it is is more powerful, has a wider radius of action and can be watered as conveniently as a horse. Many of the defects admit of correction, and when a steam generator is put into use which instantly converts into steam small and variable quantities of water so that the power may be produced at will without a reserve supply of water and steam in the boiler there is no apparent reason why all of the objections found in the steam carriage of to-day may not be successfully met.

16. **Uratic Diathesis.**—Croftan reiterates some views formerly expressed as to the non-toxicity of uric acid and the importance of alloxuric bases as the peccant material in so-called uric acid poisoning. These, he thinks, are derived from the nuclein of the white corpuscles and are the results of an inincreased nuclein catabolism. The practical therapeutic points to be looked after are: 1, increased limitation of the toxins as they are formed; 2, to reduce the nuclein catabolism; 3, to increase the processes of oxygenation. The use of alkalies and dietary regulations have proved of value. The alkalies produce an increased elimination of the uric acid and alloxuric bases. The diet, which has been variously handled heretofore, should be such as to exclude the nuclein-containing substances as far as possible, especially those forms that are liable to produce the alloxuric bases, the interdiction of alcohol and tea. The raising of the oxygenation power of the cells can be obtained by a general tonic treatment according to individual needs. Here also massage, hydrotherapy, electrotherapy, etc., have a field. The importance of increased oxidation is to be shown by the benefit produced in uratic cases by oxygen inhalations, and the author gives a tabulated statement of the urine constituents before and after oxygen inhalation in several cases as illustrating this point.

17. **Diphtheria.**—Robin replies to the recent paper of Dr. Herman that antagonizes the antitoxin therapeutics. This article is largely a statistical one and is very severe in its criticisms of Herman's methods and ideas. He shows apparently conclusively that antitoxin is a valuable resource in therapeutics and sums up his paper by giving the necessary qualities of a specific and its action. Antitoxin, he says, cures every case of experimental diphtheria in which the amount of toxin is known. It cures from 75 to 90 per cent. of all cases of human diphtheria in which the amount of toxin circulating in the blood is not known. It reduced the mortality to 10 to 15 per cent., the lowest point ever recorded throughout extensive areas, and has kept it there since 1894. It does the work without the addition of any other medication, although in man symptoms are usually combated with drugs.

19. **Seminal Vesiculitis.**—Impotence, according to Guitéras, is largely due to inflammation of the seminal vesicles, though there may be other predisposing causes such as chronic inflammation of posterior urethra, chronic prostatitis, varicocele, etc. He reports cases illustrating his views and the treatment of the condition, which is a sedative one, at first avoiding anything that is stimulating or exciting in the sexual sphere, with internal remedies to neutralize the urine in case of over-acidity. He uses rectal irrigation every night, with normal salt solution or strained flaxseed at a temperature of 105 to 120 F., by means of the double-current rectogenital tube and massage of the internal genitals every five days followed immediately by urethral irrigation whenever there is chronic prostatitis and posterior urethritis associated with the condition. After the irritation and inflammation have been removed, stimulation by drugs, electricity, and regulation of hygiene is employed.

21. **Insufflation of Stomach and Colon.**—Spivak describes his method of stomach insufflation as well as that of the colon and esophagus, and discusses its diagnostic importance. The

therapeutic uses of the method are also noticed. He is experimenting at present with insufflation of hot air in the stomach in various gastric disorders, but does not wish to report premature conclusions. He suggests the use of insufflation as a means of pushing down foreign bodies in the esophagus as less dangerous and forcible than the use of the bougie. He will also use insufflation in his next case of esophagismus.

27. **Alcohol as a Food.**—Cuzner reviews the facts and theories as to the food value of alcohol, with special reference to the recent statements of Prof. Atwater and the contradictory ones that have since been published. He holds that while Atwater is probably understood by the medical profession, to the public his statement appears as an endorsement of the dietetic use of alcohol, but that he will himself agree with the statement that it is only a food to a very limited extent and not properly one in a general sense, and that it is more properly classed as a narcotic poison. Cuzner maintains that we must still keep it in the list of the latter and not admit it in any way to the category of alimentary substances.

30. **Urine from Ureters.**—Harris discusses the different instruments for collecting urine, showing their advantages and disadvantages. In considering catheterization of the ureter he points out that it requires a sufficient transparency of the media for its use, which is not by any means always insured, and that the extravesical conditions such as displacements by tumors may so distort the base of the bladder as to render the introduction of the catheter impossible. It may become clogged with pus and may produce spasm of the ureter. It is apt to produce a certain amount of mechanical injury; a little blood at first is the rule, and it does not collect all the urine. Another thing to be considered is the danger of infection, in cases of cystitis for example. The segregator requires the same conditions as those requisite for the cystoscope. The bladder must be large enough to allow the instrument to be opened and the ureter must be large enough to admit its introduction. As the sight is not used in guiding it the transparency of the media is not important and conditions within the bladder, such as folding of the mucous membrane, etc., which might interfere with catheterization do not effect its usefulness. Large fibroid growths may prevent its application and great thickening of the trigone so that it can not be raised to form a septum, or where a so-called middle lobe projects into the bladder, displacement or distention may interfere the same as with catheterization. He points out cases illustrating the reliability of the septum produced and he maintains that the bladder can be so cleansed as not to contaminate the urine in its passage from the ureter to the container. It may excite hemorrhage from the bladder wall, but it is an exception if the bladder is healthy. The advantage of the segregator is that all the urine that escapes from the ureters is collected in the vial, none is lost as in the catheter. He does not try to claim that it is always successful and that it can take the place of every other device. It has its limitations, but for differential diagnosis in certain tumors of the abdomen, for determining which kidney is diseased and the functional capacity of each, whether the bladder be affected or not, for differentiating between certain bladder and kidney affections, it gives results that are perfectly reliable, as has been repeatedly demonstrated. Furthermore it is safer than the catheter, as it never infects the healthy kidney.

31. **Ureteral Implantations.**—This extensive review of the operative procedures in cases of injury to the ureter covers pretty nearly all the published facts. The author describes the different methods of uniting or implanting the ureter. He says it is impossible to have the anastomosis between the ureter and bladder as good as the natural one because the small muscles at the end of the ureters and lost in the wall of the bladder and internal meatus can not be utilized. Whenever the ureter requires grafting above the brim of the pelvis its implantation into its fellow is to be considered, though where this is impracticable loosening of the kidney is the next step, and if this can not be done implantation into the bowel is the next. Rectal implantation is discussed and Bovée thinks that it is probable that the carefully made oblique and longitudinal grafting may have the desired effect, but infection is always to be feared. Where the Maydl and Pozza modifications are practicable in cases of implantation of both ureters they should be used. Skin implantation of the ureter is rather condemned, it is not an alternative for bladder or ureteral anastomosis or even bowel implantation. It may be done in cases of a very short stump when it is impossible to unite the two ureteral ends, but if there be but one kidney, bowel implantation is preferable. Implantation of the ureter into the vagina seems to the author only incurring permanent disability. The urethral grafting of ureters has been done in a few cases, but Bovée believes it has but a limited field and that it is a failure as a substitute for the Maydl operation.

33. **Tetanus.**—Moschcowitz favors the nerve-transmission theory of tetanus, though he admits that it can not be absolutely proved. It is supported by Stintzing's finding that the cerebrospinal fluid is toxic in tetanus and produces the disease by inoculation while the blood appears not to be. He gives a complete list of all cases of antitoxin treatment of tetanus that he has been able to collect and quite a lengthy bibliography of the later papers on the subject.

34. See abstract in THE JOURNAL xxxiv., p. 1259.

36 **Excision of the Shoulder-Joint.**—The method here described by Binnie consists first in exposing the joint by Ollier's method, then abducting the arm and have the assistant hold it at nearly a right angle to the axis of the trunk. From a point one-half inch below the clavicle and beside the coracoid he makes an incision four and one-half to five inches in length downward and outward toward the insertion of the deltoid, dividing the skin and subcutaneous tissue. Distinguishing the outer border of the deltoid he incises the deltoid a little to the outside of and parallel to its internal margin, thus avoiding injury to the cephalic vein and large branch of acromiothoracic artery. He then retracts the outer side of the wound and exposes the head of the humerus. Step 2. Rotate the arm so as to show the bicipital groove; incise the joint capsule throughout its whole extent parallel and external to the bicipital tendon. Place a chisel in position against the outer margin of the bicipital groove and cut the great tuberosity apart from the shaft. Reflect outward this detached shell of bone with all its connections, both tendinous and periosteal. Lift the long head of the biceps outward after freeing it from its synovial sheath. With the chisel cut the lesser tuberosity free from the shaft of the humerus and retract inward with its connections and through the long head of the biceps. Deflect the head of the humerus into the wound, at the same time severing its posterior attachments with elevator or scissors as usual. The rest of the operation is completed in the usual manner, the shells of the bone left are inspected and if diseased removed, otherwise replaced. In replacing, one or two points of suturing are used, uniting their non-osseous connections, and they should be so placed as to keep the long head of the biceps superficial to them. He claims his operation is so simple and saves so much time that he believes it is worthy of being offered to the profession.

40. **Bacillus O.**—Cushing describes cases in which a bacillus intermediate between the typhoid and colon types seems to be responsible. He has studied this organism thoroughly and gives results. It belongs to the group with the morphology of B. typhosus, but with alkaline milk-reaction, gas-producing with glucose and often distinctly pathogenic to man and animals. Its fermentative reactions, the results of inoculation, etc., are all elaborately worked out.

52. **Fracture of the Patella.**—Beck operates for this injury when separation of the fragments occurs, by inserting silver wire sutures around the parts to bring them together, insisting especially on the strength of these; they should be larger than will go through an ordinary needle. They should pass through the quadriceps tendon and ligamentum patellæ. The skin incision should be of semilunar form and go directly over the ligamentum patellæ from one epicondyle to the other, thus forming a convex flap which can be reflected backward. It is not necessary to touch the wound at any time with the fingers. The needle can be held with a needle-holder, and the wire ends twisted with the forceps and blood-

clots washed out by an irrigation stream. The skin suture should be made with boiled formalin catgut, and a simple bandage applied or a fenestrated plaster splint. The wire can be removed through the fenestrum in about five weeks. The patient should still be kept quiescent for a week longer and then allowed to move cautiously.

56. This article has appeared elsewhere. See The Journal, xxxiv, p. 1451.

58 See abstract in The Journal of July 7, p. 51.

60. See Ibid.

64. **Nasal and Postnasal Synechiae.**—In this article Price-Brown treats of the subject of fibrous, bony or cartilaginous bands that unnaturally connect together the opposite walls of the nasal and postnasal cavities. They are most frequent between the middle turbinate and septum; next between the inferior and the septum. In the nasopharynx the synechia is usually found connecting the lip of the one or other of the Eustachian tubes, or some part of the pharyngeal vault. Their causes are, he believes, always traumatic, either directly or indirectly. The electrocautery or galvanocautery is amongst surgical causes the most prominent. They are due also to prolonged existence of turbinal hypertrophy, and sometimes no history can be traced, but close inquiry generally reveals reason for their origin. Special types of them are noticed and the prognosis is best when the cavity is wide in which the synechia is formed. He has found the saw the most useful instrument in their treatment, and to keep the parts open he uses cotton-wool tampons soaked in albolene. In fibrous cases the knife or scissors are the most useful. The hemorrhage that occurs at the operation is, he thinks, an advantage.

67. **Thrombosis of the Coronary Arteries.**—Rothrock reports two cases of thrombosis of the coronary arteries, and gives a general discussion of the subject as it has been developed in the literature of this country and elsewhere. In neither of these cases did the thrombosis entirely occlude the vessel, but in both it was well organized, suggesting slow formation, and death occurred during exertion, which is to be explained by the sudden strain put upon the heart. The cause of the sudden deaths is discussed and the author thinks that these cases probably belong in the category of angina pectoris. In one there has been previous angina attacks. In regard to the diagnosis there is nothing characteristic, but as the disease has been invariably fatal this is not so important.

69. **Suppuration Following Traumatism.**—Dugan reports the case of a man who was bruised by being thrown from a wagon, but was not aware of any head injury occurring. Later a suppuration developed from a fracture on the external and internal tables, discovered by operation. The curious fact about the case was that the man was bald, but had no mark on his head to show the injury. Recovery was uneventful.

72. **Spasmodic Spinal Curvature.**—A case of hysterical spinal curvature is here reported by Gillette, who discusses the diagnosis. Lack of pain in walking, no organic change in the vertebræ, even after years of mal-position, differentiated it from Pott's disease. Rigidity of the spine and muscles was the only condition which could possibly suggest spasmodic paralysis. There was only one long curvatnre instead of the double curvature, and not the rotation of the vertebræ existing in trne lateral curvature.

73. **Sciatica.**—Sneve recognizes three types of what is generally called sciatica: true neuritis, perineuritis, myositis. The former is generally caused by some general infection or a toxin, or from compression from a tumor or growth. Perineuritis is probably due to the same cause that produces inflammation in the aponeurotic structures elsewhere in the body, such as gout, rheumatism, etc. Myositis is due to cold or hard muscular over-strain. True sciatic neuritis, he believes, is recovered from in from six months to two years, according to the amount of injury to the nerve. Perineuritis, which probably always includes neuralgia of the sciatic nerve, can usually be relieved in from one to six months, but it is very apt to recur. Myositis is usually recovered from in one to six weeks. Its pathology is not well known. The treatment of true neuritis is rest, with splints, hydrotherapy and anodynes. Perineuritis is treated by the same remedies as used for the ordinary condition of rheumatism, gout, etc., also local treatment in the way of the cautery, manipulation, etc., and he has used the method of stretching the nerve by external manipulation as a routine treatment. The sciatic-myositis he treats as a rule by the same methods as perineuritis.

82. **Treatment of Defectives.**—Makuen treats of the measures that should be taken to eliminate degeneracy, favoring state regulation of marriage, asexualization in certain instances, prison reforms, etc., educational improvements, etc. Preserving of the unfit has been so much the aim of the past that we have neglected the fact that they are reproducing and multiplying. He would look out for this by stringent marriage laws, removal of the power of procreation, and restriction of immigration.

83. **Specialism.**—This paper is the report of the committee of the American Academy of Medicine in regard to specialism, the general points of which are that it is not only unavoidable but is desirable and that it is proper for the physician to seek to perfect himself in the line of his greatest ability even to the neglect of other fields of practice. The specialist may practice directly, or indirectly through consultation, and in his ordinary practice he ought not to be an exclusionist. In his consultation practice the specialist stands in a different relation to his fellow physician from that of other general practitioners in consultation. He is rather a coadjutor than a consultant, and should follow the requisites of the family physician and not interfere with treatment until desired to do so. If a specialist limits his study to a particular branch because his aptitudes for that are of greater service to his profession, and carries into his limited practice the ethical principles of a doctor and gentleman, he can not be a cause of discord or trouble. When the physician should begin to limit his practice can not be settled as a rule. If his specialty requires operative skill he must begin early, but if he does not have actual experience in general practice he will fail to realize the importance of many things and be too much of an exclusionist. The report also takes up the subject of advertising, and holds that the first object of the physician should be the service to humanity, and next to this his duty to himself to make a living, but this order must not be reversed. Any method of advertising which only seeks to inform the public that the advertiser is ready to be of service, is admissible. The careful application of these principles will demonstrate the true character of any act on the part of the physician which calls the attention of the public to him.

84. **Exploratory Operations on the Spinal Canal and Cranium.**—Porter concludes that the opening of the spinal cavity and exploration of the brain and cord when properly done is accompanied by slight risk and is absolutely necessary in many cases before the diagnosis can be made. We should always remember that delay in diagnosis is often more dangerous than operation, and the rule should be about the same in like conditions of the abdomen. When in doubt, open and examine with the assurance that the possibilities for good far outweigh the possibilities for harm.

87.—This article was appeared elsewhere. See The Journal of July 14, lxxxix, p. 123.

88. **Twentieth Century Medicine.**—Hemmeter reviews the past and speculates somewhat on the future of medicine. He thinks that what we are to look forward to will be a greater development in certain lines, such as hygiene; the concentration of the population in cities will be discouraged; dwellings will be made more sanitary; the x-ray and other similar discoveries will be improved and enlarged upon and the state will control marriage relations for the general and individual welfare more than at the present time. He rather inclines to think that operative surgery has at least in certain lines reached its limit; surgery for carcinoma, for example, has no greater future, and that we must find out other methods of meeting this scourge through medicine and pathology.

90. **Myotherapy.**—The medical use of massage forms the subject of Herman's article. He thinks its usefulness is largely

limited to the afebrile conditions. It is indicated for the removal of exudates, infiltrations, to overcome stasis and improve local circulation, for the after-treatment of fractures, for the treatment of some forms of paralysis, correction of deformities and for a long list of ailments which this agent affects or benefits in a curative or prophylactic way.

91. **Bronchial Asthma.**—Swain studies the causes and pathology of asthma, rejecting the vasomotor theory and holding to the view of spontaneous contraction of nervous origin, of muscle fibers of the finer bronchioles causing congestion, so to speak, of the air in the vacuoles of the lungs. The reflex relations between nasal disease and bronchial asthma are discussed and he thinks the nose is only one of the factors in its causation. Asthma, he says, is a bronchial spasm brought on usually through certain exciting causes by the explosive neurotic condition of the nervous system. We should not, therefore, look for its cause in any single organ for the explaining of all attacks.

103. **Appendicitis.**—Lower believes the operation for appendicitis should be as soon as the diagnosis is made, if the surroundings are favorable, and if the patient has passed through one attack he should not be allowed to have a second, but an operation in the quiescent period should be performed. He thinks by operating in this period there is less danger to life, a shorter period of disability and smallest danger of complications.

104. **Convulsions in Children.**—Dickey's paper is a plea for the use of the cold bath rather than the time-honored hot one. In case of infantile convulsions he would methodically sponge the entire body or put the child in a bathtub with a temperature of 80 or 90 F., keeping up brisk friction in the meantime. An injection of cold water into the rectum will also be beneficial. During paroxysms chloroform can be justifiably used by an expert, not by the nurse. An enema will often bring away irritable matter and the stomach-tube may be useful in certain cases.

105. **Rubber Gloves in Surgery.**—Robb reports that it is only within the last year or two that he has learned to appreciate the advantages offered by the rubber sleeves, though he has been using the gloves for some five years. He attributes the favorable results in his operations largely to these appliances which relieve the physician of the embarrassment of the impossibility of thorough asepticizing the skin.

107. **Points in Surgery.**—The points alluded to are: An improved method of circumcision; a mnemonic device for remembering the nerve-supply of the hand; immobilization of the foot at right angles to the leg in cases of ankle injury; the value of the X-ray in hydrops ventriculi, and joint tuberculosis; phosphorus for rachitis; over-treatment of gonorrhea, and elimination of the surgical treatment for the majority of cases of varicocele.

119. **School Strain.**—This article is the discussion of a number of answers to queries sent out to teachers and others by the author, from which a rather remarkable variety of opinion was secured. One even went so far as to say that we can not make the average child study hard enough to harm it, and if some that are not average are injured what matters, the greatest good to the greatest number must be secured. Dr. King himself does not express a very positive opinion as to the reforms that are required, but he thinks it would be a good thing if medical men could inspect cases of children that seem to be suffering from the effects of school strain, at the same time informing the teachers, who would soon begin to realize the importance of the situation. As regards the question as to whether the boy or girl at and beyond puberty be required to do the same school work, King says that he would say "Yes," under certain conditions, viz., that the girl should be treated on the same conditions as boys, not sought to be made a lady of before her time.

121. **Typhoid Fever.**—Powers insists on the importance of more thorough disinfection in cases of typhoid so as to destroy the bacteria given off from affected persons. All their dejecta should be thoroughly sterilized with disinfectant solutions, all sewage should be sterilized before turning into any stream which may be used for any other purposes. No water should be used from a well located within 200 feet of any cesspool or vault, without having been boiled, and no typhoid fever patient or convalescent from typhoid should be allowed to be about any dairy or any place where milk or its products are marketed. All streams which supply water for domestic purposes should be thoroughly patrolled to prevent pollution.

127.—This article has appeared elsewhere. See The Journal, xxxiv, title 114, p. 1249.

134. **Physiology of Voice Production.**—According to Scheppegrell the difference in the use of the voice of singing and speaking is one of degree rather than kind. The average singer uses a greater range of pitch and the measure is more prominent than in speaking, as is also the length of the sustained vowel sounds, though both of these are present to a greater or less extent in the ordinary speech. The distinction between the classes of voices which we call soprano, mezzosoprano, contralto, etc., is best expressed in the French term *timbre*, which refers to the difference that we observe, for example, between two instruments which may be of exactly the same tone and intensity, but differ in the character of the sound wave and not their rate of strength. In regard to the technique of voice production, the method of respiration plays the greatest part. He condemns the clavicular and lateral or costal method of breathing in singing; the abdominal or diaphragm method is the preferable one. Another point is the question of placing of the voice or adjustment of the larynx; the majority of singers with untrained voices use the larynx in the elevated position so that they do not get the full benefit of the re-enforcement of sound by the acoustic properties of the chest. The voice is a little softer, perhaps there is the gain of a few upper notes, but it is usually defective and weak. The same applies to speaking, and is the cause of the breakdown of many public speakers. It is largely learned by imitation by the child or youth about puberty, who follows the example of those about him. The speaking voice should be placed as low as the voice will permit so that it can be used without undue strain of the muscles or vocal cords and other muscles, and yet not so low as to prevent change in the inflections of the voice in giving expression to speech.

135. **Auricular Cataphoresis.**—From the results of experiments Ferreri concludes that under the action of an electric current the medicaments applied to the tympanic and mucous membrane of the cavity are not absorbed, and that galvanic cataphoresis is not an efficient resource in ear diseases. He admits his experiments do not justify absolute conclusions, but they show the necessity of further study.

136. **Physiologic Tests in Ear Lesions.**—Ballinger illustrates by cases the value of physiologic tests in the differential diagnosis of lesions of the ear, and while not claiming that the diagnosis can not be made without their aid, he believes that in many cases it will fail. While not of equal value with ophthalmoscopic examination of the fundus they are the best at the command of the otologist and should be used in combination with all other methods of differential diagnosis.

138. **Carbolic Acid in the Throat.**—Galloway reports a case where through an error or carelessness in labeling of the drug a 95 per cent. solution of carbolic acid was used as a spray for a man suffering from severe tonsillitis and pharyngitis. The mistake was recognized almost immediately, and equal parts of alcohol and water were applied by the same method and followed by mucilaginous drinks. The patient recovered in about a week, minus his tonsillitis.

FOREIGN.

The Lancet, August 4.

A Case of Meningomyelitis With Bacteriologic Examination of the Spinal Cord. George R. Murray and W. Hardcastle.—The authors describe a case of meningomyelitis apparently following exposure and exertion, and following the usual course, in which microscopic examinations of secretions of the cord showed the presence of what they recognized as a sort of oval motile bacillus, staining often most strongly at the ends and then resembling a diplococcus. It stained readily with aniline dyes and could with care be stained with Gram's method. It is found in large numbers in the pia and in lesser numbers in the substance of the cord. Pure cultures were obtained from both, and inoculation experiments showed it to be pathogenic to the guinea-pig and locally also to the rabbit. They report the case as bearing on the infective nature of meningomyelitis and refer to other cases in which somewhat similar findings have been recorded by Buzzard, Risien Russell and Trevelyan. They think the evidence goes a long way to show that acute disease of this character is probably infective, though it can not as yet be attributed to any single organism, but the bacilli that have been found in recorded cases have certain characteristics in common.

A Blood Reaction in Diabetes Mellitus; Its Cause and Diagnostic Value. R. T. Williamson.—The writer recalls that in 1896 he recorded a reaction which he believes to be peculiar to the blood of patients suffering from diabetes mellitus. A drop of blood taken from the finger decolorizes a warm alkaline solution of methylene blue when mixed in certain proportions, while the blood taken from healthy persons or from individuals suffering from other diseases has no such action. The reaction is due to the greater reducing power of diabetic blood, and is obtained as follows: At the bottom of a small narrow test-tube is placed a drop of water—40 cubic millimeters. To this is added 20 cubic millimeters of blood taken from the finger of a diabetic patient, then 1 c.c. of a watery solution of methylene blue, 1 in 6000, and finally, 40 cubic millimeters of liquor potassæ—B. P.—are added. Into a similar tube are placed 20 cubic millimeters of normal blood with the same proportion of methylene blue and liquor potassæ. The mixed fluids in the tubes will have a fairly deep blue or bluish-green color. Both these tubes are placed in a beaker or very wide test-tube containing water. The water is heated and kept boiling for four minutes; at the end of this time the fluid in the small test-tube containing the diabetic blood will have lost its bluish color and become a dirty yellow, while that in the tube containing the non-diabetic blood will remain bluish-green. He has examined blood in many cases of diabetes and always obtained a reaction, and has never obtained it in any other condition. His results have been confirmed by investigators in Germany, Italy, France, and America. Its reaction is due to some substance in solution in the blood-cells and is lost after the blood has been submitted to the action of yeast, the fermentative action of yeast fungus seeming to destroy the reaction substance. After the proteids of the diabetic blood or serum have been separated by boiling with crystalline soda sulphate and filtered, the filtrate gives the methylene blue reaction, but with the non-diabetic blood this fails. The action of the yeast is the same after the separation as before. It is well known that glucose has the power of reducing the warm alkaline solution of methylene blue and this methylene blue reaction carried out with the proportion of blood as before stated may be obtained with a solution of glucose. This reaction is obtained with diabetic urine, diabetic blood, diabetic blood-serum, and with filtrate from diabetic blood when the proteids have been separated. All these fluids after the action of the yeast fail to give the reaction. This indicates that the methylene blue reaction given by the diabetic blood is due to the action of the glucose which it contains. This reaction may be of value in diagnosis and it would be of special use after death in certain cases where diabetes has not been recognized. He thinks it advisable when the blood is examined post-mortem to always take it from the internal jugular vein. Blood from this vein is not liable to be contaminated by other fluids during necropsy. It is possible that it may be found that this diabetic reaction may be made the basis of an easy method of estimating the amount of sugar in the blood.

The Etiology of Scurvy. W. E. Home.—The author discusses the cause of scurvy and notices certain facts which lead him to suggest that the initial lesion is the infection of the gums due to micro-organisms of decayed teeth. This infection is antagonized by lime-juice and fresh vegetables, which act as antiseptics, it being most apt to occur in time of hardship when cleanliness is less within our reach.

Limitations of Physical Methods in the Investigation of the Physiological and Psychical Phenomena of the Sight. F. W. Edridge-Green.—The author refers to a former paper in which he showed why it is not possible to correctly ascertain color perception if we ignore color names. His views on the perception of color are stated as follows: Light acting on the retina liberates the visual purple from the rods and a photograph is formed, the cones and optic nerve-fibers conveying the impression to the brain. He thinks that it has been shown that this visual substance can be used up by exercise of the sight, and mentions experiments for the demonstration of this. He believes the shortening of the spectrum is due to some defect in this visual substance, the visual substance, being decomposed by light, sets up, by chemical, electrical or some other physical action, impulses which are conveyed to the brain by cones and optic nerve-fibers in the retina. The whole impression being brought to the center of memory, different portions, color forms, size, luminosity, etc., are conveyed to the mind through distinct perceptive centers. In the case of color the different perceptive centers are only able to distinguish six different points of difference in the spectrum, which really presents millions. We, therefore, have for normal sight the hexachromic theory, which agrees with the fact that both blue and violet have been demonstrated to be primary. It also, he believes, explains the degrees and variations of color-blindness. Assuming that the perception center is smaller, fewer points of difference are seen. The phenomena of contrasts is explained by the view that color being a point of difference this becomes more marked on comparison. In addition to other points raised, the following appear to him as objections to the so-called physical methods of ascertaining the color perception of individuals: 1. The varying absorption of light by the media of the eye, which affects the variation of the color curve without in any way affecting the real color perception of the individual. 2. Hyperesthesia as to certain colors that exists in certain individuals. 3. Variation in the subject's ideas of color. He believes we must be very careful in examining a person by physical methods to see that we do not obtain results that are physical, chemical and electrical phenomena. Psychical phenomena when they exist can not be measured by the balance and rule, but must be gained by direct evidence from the mind itself.

The Practitioner, August 4.

Recent Experimental Contributions to the Pathology of Diabetes. John Rose Bradford.—The fundamental fact in the pathology of diabetes is excess of sugar in the blood, and the method of producing this condition may be theoretically in three ways: 1. Too great an ingestion of sugar. 2. Excessive formation of sugar. 3. The presence of an excessive quantity may be caused by the tissues not oxidizing in the normal manner the amount normally ingested or produced. Probably most pathologists will agree in considering glycosuria and diabetes as possibly dependent on any one of these three conditions. Some, however, might hold the view that there is a fourth way, viz., owing to the peculiar disintegration of tissues, more especially the proteid tissues of the body, which are of such a character that they break down into nitrogenous and non-nitrogenous portions, the former excreting as a urea, the latter causing formation of sugar. According to this view, which is by no means generally held, diabetes might be unconnected with any anomaly in the ingestion, production, or destruction of sugar, but be really dependent on the primary disintegration of the tissues with sugar formation. The first view, that diabetes depends on the anomalies in the absorption of sugar is based on various observations of so-called alimentary glycosuria, but it is possible, however, that some of these may have a totally different origin and be really dependent on toxic actions. At the present time the bulk of cases, are considered to be of either hepatic or pancreatic origin. In the former case the production of sugar by the liver is greatly increased or the liver does not act as a sugar or carbohydrate stopping substance. The mechanism of pancreatic diabetes is not so clear, but the theory of Lépine that the organ produces a so-called ferment which is essential to the metabolism of sugar is probably the simplest explanation. There are some confirmatory facts supporting this view, but it can not be considered proved. The recent observations by Tuckett seemed to show that the thoracic lymph during digestion contains a substance which will cause glycosuria and it is possible that normally the activity of this substance is neutralized or annulled by the internal secretion of the pancreas, which would explain some experimental facts that have been reported.

Glycosuria and Diabetes in Relation to Life Assurance. Hector Mackenzie.—The mortality from diabetes seems to be steadily increasing throughout the world, hence its importance in life assurance. A routine examination is now required of every applicant for life assurance. It is a matter of great importance that it should be detected when it exists, and it is very desirable that the examiner should state both the test he has employed and the results observed. This would in many cases enable the chief medical officer to form some idea as to the value of the observation. It must be remembered that there are some persons who are inclined to misrepresent themselves as being in perfect health when applying for insurance and will attempt to prevent the detection of glycosuria by special diet. The family history must be carefully looked into in this matter. Certain races, such as the Jews and Hindoos, seem to suffer more than others. Persons with red hair are supposed to be more susceptible to diabetes and tuberculosis and it is far more common in men than in women. Where both parents have died from the disease extra premium is certainly called for and such cases should be rejected, according to some authorities. If a small quantity of sugar is present the medical examiner should obtain a number of specimens without any restriction of diet. If no sugar is found in any of the other specimens and the life is not a young one and there is nothing else against it there is no cause for extra premium. Should there be a gouty history then the transitory glycosuria may be looked on as an additional reason for recommending the life for acceptance only as an endowment terminable at 63 or 65 as the case may be. If slight glycosuria is found on several occasions the applicant, if a young person, should be recommended to consult his own medical attendant and come up for examination on some future occasion. Cases of slight glycosuria in the middle-aged are not altogether ineligible, and, where it is associated with obesity and gout or both, may be considered as favorable on the whole. Cases of true diabetes, whether in old or young persons, should always be declined.

Clinical Tests for Sugar in the Urine. R. T. Williamson.—After describing the various tests for sugar in the urine Williamson concludes that the following rules are the best to follow in all contingencies: 1. Test with Fehling's solution, taking the precautions already mentioned—testing it for decomposition, keeping the amount of urine less than that of the solution, and not boiling too long. If the result be negative, no other test is required. 2. When Fehling's solution is reduced, but other indications of diabetes are absent, try the phenyl-hydrazin or fermentation test, or both. 3. When the reduction of Fehling's solution is slight, or when a decision is desirable within a few hours, try the phenyl-hydrazin test first. A negative result would be conclusive that the reduction of Fehling's solution was not due to grape sugar. 4. If the reaction with Fehling's solution is well marked, and if the decision can be conveniently delayed for a day, proceed at once to the fermentation test. A positive result is conclusive evidence of sugar. 5. Sometimes both confirmatory tests, and the testing of the urine with Fehling's solution after the action of yeast, are desirable, according to the indications already given.

Bulletin de l'Academie de Medecine (Paris), July 24.

Cure of Aneurysm by Ligature of Axillary Artery. Gerard-Marchant.—The aneurysm involved the entire right subclavian artery into the innominate trunk. It had developed in eighteen months to the size of a small hen's egg. A course of gelatin injections failed to benefit it, but the patient was completely cured after the axillary artery had been ligated under the clavicle and the common carotid tied close to the innominate trunk at the same sitting. This is the first time that ligature of the axillary has been successful, and the fact that the current in the artery was retarded, the pulse feeble, evidently contributed to the success. In less than six weeks the pulsating aneurysm had become transformed into a hard bunch.

Bulletin de la Soc. Med. des Hop. de Paris, July 19 and 26.

Pneumococcus Peritonitis. P. Menetrier.—In fourteen cases of primary pneumococcus peritonitis collected by Brun, eleven were girls, but Menetrier has had occasion to observe four adult cases, including three males. All were fatal and offered no chance for surgical intervention. Two cases are described in detail. In one a peritonitis, commencing abruptly and without known cause, produced death in nine days. The diffuse purulent peritonitis found at the autopsy was without a trace of perforation, inflammatory focus or portal of entry for the infection. Cultures disclosed the pneumococcus and cadaveric flora. In the other, the peritonitis commenced suddenly in the course of a mild bronchial attack, possibly la grippe, and was distinguished by the three characteristic signs of pneumococcus infection, pain in the abdomen, vomiting and diarrhea. The abdominal phenomena then subsided and the temperature fell to 37 C., but the right foot developed a painful ischemia, with a gangrenous patch on one toe and ischemia of the hand, with visible and palpable thrombosis of the left radial artery, persistent albuminuria and diazo-reaction. The peritonitic symptoms reappeared the twenty-fifth day, accompanied by persistent and painful hiccough. The patient died in coma on the twenty-ninth day. The autopsy disclosed multiple arterial thrombosis and generalized peritonitis, with pneumococci developing in all cultures. There was no endocarditis nor intracardiac clot, nor source of emboli in the vessels or respiratory apparatus. The thrombosis must have been primary. The pneumococci were not found in the walls, but merely in the clot itself. Perimicrobian leucocytic agglomerations had probably formed in the blood from aborted phagocytosis, and as they increased in size had obstructed the circulation. Such phenomena are usually described as infectious arteritis, but the mechanism is probably that of a perimicrobian leucocytic thrombosis.

Action of Organs on Poisons. L. Thoinot.—The tissue of organs from freshly killed animals was mixed with poisons, passed through a filter and injected into other animals of the same species. The control animals were injected with the same poisons without mixture with the organs. The results showed that kidney and liver tissue neutralizes all poisons in variable degrees, while the tissue of other organs neutralizes some poisons and exaggerates the poisonous effect of others. Brain tissues, for instance, neutralizes morphin and strychnin; does not affect atropin but enhances to a marked extent the action of arsenic.

Echo Medical (Lille), July 29.

Hospital Abuses at Paris. Thiery.—Among the instances of hospital abuses cited by Thiéry in his address on this subject at the Congress of Professional Medicine, were the cases of a jockey receiving $5000 a year who applied at the Pitié for treatment of a sprain, and of a cashier on a $4000 salary who appeared with the other out-patients at the Hôtel Dieu and was surprised that he was not passed in first. The wife of a Bulgarian official who was sent to Paris for special treatment is another instance. She spent her money in the shops and had her laparotomy performed gratuitously at the Saint Louis. She did not even pay the small amount charged for a private room. This hospital had a similar experience with a woman who came from America for special treatment. A wealthy Russian prima donna requested to be operated on free of charge at her apartment, as "otherwise she would be compelled to go to a public hospital." One of the physicians of the charity out-patient department states that he has been summoned 337 times to attend persons who were not sick at all. He discovered that the cod-liver oil he had been prescribing for a child in another family was being systematically used to fill the lamps. Each year 18,000 out of the 50,000 births at Paris are at the public expense. Thiéry also called attention to the fact that each bed in the hospitals cost 20 francs a day, and that when less than this sum is accepted from well-to-do persons, the poor are deprived of the benefit of the balance.

Journal de Medecine de Paris, July 29.

Artificial Delivery with Glycerined Gauze. Magniaux.—The writer describes three cases in which delivery was prematurely induced in women with narrow pelves, by means of a wick of glycerined gauze inserted into the cervix. He recommends the process as simple and within the reach of all, it obviates the danger of premature rupture of the bag of waters and of hemorrhage, and is more rapid in its effects than the Knause process, although not quite so sure. Even when it fails to induce delivery, it dilates the cervix, which facilitates the introduction of the sound or hystereurynter.

Presse Medicale (Paris), July 30 and August 1.

Cholera Infantum. A. B. Marfan.—Various experiments and tests are reported to prove that cholera infantum is due to an ectogenic intoxication caused by certain toxins which develop in milk during the first few hours after leaving the cow and are not affected by boiling the milk later. The toxins form much more rapidly in hot than in cold weather, and are the chief factors in the production of cholera infantum. The invasion of the intestinal mucosa by microbes is a secondary phenomenon. This conception emphasizes the necessity of sterilizing by the Soxhlet method or merely boiling the milk, when it can be done within two or three hours after milking. If several hours have elapsed, however, these methods of sterilization are absolutely useless, as they have no effect on the toxins already formed in the milk. If the milk has to be brought a long distance, it must be sterilized at the dairy within two or three hours. Marfan's treatment of cholera infantum is based on the suspension of all food and the administration of pure water, substituting the milk by approximately the same amount of water, and is attended by truly remarkable effects. Subcutaneous injections of artificial serum are also made, if indicated, and warm baths, with or without mustard, are given. If collapse seems imminent, he adds a little caffein to the artificial serum injected. The treatment after cessation of the choleriform symptoms is that of any simple gastroenteritis, returning again to the water diet if diarrhea reappears.

August 1.

Bacteriology of the Mouth of the New-Born. E. Bonnaire.—A case of double parotitis in an otherwise healthy new-born infant of a healthy mother, suggested bacteriologic investigation of the mouths of the new-born. Research on eighteen infants demonstrated that in every instance when the head of the fetus is lodged in the cervicovaginal canal for any length of time, after the rupture of the bag of waters, micro-organisms are found in the mouth, even in the absence of any digital exploration or intervention. The infection does not come from the outer air nor from the mother's nipple, but occurs during the passage of the head through the vagina unless the expulsion of the fetus is rapid and immediately follows the rupture of the amniotic sac. The membranes sometimes protrude and form a protecting sheath, isolating the entire inner surface of the vagina. In a subsequent case the vagina was rendered absolutely sterile as labor commenced, and during expulsion the genital zone was frequently irrigated with a solution of sublimate. As soon as the mouth appeared it was wiped with a sterile compress and a pad was kept over the mouth until the infant was placed in the incubator. No cultures could be obtained from the mouth six hours later.

Deutsche Medicinische Wochenschrift (Leipsic), July 26.

Tumors in Cerebellum. Schede.—A case is described in which the symptoms indicated a lesion in the cerebellum. The hearing was entirely lost in the left ear, and reduced to nearly zero in the right; vision, in left 20/300, and right 20/70. White and blue were the only colors distinguished; red was seen as black, green and yellow as white. There was also incipient optic atrophy and retrogressing congestion of the papilla. When the patient stood still he swayed, and when asked to turn around, fell immediately, swaying and falling always toward the left. The arm on this side was also weaker than the right. In operating, when the dura was exposed on both sides, the right seemed cyanotic, the left normal, but nothing was found on the right side, which was investigated first. The tumor was found 1 cm. below the surface in the left side, a glioma 2x4 cm. in size and weighing 18 gm. After its removal the X incisions in the dura on each side were easily sutured, leaving a gauze drain on the left. The results were brilliantly successful. By the next day the hearing was practically restored to normal and the sight was much improved. The patient can now count fingers readily. The swaying also ceased. In a second case the symptoms were still more pronounced. The patient swayed and fell constantly to the left. A smooth-walled cyst was found and removed on the left side, but it proved to be only a portion of a cystic glioma, which entailed death within a month. No blood was lost during either operation, which Schede ascribes to the erect sitting posture of the patients, with merely the head bent over. The first operation increases to 3 the number of patients cured by removal of a tumor in the cerebellum out of 14 operated on. Five died immediately; three survived without improvement, and one died from recurrence. Schede made a semicircular incision from one mastoid process to the other and dissected down the soft parts in a flap reaching to the bone and downward to the foramen occipitale magnum. Removing the crista occipitalis allows ample space for removal of a tumor. The bone defect at this point is of little moment, as the strong muscles of the neck cover it sufficiently.

Parasitic Nature of Eczema. W. Scholtz.—The writer confirms his previous announcements that eczema is due to the action of the staphylococcus pyogenes aureus on a specially prepared soil, the nature of the preceding alteration of the epithelium and corium determining the eczematous character of the dermatitis, in connection with individual peculiarities and especially the susceptibility of the skin. This conception explains the empiric success of present methods of treatment.

Early Diagnosis of Carcinoma. E. Hollander.—In examining the patient for evidences of carcinoma hereditary antecedents are of the greatest value, especially in case of carcinoma of the alimentary canal. There are families in which the lungs, in others the stomach, etc., are the *locus minoris resistentiæ*, but in scarcely any other affection is this family tendency so marked as in carcinoma of the intestines. Hollander refers to one family in which there were 16 certain cases and 3 dubious in five generations. He also calls attention to the fact that in studying the family history it must be borne in mind that if members of the family die under 40 this by no means excludes the possibility that they might have had carcinoma later, in which respect it is in marked contrast to tuberculosis. Another diagnostic point is certain alterations of the skin, which seemed to accompany intestinal carcinoma with striking frequency. They are three-fold; vascular, verrucous, or pigmentary, and usually occur more or less pronounced, and possibly associated. The vascular alterations are numerous bright-red spots in the midst of sound skin the size of a pinhead to that of a bean, slightly raised above the level of the surrounding skin. Pressure does not expel the blood unless forcible. They occur even on the obese and in fatty regions of the body. The second cutaneous anomaly is the seborrhagic warts, such as are known as senile warts, but which occur in young persons with the carcinoma tendency. In some cases they develop into tumors which only differ from other carcinomata of the skin by their relative benignity. The third group is the pigmented patches, resembling freckles, which are scattered more or less numerously over the covered portions of the body. In a case illustrated, the entire thigh is spotted like a bird's egg. The sister of this patient had exhibited the same cutaneous phenomenon as a premonitory symptom of intestinal carcinoma, and the second patient diagnosed her own carcinoma long before the physicians could discover it.

Sale of a Medical Practice. Biberfeld.—A suit has recently been decided in Germany relieving the incoming doctor of the obligation to pay a certain amount for the medical practice of his predecessor. The sale of a medical practice was qualified by the judge as immoral—*gegen die guten Sitten*. Biberfeld protests against this view and presents arguments to prove its fallacy, unless the practice is sold knowingly to a charlatan or man of irresponsible character.

Muenchener Medicinische Wochenschrift, July 24.

Autointoxication and the Thyroid. F. Blum.—The title of this article in the original is "New experimentally discovered ways of determining and treating diseases induced by autointoxication." After much experimental research Blum asserts that the function of the thyroid is to deprive of their toxicity the toxins generated in the intestinal canal from the putrefaction of albumin. If the thyroid gland is not working properly these enterotoxins are not rendered innocuous and consequently pass on unchanged and cause serious disturbances, with corresponding anatomic changes. If the action of the unneutralized enterotoxins is sudden and stormy, the central nervous system is alone affected, but if prolonged, the kidneys exhibit evidences of degeneration in the parenchyma, and interstitial proliferation and infiltration in the vicinity of the glomeruli. The enterotoxins in their passage through a healthy thyroid gland are deposited there as a highly molecular combination—thyreotoxalbumin—and are gradually deprived of their toxicity. The combination hitherto supposed to be the specific iodin-substance of the thyroid gland is in reality merely an intermediate product of this transformation process. It is, in short, a thyreotoxalbumin more or less saturated with iodin. This thyreotoxalbumin never passes into the circulation if the thyroid gland is sound, and there is also a pre-existing and acquired immunity against it. There is likewise formed in animals restored to health after thyroidectomy a substance that protects against the enterotoxins. Immunity against enterotoxins does not confer immunity against the thyreotoxalbumin nor vice versa. If the results of this research apply also to man, they suggest that many more diseases than have hitherto been supposed, are closely connected with intestinal processes and insufficiency of the thyroid gland. They would modify our previous conceptions of myxedema and of Basedow's disease, and indicate therapeutic measures.

Present Status of the Sanatorium. E. Rumpf.—The writer is in charge of a large sanatorium in Baden and he deplores the loss of time and expense from the carelessness that sends absolutely incurable consumptives to such institutions. Polyclinics for tuberculous patients will be a great assistance in this line, especially if they are conducted by men with practical experience as medical attendants in a sanatorium, but most desirable of all would be a special tuberculosis hospital in the larger cities, to relieve the general hospitals, in which the patients could be sifted out and the internes trained.

Expiration Grooves in the Liver. K. Walz.—The sagittal grooves on the upper surface of the liver have been explained in various ways, but the writer demonstrates that they are caused by the bending of the organ as the diaphragm presses down the upper surface and then releases it. The middle is pressed down and the sides up, and then the sides relax in expiration and the middle rises. The process is probably an important factor in the evacuation of the gall-bladder.

Improved Technique of Hand Disinfection. B. Krönig.—Zweifel has been using for several months a solution of mercury which he considers much superior to sublimate, as with identical disinfecting powers it has no irritating action on the skin, does not precipitate albumin nor blood, while it has a much more intense deep action, at least on dead tissues. The salt used is the citrate of mercury, 10 gm. with ethyl diamin 4 gm., and water 86 gm. It is used in a 3 per 1000 solution and in place of the 1 per 1000 sublimate, after eight to ten minutes' scrubbing.

Therapie der Gegenwart (Berlin), July.

Treatment of Impotency. E. Mendel.—Besides the usual measures and remedies in vogue, Mendel has been using during the last two years yohimbin, a medicine borrowed from the natives of Cameroon, where it is used to cure impotency in the male. Tests on dogs showed that it possessed an unmistakable effect on the genital sphere, which larger doses intensified into general convulsions. It had also a paralyzing tendency later, and depressed the pulse. He has treated forty cases of impotentia coeundi with sol. yohimbini, 5 to 10 drops, three times a day. A distinctly favorable effect was evident in 50 per cent. of the patients who could be controlled, and no injurious effects of any kind followed its administration. Mendel adds that even assuming that suggestion may have had something to do with the results, they still warrant further trials of the remedy. When he suspects hypochondriac functional impotency in a member of the "upper ten" he finds that a bottle of champagne is usually sufficient to suppress the inhibiting influences.

Gazzetta degli Ospedale (Milan), July 12 and 29.

Vitality of Skin Flaps. P. Pezzolini.—The extreme limit of latent vitality in the experiments with periosteum flaps, reported by Grohé and Morpurgo last year, never surpassed 100 and 192 hours, respectively. Pezzolini's grafts of skin taken from the backs of dogs and kept in normal salt solution at room temperature, were successful even after an interval of six days. In other similar experiments some of the cells showed mitosis after a ten-day interval, and even after eleven days when kept at zero temperature. Experiments with similar flaps sealed dry in a glass jar kept in the refrigerator, demonstrated that they rapidly lost their vitality within two days, when dry. The flaps in the successful grafts grew into place by the same mechanism as fresh flaps, only more slowly and with greater loss of tissue.

Sclavo's Serum for Pustula Maligna. A. Liscia. In many years' experience with pustula maligna, all the mild cases recovered, no matter what treatment was used, and all the malignant ones died. In two recent cases of unmistakable malignant character both were saved with the prompt administration of Sclavo's serum.

Hysteric Cutaneous Lesions. E. Leonardi.—A placid, well-developed young Italian woman was affected at periods corresponding to the menses with a suddenly appearing elliptic solution of continuity on the lower eyelids and on the nasolabial sulcus, which healed without a scar in a few days. There was not a trace of hysteria about the girl or her antecedents, except the facility with which she could be hypnotized and the presence of two anesthetic zones on the forearm and right cheek. Leonardi, however, is inclined to attribute the lesions to a hysteric autosuggestion from a patch of preceding eczema on the girl's hand and forearm.

New Conceptions of Helminthiasis. P. Dematteis.—For a number of years Dematteis has been studying and experimenting with intestinal worms. He noted that in a number of cases of typhoid fever the patients evacuated ascarides by mouth and anus, and he has succeeded in demonstrating that a febrile elevation of temperature arouses the helminths and especially the nematoda to increased energy of movement. Owing to this increased energy, they may produce trauma of the intestinal walls and consequent lesions, particularly if the fever is associated with conditions of the walls rendering them more susceptible to injury. His recent observations and tests have also established that helminths secrete toxic substances which may determine various morbid processes when absorbed. He found in the intestines of ascarides taken from six children the bacillus coli, subtilis, proteus, and various staphylococci and streptococci. In one case there was a pure colony of the latter. There is, therefore, great danger from evacuation of pathogenic germs and elaborated toxins in helminths migrating under the influence of febrile temperatures, especially if there are anatomopathologic alterations in the intestinal walls. This subject is one that deserves the consideration of all physicians and appropriate measures to exterminate the helminths in all such cases where their presence is suspected.

July 29.

Diastatic Ferment in White Corpuscles. C. Tarchetti.—Dogs were injected subcutaneously with a solution of rice starch and the corpuscles examined later in respect to their reaction to iodin. Some of the whites presented a typical reaction in the granules of starch, while in others there was unmistakable evidence that the starch had undergone partial digestion in them. In another experiment insoluble starch left for seven days in contact with sterile pus at a temperature of 37 C. became soluble. Sterile pus dried and pulverized, and mixed with alcohol and glycerin, was also found to have a marked diastatic action on starch.

Treatment of Syphilids During Pregnancy. N. Federici.—As a contribution to the disputed problem of the advisability of energetic mercurial treatment during pregnancy, Federici relates an observation of a young woman in the eighth month of pregnancy who applied for relief from a specific iritis. She presented a characteristic roseola and diffuse adenopathy. Certain physicians consulted hesitated to institute the treatment indicated, but Federici ventured on a vigorous course of mercurial injections, accompanied by potassium iodid, with the satisfactory result of curing the syphilids without interfering with the normal delivery at term of a "fine boy."

Brazil Medico (Rio Janeiro), July 1.

Excision of Buboes in Plague. Camillo Terni.—It is an unpardonable error to wait for the suppuration of the bubo before excising it, according to Terni. The infection rapidly spreads and its toxic effects soon become manifest, while serum treatment is powerless at this stage. Excision of the primary bubo will frequently arrest the infection and should never be neglected. It is a simple operation. The bubo is easily isolated and excised with the contiguous lymphatic ganglia, especially if they are hemorrhagic. It is seldom necessary to apply a ligature, and the loss of blood is slight. The region is then irrigated with a strong solution of sublimate and a moist drain inserted. He advocates local anesthesia with ethyl chlorid, and recommends excision of the bubo even in doubtful cases, as it can never do harm. If excision is absolutely impossible, he recommends injecting a 2 per cent. solution of sublimate or of phenic acid into the bubo. In his experiences at the Jurujuba Hospital in April and June, 37 died out of the 145 plague patients received, a proportion of 26.2 per cent. Excluding those who died in less than forty-eight hours after entering, the proportion is only 13 per cent. The thirty-six cases in the town during the same thirty days, who were treated by other methods at home or received no treatment, proved fatal.

Ichtheroid Psychoses. M. Néry.—Certain writers have tried to distinguish a special variety of mental disturbances which occur consecutive to yellow fever, but Néry asserts that they do not differ in any respect from the various psychoses observed during convalescence from any infectious disease.

St. Petersburger Medicinische Wochenschrift, July 14, 21 and 28.

Success of Mercury in Gonorrhea. A. Paldrock.—A patient had been long treated in vain for chronic articular rheumatism, which had first commenced about a year after a tedious but finally cured gonorrhea. Inspired by Böttcher's success with a case of general gonorrheal infection cured with gray ointment, Paldrock commenced a course of inunctions, and after 144 gm. had been rubbed into the patient in the course of five weeks, he was dismissed, completely cured, and has had no recurrence during the year since. In another case of chronic gonorrhea the cocci were found in the effusion of an intercurrent pleurisy. The writer concludes by suggesting that multiple articular affections with chronic, acute or past gonorrhea should be treated with gray ointment even in the absence of syphilitic antecedents. Gonorrheal articular affection is characterized by the rapid involvement of the ligaments and the small amount of exudate. Contraction, atrophy and ankylosis appear early. Such cases are by no means rare, but they usually masquerade as "chronic articular rheumatism."

Puerperal Eclampsia. G. Ferberg.—The writer of this communication distinguishes between hysteric, epileptic and eclamptic puerperal convulsions. In a recent case the seizures that occurred during the puerperium suggested epilepsy, although there had been no previous history of anything of the kind. A sister had been affected in the same way; both women died in a few days after delivery. The cases suggest the existence of latent epilepsy in each, aroused to activity by the stress of parturition.

July 21 and 28.

Syphilis Hemorrhagica Neonatorum. W. Loewenberg.—Three observations of hemorrhagic diathesis in the new-born with severe inherited syphilis are described. Bacteriologic tests in each case revealed the presence of streptococci or staphylococci in the blood and conclusively demonstrated a septic infection. The writer also reviews the cases on record and concludes that there are no grounds for assuming the existence of a specific hemorrhagic syphilis in the new-born.

Books and Pamphlets.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

A Dictionary of Medicine and the Allied Sciences. Comprising the Pronunciation, Derivation, and Full Explanation of Medical, Pharmaceutical, Dental and Veterinary Terms, Together with Much Collateral Descriptive Matter, Numerous Tables, Etc. By Alexander Duane, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute. Third Edition. Enlarged and Thoroughly Revised. With Eight Full Page Colored Plates. Cloth. Pp. 645. Price, $3.00. Philadelphia and New York: Lea Bros. & Co.

Atlas and Epitome of Special Pathologic Histology. By Docent Dr. Hermann Duerck, Assistant in the Pathologic Institute; Prosector to the Municipal Hospital, L.I., in Munich. Authorized Translation from the German. Edited by Ludvig Hektoen, M.D., Professor of Pathology in Rush Medical College, Chicago. Circulatory Organs; Respiratory Organs: Gastrointestinal Tract. With 62 Colored Plates. Cloth. Pp. 158. Price, $3.00. Philadelphia: W. B. Saunders. 1900.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. Burghard, M.D, and M.S., F.R.C.S. Teacher of Practical Surgery in King's College, London. In Seven Volumes. Volume iii. The Treatment of the Surgical Affections of the Bones. Amputations. Cloth. Pp. 305. Price, $3.50. Philadelphia and New York: Lea Bros. & Co. 1900.

A Manual of Clinical Diagnosis by Microscopic and Chemical Methods. For Students, Hospital Physicians, and Practitioners. By Charles E. Simon, M.D., Late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore. Third edition, thoroughly revised. Illustrated with 136 Engravings and 18 Plates in Colors. Cloth. Pp. 558. Price, $3.50. Philadelphia and New York: Lea Bros. & Co. 1900.

Clinical Studies in Epilepsy. From the Craig Colony for Epileptics at Sonyea, N. Y. 1. Exhaustion-Paralysis in Epilepsy. 2. Paramyoclonus Multiplex Associated with Epilepsy. 3. Hypertrophic Infantile Cerebral Palsy and Phocomelus Associated with Epilepsy. L. Pierce Clark, M.D. Paper. Pp. 230. Utica, N. Y.: State Hospital Press. 1900.

Beneath Hawaiian Palms and Stars. By E. S. Goodhue, Government Physician. Illustrated from Photographs and Pen Sketches by Robert J. Burdette, Jr., and C. B. Andrews. Cloth. Pp. 248. Price, $1.50. Cincinnati, Ohio: The Editor Publishing Co.

Second Report of an Investigation of the Rivers of Ohio as Sources of Public Water Supplies. By the Ohio State Board of Health. 1899. Cloth. Pp. 284. Columbus, Ohio: The Westbote Co. 1900.

Thirteenth Annual Report of the State Board of Health of the State of Ohio for the Year Ending October 31, 1898. Paper. Pp. 689. Columbus, Ohio: The Westbote Co. 1899.

Ringworm in the Light of Recent Research. Pathology, Treatment. Prophylaxis. By Malcom Morris, Surgeon to Skin Department, St. Mary's Hospital. With Twenty-two Microphotographs and One Colored Plate. Cloth. Pp. 137. Price, $2.00. London, Paris and Melbourne: Cassell & Co., Ltd. 1898.

Forty Years in the Medical Profession, 1858-1898. By John Janvier Black, M.D., Member of the College of Physicians of Philadelphia. Cloth. Pp. 498. Price, $3.00. Philadelphia: J. B. Lippincott Co. 1900.

On Gall-Stones and Their Treatment. By A. W. Mayo Robson, F.R.C.S., Professor of Surgery in the Yorkshire College of the Victoria University. Illustrated with 20 engravings. Cloth. Pp. 285. Price, $2.00. London, Paris and Melbourne: Cassell & Co., Ltd. 1892.

A Treatise on Appendicitis. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. Second Edition. Thoroughly Revised and Considerably Enlarged. Illustrated with Twenty-two Full Page Plates. Cloth. Pp. 300. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. xii. For the year 1899. Cloth. Pp. 365. Philadelphia: Wm. J. Dornan. 1900.

Twenty-third Annual Report of the Board of Health of the State of New Jersey and Report of the Bureau of Vital Statistics. 1899. Cloth. Pp. 432. Trenton, N. J.: MacCrellish & Quigley. 1900.

A Memoir of Henry Jacob Bigelow, A.M., M.D., LL.D., Member of Massachusetts Medical Society, Etc. Cloth. Pp. 297. Price, $4.00. Boston: Little, Brown & Co. 1900.

I. The Mechanism of Dislocation and Fracture of the Hip. II. Litholapaxy; or, Rapid Lithotrity with Evacuation. By Henry Jacob Bigelow, A.M., M.D., LL.D. Cloth. Pp. 356. Price, $4.00. Boston: Little, Brown & Co. 1900.

Surgical Anesthesia Addresses and Other Papers. By Henry Jacob Bigelow, A.M., M.D., LL.D. Cloth. Pp. 375. Price, $4.00. Boston: Little, Brown & Co. 1900.

Orthopedic Surgery and Other Medical Papers. By Henry Jacob Bigelow, A.M., M.D., LL.D. Cloth, Pp. 373. Price, $4.00. Boston: Little, Brown & Co. 1900.

PAMPHLETS

Annual Report of the Board of Health of the City of

Winona, Minnesota. For the Year Ending March 31, 1900. Paper. Pp. 12. Winona, Minn.: Joseph Leight Press. 1900.

Annual Report Sheltering Arms Hospital, Paint Creek, W. Va. For 1899-1900. Paper. Pp. 10.

Conical Stump After Amputation in Childhood.—Methods and Results in 450 Cases of Fracture of the Forearm Bones.—Methods and Results in 175 Cases of Simple Fracture of Femur.—Wound of the Urinary Tract During an Operation for Acute Appendicitis.—Spontaneous Closure of Urinary Fistula.—Recovery. By Charles M. Powers, M.D., Denver, Colo. Reprints.

Constitution and By-Laws of Rochester Academy of Medicine. 1900. Paper. Pp. 37. Rochester, N .Y.: Genesee Press.

Eighteenth Annual Meeting of the New Mexico Society. Held at Albuquerque, N. M., May 30, 1899. Paper. Pp. 12.

Fibers from the Lamina Cribrosa Extending Out from the Optic Disc Over the Retina. By Frank C. Todd, M.D., Minneapolis, Minn. Reprinted from Ophthalmic Record.

Impetigo Adenosa. By N. E. Aronstam, M.D., Ph.G. Reprinted from Medical Age.

Is a Medical Education a Necessary Qualification for Dental Practice? By Alice M. Steeves, D.D.S., Chicago. Reprinted from Jour. A. M. A.

Losdorfer's Bodies: A New Discovery in Syphilitic Blood. By Victor Neudörfer, Vienna, Austria. Reprinted from St. Paul Med. Jour.

Malpractice Suits: How Best to Protect Ourselves Against Them. By Donald B. Pritchard, M.D., Winona, Minn. Reprinted from St. Paul Med. Jour.

Ninth Annual Report of the Ohio Hospital for Epileptics at Gallipolis, Ohio, to the Governor of the State of Ohio for the Fiscal Year 1899. Paper. Pp. 64. Columbus, Ohio: Westbote Co.

Ninth Annual Report of the State Board of Medical Examiners of New Jersey. 1899. Paper. Pp. 47. Trenton, N. J.: MacCrellish & Quigley.

The Ohio Medical University Imbroglio. Personal Malice, Jealousy, and Ambition vs. The Demands for Higher Standards. Paper. Pp. 43. Cincinnati, Ohio: Curts & Jennings.

Proceedings of the Pathological Society of Philadelphia June, 1900. Paper. Pp. 216. Published by the Society.

Report of An Ting Hospital, Peking, China, for Term Ending April 30, 1900. Paper. Pp. 9. Shanghai, China: American Presbyterian Mission Press.

Seventh Annual Report of the Mechanicsburg, Pa., Board of Health for 1899. Paper. Pp. 12. Mechanicsburg, Pa.: Thomas Printing House.

Sympathetic Inflammation and Sympathetic Irritation. By John J. Kyle, M.D., Indianapolis, Ind. Reprinted from Am. Jour. of Ophthalmology.

Transactions of the Rhode Island Medical Society. Volume vi. 1899. Paper. Pp. 15. Providence, R. I. Snow & Farnham. 1900.

Transactions of the American Microscopical Society. Twenty-Second Annual Meeting held at Columbus, Ohio, August 17, 18 and 19, 1899. Volume xxi. Paper. Pp. 275. Lincoln, Neb.: Hunter-Woodruff Printing Co. 1900.

TRADE PAMPHLETS

The Land of the Sky. Western North Carolina Asheville Plateau. By Southern Railway.

Map of the United States. By Lord and Thomas.

Receipts for Infant Food. By Maltine Company.

Change of Address.

Dr. J. P. Atkinson, from 236 Richardson St. to 231 Marietta St., Atlanta, Ga.

Dr. K. Bauduy, from 3862 Olive St. to 2808 Olive St., St. Louis, Mo.

Dr. L. A. Bolling, from Fort Wayne to Lithia Springs Hotel, Attica, Ind.

Dr. S. L. Bernstein, from 846 Woodland Ave., to 1351 Wilson Ave., Cleveland, Ohio.

Dr. W. C. Cundiff, from Somerset, Ky., to Huntsville, Tenn.

Dr. F. E Cameron, from Hessell to Detour, Mich.

Dr. E. A. Crockett, from 65 Pierce St. to 114 Lisbon St., Lewiston, Maine.

Dr. H. D. Covert, from 221 Everett St. to 2539 Cherry St., Toledo, Ohio.

Dr. G. J. Dennis, from Lakota Hotel to Kenwood Hotel, Chicago.

Dr. E. E. Furney, from 2905 Chestnut St. to 3887 Delmar Boul., St. Louis, Mo.

Dr. G. R. Fell, from 846 Woodland Ave. to 1351 Willson Ave., Cleveland, Ohio.

Dr. E. M. Green, from Versailles to Danville, Ky.

Dr. H. Hickman, from 3624 S. Broadway to 3353 S. Jefferson St., St. Louis, Mo.

Dr. G. F. Harnter, from 900 Sutter St. to 915 Leavenworth St., San Francisco, Cal.

Dr. H. P. Howard, from Burke's Garden to Alexandria, Va.

Dr. F. W. Hornbaker, from Manassas to Chantilly, Va.

Dr. E. R. Hering, from Cross Plains to Shell Lake, Wis.

Dr. J. W. Lord, from 825 N. Arlington St. to 24 W. Franklin St., Baltimore, Md.

Dr. T. B. Morrissey, from Portland, Me., to 306 Washington St., Providence, R. I.

Dr. F. LeMoyne, from Point Pleasant, N. J., to Box 63, Port Hope, Ont.

Dr. R. R. Price, from New Cumberland, W. Va., to Toronto, Ohio.

Dr. W. H. Prioleau, from Buffalo Lithia Springs, W. Va., to Highlands, N. C.

Dr. W. B. Ray, from Etna to Box 148, Glenshaw, Pa.

Dr. L. S. Ramsdel, from 489 E. 42d St., Chicago, to Manistee, Mich.

Dr. Louise M. Richter, from Los Angeles to Garvanza, Los Angeles County, Cal.

Dr. J. E. Stanton, from St. Anthony Hospital to 829 Flournoy St., Chicago.

Dr. G. O. Switzer, from Greenland, Mich., to Stanley, Wis.

Dr. J. H. Spencer, from Fayetteville, Ark., to Berlin Building, Tacoma, Wash.

Dr. C. E. Sayre, from 103 State St. to 122 LaSalle St., Chicago.

Dr. F. D. Smythe, from 269 Vance St., to Porter Bldg., Memphis, Tenn.

Dr. W. L. Taylor, from Townesville to Storall, N. C.

Dr. J. Titcomb, from 327 Providence St. to New Jersey Bldg., Duluth, Minn.

Dr. J. R. Taylor, from Kenosha, Wis., to 246 3rd Ave., Detroit, Mich.

Dr. Edward Wallace Lee, from Omaha, Neb., to Lineman Bldg., Vandeventer and Washington Boul., St. Louis, Mo.

Dr. J. F. Wilson, from 6124 Sangamon St. to 535 W. 61st St., Chicago.

Dr. R. H. Whittington, from New Matamoras to West, Ohio.

Dr. J. M. Wallace, from Tallassee, Ala., to Webster, Fla.

Dr. W. G. Wren, from 713 Mt. Vernon Ave. to 225 North Ohio Ave., Columbus, Ohio.

Dr. A. N. Yates, from Boulder to Lyons, Col.

Queries and Minor Notes.

MEDICAL LAWS.

Burkesville, Ky., Aug. 14, 1900.

To the Editor:—Will you please do me the favor of publishing in your next issue of The Journal, the laws in regard to the practice of medicine in the State of Washington, and State of Tennessee, as they exist at present. Fraternally, A Subscriber.

Ans.—For the Washington law see The Journal, August 11. In Tennessee, unless the applicant is a graduate of a medical college within the state, an examination is required. For forms of application, etc., address T. J. Happel, M.D., Sec'y., Trenton, Tenn.

To the Editor:—Please inform me through The Journal as to the laws regulating the practice of medicine in the States of New York and Connecticut, and give addresses of the secretaries of each state board of examination. N.

Ans. In New York a candidate must be 21 years of age, of good moral character (certificate from two physicians in good standing), and have a satisfactory preliminary edocation, have attended four courses of at least six months each in a recognized medical school and pass an examination satisfactorily. The Secretary of the Board of Examiners is Dr. M. J. Lewi, Bowling Green Bldg., 5 Broadway, New York.

In Connecticut an examination is required. The Secretary of the State Board of Health is Dr. C. A. Lindsley, New Haven.

To the Editor:—Will you kindly give me what information you can regarding laws governing practice of medicine in Porto Rico Island and oblige? Yours truly, C. V. G.

Ans.—We are not fully informed as to the requirements for practice in Porto Rico. The correspondent is referred to Dr. J. VanR. Hoff, U. S. A., San Juan, for particulars.

"INHALATION OF GASEOUS ANTISEPTICS."

Nashville, Tenn., August 12, 1900.

To the Editor:—Can you tell me if Lacroix's article, "Inhalation of Gaseous Antiseptics," in *Bulletin de l'Académie de Medecine* (Paris), June 26, has been translated into English? If so, where can I get it? If not, where can I get the *Bulletin* in this country containing the article? There is an abstract of the article on page 325 of The Journal of the A. M. A. for Aug. 4, 1900. Very truly yours, L. B. G.

Ans.—We are not aware of any English translation of the article mentioned. The *Bulletin de l'Académie de Médecine* can probably be obtained directly from the publishers, Mason et Cie., 120 Boulevard Saint Germain, Paris, France, or through importing booksellers. If the French copy is desired it can be loaned from The Journal office on receipt of postage and promise to return.

"HYGIENE"?

Bedford, Ind., Aug. 7, 1900.

To the Editor:—Can you send me the address of *Hygiene*, a journal devoted to that branch exclusively?

Yoors respectfully, V. O.

Ans.—The only publication of the name known to us is published in London, England. It does not appear, however, in the list of English medical publications in Churchill's Medical Directory for 1900.

ILLITERATE DOCTORS.

The Indiana State Board of Medical Registration and Examination is trying to raise the standard whereby physicians are granted licenses in that state. That there is a crying need for this movement is evidenced by the following letter received by the Board from a would-be practitioner in a remote county:

"Dear Sir—Excuse me for being fooled by Professional Men. Tis surely my understanding that is a Diploma of just what " says. I have my tickets and other evidents of my work. Now

I paid and worked hard for that Diploma. I had work in all that is mentioned in that Diploma. Is the signature good to that Diploma. Will you please answere the above question. I only intended that for a Certificate of Obstetrics and I see in the Law that Obstetrical Diplomas are taking. I thought the application blank was hardly right. If you can give me a certificate for what that calls for send me a proper blank to fill out and return to you. The $5 I sent was correct with an Obstetrical Diploma. Now if you can't do nothing I have ask send my money and Diploma back and a application blank for Examination in January, The 2 Tuesday. The reason I am delaid in answering yours, etc."

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 1 to 7, 1900, inclusive:

William H. Arthur, major and surgeon, U. S. A., relieved from duty in San Francisco, Cal., to proceed to Taku, China, and report to Major-General Chaffee for assignment.

Robert E. Caldwell, acting asst.-surgeon, now at San Francisco, Cal., to report for assignment to the transport *Rosecrans*.

Henry R. Carter, jr., acting asst.-surgeon, now at Vancouver Barracks, Wash., to temporary duty at that post.

Edward T. Comegys, major and surgeon, U. S. A., former orders revoked, to proceed without delay to San Francisco, Cal., and report to the surgeon-general by telegraph for further instructions.

James J. Edmondson, acting asst.-surgeon, from Fort Du Pont, Del., to San Francisco, Cal., for assignment to duty with troops destined for foreign service.

Robert J. Gibson, major and surgeon, U. S. A., relieved from further temporary duty at San Francisco, Cal., and will report for assignment as attending surgeon and medical superintendent of the army transport service in that city.

J. Randolph Harmer, acting asst.-surgeon, from Opelika, Ala., to Washington, D. C., to report to the surgeon-general for instructions.

James J. Holloway, acting asst.-surgeon, from the transport *Rosecrans*, to the transport *Sheridan*.

Vernon J. Hooper, acting asst.-surgeon, from duty on the transport *Sedgwick* to San Francisco, Cal., for duty with troops destined for foreign service.

Francis J. Ives, major and surgeon, Vols., from New York City to San Francisco, Cal., for duty with troops en route to China.

James G. McKay, acting asst.-surgeon, from duty in the Division of Cuba, to report, on expiration of present leave of absence, at Fort Sheridan, Ill,, to accompany the 5th Infantry, under orders for foreign service.

Charles B. Mittelstaedt, acting asst.-surgeon, from New York City to San Francisco, Cal., to accompany troops en route to China.

Robert M. O'Reilly, lieutenant-colonel, deputy surgeon-general, U. S. A., relieved from the command of the Josiah Simpson General Hospital, Fort Monroe, Va., and will turn over the quartermaster's property, for which he is responsible, to Major William J. White, quartermaster, Vols., and dispose of the property of the medical department under instructions from the surgeon-general.

Ernest C. Schultze, acting asst.-surgeon, from New York City to San Francisco, Cal., to accompany troops en route to China.

George K. Sims, acting asst.-surgeon, relieved from duty in the Department of California for assignment with troops en route to the Philippine Islands.

George H. Torney, major and surgeon, U. S. A., to proceed to Battle Creek, Mich., and Richfield Springs, N. Y., on official business and to return to his proper station.

J. P. Truax, acting asst.-surgeon, leave of absence granted.

Benjamin F. VanMeter, acting asst.-surgeon, leave of absence granted.

Robert H. Zauner, acting asst.-surgeon, from Washington, D. C., to post duty at Fort Du Pont, Del.

The following acting assistant-surgeons have been directed to proceed from the place set opposite their respective names to San Francisco, Cal., to accompany troops destined for foreign service: William P. Baker, Guthrie, Okla.; Lewis F. Bleaseby, Detroit, Mich.; Frederick A. Dale, Lemont, Pa.; James F. Edwards, Slate Lick, Pa.; Graham E. Henson, St. Clair, Mich.; James F. Kemp, Washington, D. C.; James Kenan, New York City; Alvis B. Kennedy, Bonham, Tex.; Harry D. Kneedler, St. Louis, Mo.; William E. Lower, Cleveland, Ohio: Patrick McGrath, Washington, D. C.; David W. Overton, New York City; Louis W. Pease, Saginaw, Mich.; Harper Peddicord, Baltimore, Md.; Thornton W. Perkins, Catonsville, Md.; Joseph Pinquard, Vinita, Ind. Ter.; Ernest F. Slater, New York City; James W. Thornton, Ayrshire, Iowa; Gideon M. Van Poole, Salisbury, N. C.; George B. Wallace, Ann Arbor, Mich.; Francis M. Wells, Charlestown, Ind.; W. Turner Woolton, Catonsville, Md.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Aug. 11, 1900:

Asst.-Surgeon C. A. Crawford, detached from the *Eagle* and ordered to the *Chesapeake*.

Asst.-Surgeon C. H. Delancy, detached from the *Constellation*, August 13, and ordered to the *Bancroft*.

P. A. Surgeon W. C. Braisted, detached from the *Massachusetts* and ordered to the *Topeka*.

Asst.-Surgeon W. M. Garton, detached from the *New York* and ordered to temporary duty on the *Massachusetts*.

DEATH.

P. A. Surgeon James Stoughton, U. S. N., was drowned at Shanghai, China, August 5, 1900.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital service for the 14 days ending Aug. 9, 1900.

Surgeon J. H. White, to proceed to Mullet Key Detention Camp, Fla., as inspector.

Surgeon L. L. Williams, to proceed to Stapleton, N. Y., as inspector of unserviceable property.

P. A. Surgeon A. C. Smith, leave of absence for eight days granted by bureau letter of June 30, revoked.

P. A. Surgeon H. W. Wickes, Bureau letter of June 26, granting P. A. Surgeon Wickes leave of absence for fifteen days, amended so that said leave shall be for four days only.

P. A. Surgeon J. B. Greene, granted leave of absence for twenty-three days.

Asst.-Surgeon H. S. Mathewson, granted leave of absence for one month from September 5.

Acting Asst.-Surgeon W. S. Walkeley, granted leave of absence for two days.

Hospital Steward L. W. Ryder, granted leave of absence for fifteen days from August 1.

Surgeon Fairfax Irwin, to proceed to Saco, Me., for special temporary duty.

Surgeon H. R. Carter, to report at Washington, D. C., for temporary duty.

Surgeon W. P. McIntosh, detailed as inspector of the Mobile (Ala.) quarantine station.

Surgeon W. G. Stimpson, to proceed to Cairo, Ill., as inspector.

P. A. Surgeon C. H. Gardner, granted extension of leave of absence for nine days.

Acting Asst.-Surgeon B. W., Goldsborough, granted leave of absence for two weeks to be taken during August.

Acting Asst.-Surgeon W. S. Halkley, granted leave of absence for two days.

Hospital Steward J. J. Hurty, relieved from duty at Vineyard Haven, Mass., and directed to proceed to San Juan, Porto Rico, and report to Asst.-Surgeon C. H. Lavinder for duty.

Hospital Steward B. E. Holsendorf, to report at Washington, D. C., for special temporary duty; relieved from duty at San Juan, Porto Rico, and directed to proceed to Havana, Cuba, and report to the chief quarantine officer of Cuba for duty.

CASUALTY.

Acting Asst.-Surgeon Bernardo Escobar, quarantine officer at Caibarien, Cuba, died July 28, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Aug. 10, 1900:

SMALLPOX—UNITED STATES.

Louisiana: New Orleans, July 28-Aug. 4, 4 cases, 1 death.

Massachusetts: Lowell, July 28-Aug. 4, 5 cases.

Nebraska: Omaha, July 28-Aug. 4, 1 case.

New Hampshire: Manchester, July 28-Aug. 4, 2 cases.

Ohio: Cincinnati, July 27-Aug. 3, 1 case; Cleveland, July 28-Aug. 4, 6 cases, 1 death.

Washington: Tacoma, July 21-28, 1 case.

SMALLPOX—FOREIGN.

Belgium: Antwerp, July 7-21, 4 deaths.

Egypt: Cairo, June 23-30, 1 death.

England: London, July 7-21, 31 cases.

France: Lyons, July 7-14, 1 death.

Gibraltar: July 15-22, 1 case.

India: Bombay, July 3-10, 4 deaths; Calcutta, June 30-July 7, 18 deaths; Karachi, July 1-8, 4 cases, 1 death; Madras, June 30-July 6, 3 deaths.

Mexico: Vera Cruz, July 21-28, 5 deaths.

Russia: Moscow, July 7-14, 8 cases, 3 deaths; Odessa, July 7-21, 8 cases, 4 deaths; Warsaw, July 7-14, 8 deaths.

Scotland: Glasgow, July 19-27, 48 cases, 2 deaths.

Switzerland: Geneva, June 30-July 7, 5 cases.

YELLOW FEVER.

Africa: Goree Dakar, June 16-30, 1 case; Rufisque, June 30, several cases.

Colombia: Barranquilla, July 14-21, 3 cases, 1 death; Bocas del Toro, July 25, 2 cases, 1 death; Cartagena, July 7-14, 3 cases, 3 deaths; Panama, July 23-30, 4 cases.

Cuba: Cardenas, Aug. 3, 1 case suspicious; Matanzas, July 25, 1 death, U. S. Volunteers: Santa Clara, July 24, 1 case.

CHOLERA.

India: Bombay, July 3-10, 175 deaths; Calcutta, June 30-July 7, 37 deaths; Karachi, July 1-8, 1 case, 1 death; Madras, June 23-29, 1 death.

PLAGUE.

Australia: Sydney, July 16-30, 18 cases, 3 deaths.

Egypt: Port Said, April 20-July 9, 90 cases, 36 deaths.

India: Bombay, July 3-10, 60 deaths; Calcutta, June 30-July 7, 71 deaths.

Japan: Formosa-Tamsui, June 14-21, 33 cases, 30 deaths.

Philippines: Cavite, June 16-23, 1 case; Manila, June 16-23, 2 cases.

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, SEPTEMBER 1, 1900. No. 9.

Original Articles.

TRAUMATISMS AND MALFORMATIONS OF THE FEMALE GENITAL APPARATUS, AND THEIR RELATION TO INSANITY.*

GEORGE HENRY NOBLE, M.D.
ATLANTA, GA.

In writing this paper it occurred to me that instead of using the small amount of evidence in my possession to emphasize facts already adduced, an expression of opinion by the alienists and gynecologists of this country and an analysis of their views might aid in reaching a true consensus of medical opinion upon the subject. Accordingly I addressed a number of letters to the superintendents of insane asylums in the United States, and to the members of two of the most prominent gynecological societies, in which I requested replies to the following questions:

1. Do you regard malformations and traumatisms of the female genital apparatus as causes of insanity?

2. If so, in what per cent. of this class of cases, in whom physical examinations of the genitals have been made with the view of ascertaining the facts, can insanity be ascribed to these causes?

3. Please state character of malformations and traumatisms, and if any operations were done for their relief.

4. Please state the form of insanity, including hysteromania and nymphomania.

5. Please state if there were any hereditary tendencies to insanity.

6. Please state results of operations done for relief of malformations and traumatisms.

7. Please give the impressions you have received along this line.

These letters were so framed as to offer a free opportunity for the alienists to make negative replies. Much to my surprise, however, they have replied in a much larger percentage than the gynecologists, and their answers have been more uniformly affirmative. A few years ago they stood in solid phalanx, bidding defiance to the surgeons and as vehemently denouncing them as in the days of 1861, when Storer, a man many years ahead of his brethren, was denounced with the extreme bitterness known only to members of a sect who feel that in their hopeless and helpless condition, they are being driven to newer things by outsiders who possess no knowledge of their art. Storer made his observations from the standpoint of a far-seeing surgeon; he believed that woman's disease in such circumstances was like a mill-stone around the neck of a drowning person; that it keeps them down, and is a barrier which prevents them from rising above the stigma of a diseased mind. He was right, but the alienists opposed his advanced views and held the insane woman in bondage for thirty long years, until, thanks to Milton, Rohé, Hobbs, and others, the constant lashing with facts, scientifically applied, whipped them into line so that now they are about to take the subject-matter from the gynecologist's hands. In this way they may have a right, for their opportunities for observing the insane are many times greater than those of the latter, who occasionally meet with cases.

To the letters sent out there were twelve negative replies; one alienist simply and emphatically says "No." Another adds that he has never seen an insane woman operated on who has recovered. A rectal surgeon replies, "I do not," but perhaps he never sees the female genital organs except through the rectum

Drs. McMurtry, Pratt, Fry, Cumston, and Hill are discouraging, the first-named thinks that entirely too much prominence is given to the subject. Dr. Maury, of Memphis, is more decided in his views. He has operated a number of times, but can not recall a case of mental recovery, and stated that his cases of surgical traumatism showed evidence of previous insanity. Wishing to get at the facts of the subject, I requested him to write more fully of his cases, which he did, and the letter appears in the tabulated report.

Dr. Cartledge replies: "Briefly, I should say that, except the curable mania frequently accompanying interstitial fibroids of the uterus and which are so often manifest near the menopause, I do not regard diseases in this locality directly a cause of insanity."

From the above statement he evidently does regard these tumors as direct causes, and in this he differs from most opinions. They seem to act in an indirect manner, impairing the general health. This class of tumors is more often associated with insanity, but it is not due to the particular variety of tumor. It is the effect produced upon the uterus, by exciting increased growth of that organ, by keeping it in a state of chronic irritation, engorgement, etc., thus intensifying the nervous phenomena usually arising from the womb. Any other tumor that could develop in the wall of the uterus would be followed by the same results; for instance, myomata are not infrequently found to act in the same way.

All but one of the asylum reports are favorable. Some superintendents answer very positively "yes" to the first question, others consider that malformations and traumatisms occasionally are direct or sole causes in a small percentage of cases, but all seem to believe they are exciting or contributing causes, which affect the general health.

---

*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

A few gynecologists do not hesitate to state they regard them as causes. Among these are W. L. Robinson, Geo. F. Hulbert, Joseph Price, E. F. Fish, E. H. Hyde, G. M. Hughes, J. F. Baldwin, Edward French and others. Some of these consider them to be causes in a small percentage of cases, but the most of them make no qualifications.

Among those who believe them to be exciting and contributing causes or an aid in development of insanity, are R. T. Morris, Walter B. Chase, Bovée, H. M. Hunter, I. S. Stone, Manton, Rohé (recent writings), Hobbs, Humiston, Sherwood-Dunn, F. Blume, Carstens, Moses J. White, Edward Walker and others. This last class is composed of men who do not believe that malformations and traumatisms act as causes, except indirectly, by depressing the general health.

These letters show the views of an array of thinking men whose opinions should demand the confidence of the people. Such a number coming with common consent tells us that no longer can traumatisms and diseases of the female genital apparatus be ignored in the treatment of the insane. Indeed it has been shown that these women do suffer these misfortunes, that they impair the health and indirectly influence the mind in a certain percentage of cases. Then why should they be denied the means of relief? On what grounds can it be prevented? Certainly not on that of injury, for we are told that chronic insanity is not made worse by operation, but upon the other hand, that the patients all gain bodily relief, and 23.52 per cent. recover their minds, and 17.64 per cent. are improved. Hobbs' percentages are higher than this.

The reason why the alienists now support these views and accept gynecology as an indispensable aid in their work is that they have had their eyes opened to the fact that the gynecologist does not operate for insanity, but in pleading for attention to bodily discomforts. On these grounds they meet their fellow-men in suffering and pain. According to the reports received, the percentage of cases to which insanity is ascribed is small. Price, on the contrary, states that it is very large. He is supported by insane-asylum reports, which give from 11 to 20 per cent. I wish to point out as a notable exception, the Buffalo State Hospital for the Insane. Dr. Frederick states that he is informed by the female resident physician that she has never found any malformations nor traumatisms in patients admitted to that institution. The East Michigan Hospital for the Insane has found 81 per cent. suffering from some pathological condition calling for attention; but perhaps in the latter institution a more thorough and methodical system of examination has been in vogue as the subject has been well in hand for several years.

In answer to the third question, relative to the form of malformations, diseases and injuries to the female genital canal, accidents incident to childbearing seemed to occur most often, next infection and preputial adhesions; masturbation and puerperal insanity are recorded as commonly found. The remarkably large proportion of good results from operations is a striking feature even in cases of chronic mania. A few instances are given with no results, but such may be expected when the best success does not exceed 40 per cent. of cures and 26 to 30 per cent. of improvement. One is likely to meet with all failures when he does only a limited number of operations. It is not denied, however, that patients are relieved of physical suffering and distress. Absence of vagina, uterus and ovaries is mentioned several times. I have noticed in my own work that palpable external deformities are more frequently associated with insanity than deformities of the internal genitalia. One woman became melancholic and required institutional treatment on account of absence of the vagina. Before she was mentally affected, she claimed that it was not on her account she wanted a vagina established, as she enjoyed the orgasm sufficiently, but on account of her husband. He was opposed to the operation on the grounds of the danger, but she suspected him of regarding it as a sort of free license for making visits to other women. This seemed to wear on her mind until she became melancholic. Another woman came to me from South Carolina, who had had an occluded vagina for twenty-six years, and eventually became unbalanced. The form of insanity was first confusional delusions and then melancholia. She was completely relieved in a few weeks after the vagina had been re-established by a flap operation, and as soon as she could understand that it was a success, her mind improved with remarkable rapidity. A young woman with a partially developed vagina sought relief, hoping thereby to bring her husband back to her. She was melancholic but recovered after operation on the vagina.

Obstetric lacerations are very potent factors for evil and should not be neglected. The general practitioner and obstetrician should make careful search for injuries of this character, especially in women bearing the stigmata of degeneration or a hereditary tendency to insanity.

Simple displacements of the uterus play a considerable rôle as a contributing factor; this is due perhaps to the fact that many women are subjects of these accidents and therefore that more with hereditary tendencies must necessarily be encountered. Often it is hard to realize that a simple displacement can have such an effect, but when immediate recovery follows replacement, as I have seen, we are constrained to ascribe it to some contributing influence.

While I have never observed any mental derangement in cases of uterus bicornis, uterus didelphys, uterus duplex, etc., Clarke, of Cambridge, mentions these malformations in his letter. My patients with multiplicity of pelvic organs regard themselves as freaks of nature, and express satisfaction thereat, while those with defective development, prohibiting intercourse, are caused domestic trouble and much unhappiness. With one exception those of the latter class became insane.

Gynecologists are divided on the question of heredity.

No less an authority than Price says: "Heredity is rare." Gresham H. Hill, D. S. Moon, and George L. Kirby, of insane institutions, put the heredity at a high figure, ranging from 20 to 23 per cent. Hill says that one-third of the women admitted to the hospital have some hereditary tendency, and nearly all who are suffering with disease of the reproductive organs are so affected. T. O. Powell, of Georgia, and others, say it is about as much one way as the other, while other alienists claim that some bad heredity, either insanity, alcoholism, or some kindred condition, must exist, hysteria excepted.

The alienists perhaps are entitled to first credit as being men of a habit calculated to draw out these points, as they see far more cases than gynecologists. So it seems that a bad heredity, degeneracy, or a neurotic family history, is common to many of these patients.

No particular form of insanity follows these lesions. Simple mania, delusions, kleptomania, confusional delusions, nymphomania, hysteromania and melancholia have all been met with; the last three, increasing in the order named, are the most frequent. I have believed nymphomania a comparatively rare disease, but these letters show a surprisingly large number of cases. Preputial adhesions are regarded as the exciting cause, and cures are reported after separation of the adhesions. However, it is not invariably successful, as a few become hopelessly insane. The largest number of cases seem to come from melancholiacs and nymphomaniacs, and here too the best results are found. Carstens does not operate for hysteria pure and simple. Hystero-epilepsy is mentioned by a few writers, but no particular lesion is given. I have found it more often associated with displacements of the uterus, and rarely attributable to disease of the appendages. This perhaps is a digression, but as it pertains to the nervous demonstration of uterine diseases, it is mentioned.

Manton says: "If disease of the reproductive organs is included, I have seen and operated on quite a number of cases of hysteromania and nymphomania, which were cured or greatly relieved by the removal of diseased ovaries. I cannot say that I have ever seen a case of insanity, mania, melancholia, etc., cured by such operative treatment, but relief has often followed. Hysterical conditions have generally been cured."

Here he strikes the key-note and it is hoped that it will have its influence on the needles, and unscientific removal of the uterine appendages except for the relief of local disease with exhaustion psychosis. Patients who retain normal ovaries suffer less nervous perturbation and psychical symptoms. Hysterical conditions are more often found in traumatisms and diseases affecting the uterus. They may seriously hamper the treatment of the diseased mind and demand attention.

With very few exceptions the writers give glowing accounts of their results. R. T. Morris says: "In properly selected cases apparently due to peripheral irritation in patients without marked hereditary tendencies, and without family-acquired neurotic habits, the results of operations have often been striking."

Doubtless following these precepts will result in brilliant achievements as far as mental recoveries are concerned, and if it were right to operate only for the effect upon the mind, it might be well to select the cases, but it will work hardships upon the mentally incurable to condemn them to continual suffering of physical pain. We operate upon bodily disease in the mentally sound and promise them nothing but bodily relief, why, therefore, should we promise more to the insane when identically the same things are done? We should observe the marked conservatism displayed by Manton and Hobbs, and operate only for local disease and somatic pain; then if mental relief is afforded, as it surely is in a large percentage of cases, more will have been achieved than was promised.

All operators, with three exceptions, no matter what forms or stages of insanity exist, say that the results upon the mind are good, very good, satisfactory, very satisfactory, beautiful, improvement in all, improvement in about half the cases, none made worse, etc., while three, notably Dr. Maury, of Memphis, report no benefit in any of their cases. These gentlemen were unfortunate in having to deal with a few incurables, and doubtless will fare better in the future, as the percentage of cures is estimated at about 38 per cent., improvement 33 per cent., mortality 2.5 per cent. (Hobbs). They should therefore get good results in two out of three cases. Though there was no mental improvement in the cases reported by these gentlemen, they do not deny the relief of pelvic pain; their work was successful from the standpoint of cures of local troubles.

Thus there is a brilliancy in the work unlooked for, and a natural tendency to promise too much to family and friends. One should therefore ever keep before him the remarks of a distinguished surgeon[1]: "Indeed, so frequently have the mental manifestations undergone a decided change for the better that I have now come to look for this almost as certainly as for recovery from the operation," and then adds, "I have never yet seen a patient entirely relieved of her mental disorder as the result of operative treatment."

While a few think that little is to be accomplished by surgical treatment beyond the relief of somatic pain, the great majority believe that it is the physician's duty to examine every insane woman for disease of the pelvic organs and to remedy traumatisms, malformations, and treat inflammatory troubles; that while only one-third, or a little more, receive mental cures, another third gain some relief; as a rule all are benefited locally.

Price says that it has been necessary to remove patients from insane institutions in order to cure them, intimating that the surroundings have a bad effect mentally. He further states that many cases should never have been sent to such places. It is believed that pelvic disease acts indirectly upon the mind, that there are also other powerful factors at work which have great influence, notably heredity, yet in a very large percentage of the letters it is claimed that heredity does not necessarily take part in the causation of insanity. Peripheral irritations and depression of the general health are the ideas as to causation held by the larger number. In inflammatory diseases the percentage of insanity is greater, and this is due, in all probability, to absorption of toxins, not necessarily to pus or pus-producing agents.

Continued elevation of temperature, even of slight degree—one-half to one degree—for months is an active factor, especially when associated with large fibroid tumors. I have observed this when there was nothing to account for the fever but the presence of and the irritation caused by the tumors. In such cases the temperature will occasionally drop to normal on removal of the tumors, and if it again reappear will persist for a day or so only; the insanity disappears with the normal, and reappears with the abnormal temperature, and finally cure results when the fever is ended.

Removal of the normal ovaries in the insane as well as in the sane woman is condemned as not only unproductive of good, but as a factor for serious evil. Dr. David T. Gilliam, however, believes "in removing the essential organs of generation from an insane woman during the child-bearing period, upon the broad principle that the world should not be peopled by the progeny of such, both for the sake of the offspring and the world at large." I presume that as the word "insane" is used without modification he intends it to be applied only to the incurable. Robert T. Morris says: "In insane asylums and institutions for the cure of drug habitués there is regularly a percentage of cases that are completely curable by operation. My impression, amounting to a conviction, based upon careful observation, is that patients curable by operation are not apt to be comprehended, are often never examined, and further, that a vista of enlightenment is just beginning to open for men who should be, for the best interests of their patients, in insane asylums and institutions for the cure of drug habitués."

---

[1] Manton.

Dr. Van de Veer said, when asked his impression: "Try some operation in every case." He does not believe that traumatisms and malformations contribute to insanity, but the good effects of operations have not escaped his eye. A few others who are not prepared to acknowledge any connection as etiological factors, do not deny the benefits that have been accomplished by surgery. It is a mistake to carry the principle announced by Dr. Van de Veer too far, for fear of encroaching upon the grounds of empiricism, by removal of normal organs. The latter, as stated, is to be deplored. He surely did not intend that his statement should be spread as a blanket alike over ills, real and imaginary.

Very little is said in reference to post-operative insanity. It is mentioned. under the head of surgical traumatisms, but the impression is that they are more often temporary melancholia or hysteria, and that they usually occur in predisposed subjects or in the puerperal state; the latter being influenced in many cases by septic infection. In one case I operated on, in the second week of the puerperium, for complete tear of the perineum, the insanity did not appear until after she had fully recovered from the operation and attempted to take bodily exercise. I was informed that she lost an excessive amount of blood at her confinement, which must have been true, as she was almost exsanguinated when I saw her. In this case there was no sepsis, but extreme anemia, which did not show its bad effect upon the brain until she assumed the upright position. Her recovery was prompt and kept pace with the increase in red blood-corpuscles and hemoglobin. In this case the operation had nothing whatever to do with the cause of the insanity, but if it had not been done, I believe the bad effect of the complete laceration and involuntary evacuation from the rectum would have produced, in connection with the anemia, a very pronounced mental disturbance.

I have noticed that the violent post-operative nervous changes following hysterectomy are more apt to occur in women whose wombs have grown to a large size. Patients with pedunculated fibroids and small wombs are not apt to suffer in this way. The nearest to an exception to this proposition in my experience was a case of carcinoma of the fundus uteri, in which the womb was about six times its normal size. Although of a very neurotic family, the patient made a good recovery, but succeeded in nearly worrying the life out of her physician and family for eighteen months before showing any signs of improvement. Another strange feature is that insanity existing before the removal of these tumors is often instantly relieved, while, on the other hand, insanity following the operation may be weeks or months developing.

Dr. J. F. Baldwin says: "Occasionally insane cases are made worse by operative interference." Manton claims they are not: and others speak as though operations are not to be feared in these subjects.

Hobbs' impressions are: "Organic lesions of the inflammatory type are the most prominent factors among pelvic diseases in exciting mental alienation, and displaced organs rank next in importance, and tumors last in the order of causation." . . . "that neglect of gynecic surgery in any institution for the treatment of the insane is a serious omission, as where so many women are congregated together there must exist many cases of unsuspected, and, if not investigated, untreated, forms of pelvic disease."

The gynecologist is to-day curing cases of nerve exhaustion or neurasthenia in which the neurologists have failed, by correcting pelvic lesions in addition to the general treatment. We know that the gynecologist repairs injuries, replaces organs, removes septic centers, and couples with them rest and seclusion, with the best results. In many of these cases the neurologist, from prejudice or lack of skill, fails to recognize the disease in the pelvis. I have in mind a patient with grave hysteria and neurasthenia who suffered many things of many men and at last fell into the hands of a neurologist, who declared, after a most careful examination, that she had no pelvic disease. He failed utterly, but fortunately her uterine displacement was recognized by another man, and immediate relief followed his treatment.

We know that cure of disease of the female genital organs is a most valuable and essential aid in the treatment of many nervous troubles in the sane woman; why therefore, have we the right to deny insane women the privilege her more fortunate sister receives?

THE CAUSAL RELATION INTRA-ABDOMINAL DISEASES BEAR TO NERVOUS DISTURBANCES RECOGNIZED BY GYNECOLOGISTS, IGNORED BY NEUROLOGISTS.

HENRY O. MARCY, M.D.
BOSTON.

Perhaps the most difficult of subjects for the master to teach or the student to master are the reflexes of the nervous system and their influence upon the functions of the various organs. In a certain sense are we not yet students?

That all-pervading, ever-acting force that from infancy to old age should hold in stable equilibrium the harmonic rhythm of the individual, for want of a better term we may designate "vital." This life power we know has its definite limitations, although, as one forecasts the future of the individual, he is aware that it must be expressed in the unknown terms of the algebraic formula "$x+y$" or "$x-y$." If in health it is so difficult to graduate and measure the possibilities of the individual or determine his daily perturbations within the limit of normal function, how much more abstruse is the problem to detect and to judge aright the pathologic, which it is a part of the daily duty of the conscientious physician to take into careful consideration!

These problems are as old as the mental development of man, and have been coincident with history. Each generation views them with new interest, and it is very probable that certain of their most abstruse factors will remain unsettled as long as modifying conditions and influences produce such infinite kaleidoscopic variations

---

*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

in man's development. Science brings about marvelous changes, and we speedily learn to look with equanimity on the acceptance of a new truth, although at variance with our earlier teaching. At a not remote period, heat, light and electricity were looked on as independent and non-convertible forces. He who gave us the key to the transmutation at will of one force into three different forms of physical energy opened the gate into a highway leading to new development; energies coexistent with the life of the planet, but harnessed anew for a higher civilization, the possibilities of which no man may yet estimate.

This individual, vital energy which we call life, has an existence in kind throughout the entire animal kingdom. To man is given, although not exclusively, but in a much greater degree, the power of transmutation of physical force into mentality and that higher efflorescence of its stable equilibrium—mortality—the soul life, the most intangible, the least understood, but in general acceptation, the one enduring factor of existence.

If the physiologic conditions which attend normal development are kept in proper equilibrium, the life machine which we call the body has extraordinary possibilities of energy, and one of the secrets of the largest outcome in its usefulness is the symmetry and correlation of its developing powers. Unduly stimulated, in a certain direction, we look on the brilliancy of this force in the exhibition of its powers as phenomenal and say this is genius. But encouraged too much in this direction we soon find that it may develop into an eccentricity, even an excrescence of character out of equilibrium, and become a positive, individual weakness. This may easily become pathologic, and our state prisons and asylums for the insane are filled with individuals who are sad illustrations of a force unbalanced, primarily due to deviations in mental acquirement.

If the basic, physical conditions become changed, it necessarily follows that greater or less perturbations will be manifested in the mental product. Here, fortunately, we have the guardianship and control incident to the earlier individual development, which project upon the lines of activity, certain influences which we call habits—in other words, doing an act because we have been trained to do it. An illustration: co-ordination of muscular movements, forms of thought, expressions of speech, etc., pertain, in large measure to, and are under the control of, the cerebral functions. These, again, must operate through certain avenues, the spinal nerves, their centers and ramifications, the sensory and other subordinate organs.

An individual in normal health may be defined as one in stable equilibrium between waste and repair, the organism as perfect as the day previous less the age of the machine, plus the product of possible mental and moral increment. Viewed from this standpoint, a defect in the equilibrium of physical forces lessens normally the life product. The reparative processes interfered with from even a temporary defective digestion and nutrition may so change the normal judicial equilibrium as to lessen the value of the opinion of the physician or the clerical adviser, as to influence the verdict of him who holds the life of the criminal in decision, or as to lose the battle to the general. If simple transitory perturbations of nervous or mental force are thus easily affected, what may we not expect when some one of these avenues of life force becomes permanently distorted? These are the wrecks that daily come under the supervision and care of some of us here gathered.

In the subdivision of our various labors, it is but natural that we view the objects through the media to which we are most accustomed. Thus the ophthalmologist, having so often traced the persistent headaches and mental discomfort incident to astigmatism, is likely to think that some visual error is the cause, and will perhaps demonstrate the truth of his opinion by the relief which follows the wearing of properly adjusted glasses.

The physician will weigh carefully the equilibrium between waste and repair, examine with care the digestive and assimilative organs and attribute, with much wisdom, certain defects to lack of nutrition, and to improper and irregular work of the various functions.

The careful student of mental diseases, who should be first a good physician and something more, may view with hopeless equanimity, conditions which he ascribes less to perverted than to ruined forces, and may condemn the individual to a passive restraint.

The surgeon, ever on the alert for some new interposing factor which may have disarranged the machine, seeks to find and remove, often with surprising results, the foreign element which is the cause of the perturbation.

The wise gynecologist should be the physician and something more, the surgeon and something more, since he has under careful consideration another set of organs in addition to those already under discussion, designed for the reproduction and perpetuity of the race. Here enters that subtle factor which has been called, "a normal and constant contribution of specific material by the reproductive glands to the blood or lymph and thus to the whole body." This recent physiologic theory, of so-called internal secretion is an abstruse subject indeed, but one that has been long recognized in one form or another.

The physiologic effects of healthy ovaries and the force which they exert through their correlated organs of reproduction dominate in large degree the individual during the greater period of life. At the recent meeting of the Maternal Congress of Mothers, Dr. Oscar Christman, professor in the State Normal School of Kansas, portrayed certain phases of their effects, although his topic was, "Science of Child Study." He attempts a sexual differentiation, but evidently from the study of effects, rather than of causes.

In the joint discussion which was held two years ago before this Section of the AMERICAN MEDICAL ASSOCIATION, much of importance and value was advanced. It was demonstrated that the leading neurologists were not forgetful that in woman they had a special subject of study in reference to their observations of nervous phenomena quite unlike those of men. Several gentlemen who took part in the debate were generous enough to accredit the gynecologist a service of the highest value which he has rendered by his contributions, demonstrating the relationship of sexual disease to nervous and mental phenomena.

For many years I have advocated the necessity of the study of pelvic and abdominal diseases among the insane and have urged the superintendents of different asylums to institute a careful methodical examination of every patient. Although this special phase of the subject is to be prominently brought before you by Dr. Carpenter, I can hardly do less than refer to one of the most valuable contributions yet offered upon this subject, by Dr. R. M. Bucke,[1] superintendent of the Asylum for the Insane at London, Ontario. It may be accepted as a most remarkable fact that of 132 patients carefully examined, only 10 were free from pelvic disease, organic disease being found in 122. Operations of one sort or another were performed on 109 of these women.

---

[1] President's Address before the American Medico-Psychological Association at St. Louis, May 10, 1898.

"The results of 195 operations performed on 109 patients were as follows: First as regards bodily health, 3 cases died as a result of operation. In nearly all the rest of the cases where there has been time enough for any result to follow, the physical health has been restored or greatly improved. Then as regards mental health: In 39 cases the patient recovered from her insanity, in 32 other cases there has been improvement in the patient's mental condition, so that 71 out of the 106 patients who survived the operation either recovered their mental health or this was improved." He gives rather elaborate tables of the cases, analyzing them in different groups. Most interesting in comparison is a table of 32 non-gynecologic cases: "The physical health in every case was improved; there was no death; the patient was made more comfortable and, as a consequence, apparently he became less irritable, more amenable to management, often very much more useful about the asylum; but in no single instance was there such a change in the patient as could by the most sanguine be called mental recovery, or even marked mental improvement. It seems plain then that it is not simply the operation that cures the insanity in any case, but it is something in the kind of operation performed, or rather in the kind of disease which is removed that decides whether or not the surgical procedure is going to effect a radical change in the patient's mental condition. . . . . A consideration of this analysis will show that in our experience, neither the removal of a diseased uterus, nor the fixation of a displaced uterus, nor the cure of a vaginal lesion, has much effect in the relief of insanity; but when this last results from an operation it is nearly always, if not always, due either to the removal of diseased ovaries, the amputation of a diseased cervix, or to the cure of some diseased conditions of the endometrium."

It seems to be plainly in evidence that, if such serious disturbances of the nervous system call for commitment to an asylum, it must be accepted without debate that minor lesions of the nervous system must be very much more common, and that, as a consequence, it is of the first importance that such pathologic conditions should be recognized early and relief afforded before the mental equilibrium is permanently lost.

I can not question that leading gynecologists would scarcely be in variation of opinion upon this subject, and possibly the greatest profit which may result from this discussion will be the reflex influence upon the rank and file of the profession in early seeking the cause and promptly remedying thereby the effects of conditions which, if permitted to continue, result so disastrously. I have attempted to review a little carefully my own experience, covering about two thousand laparotomies, viewed from the standpoint of perturbations of the reflex nervous system, associated with pelvic disease. In the main my conclusions emphasize those of Dr. Bucke, that it is, in much the larger degree, the diseases of the ovary, impeding or impairing the function of the same, which are at fault. Oftentimes, it is difficult in the individual case to determine analytically, as for example, a diseased adherent ovary associated with a retroverted fixed uterus.

This occasion does not permit more than a generalization of the subject and a proper introduction to its discussion, but our case-books are replete with most interesting illustrations. I can hardly forbear giving the following cases, which may be considered typical. First, that of a man, since surgeons must not forget that the reflex nervous system in the male often plays sad havoc, from seemingly slight cause, in the disarrangement of the physical and mental economy.

Case 1.—A. B., a merchant, aged 36, single, of excellent habits. He was never seriously ill until two years ago, which he says was the inception of his present trouble; the difficulty steadily developed, until for some months "he has regularly breathed through a hole in his back." He has been from physician to physician without benefit, all having declared the impossibility of his statement, usually laughing at his oddity. He abandoned business and settled his estate, in the belief of early dissolution. He was sent to me by an urgent friend. Noting immediately an unstable mental equilibrium, I examined him very carefully and found a large, old, suppurating wen which caused him pain at every movement. I accepted his hypothesis of disease, but declared it could be cured. He enthusiastically demanded immediate operation. The removal of the tumor and healing of the wound cured the phenomenon which he described as "breathing through a hole in his back," and he was almost at once as well mentally as physically. Disillusioned, he resumed business with his former interest and success.

Case 2.—Mrs. D., aged 32, married at 18, healthy as a girl, mother of six children: not well since the birth of fifth child. Since then has had a shuffling gait, with difficulty lifting the feet, and gradually growing worse. She noticed at the menstrual period greater difficulty in walking. She has been under the care of different physicians. Blisters along the line of the spine and actual cautery have been applied without benefit. Has worn a leather jacket for a considerable period, without the aid of which she was scarcely able to walk at all. In the autumn of 1897 she was in the Massachusetts General Hospital for six weeks, under the care of Dr. James J. Putnam. As the result of a consultation, it was determined that operative intervention was ill-advised because of manifest lesion of the spinal cord.

I saw her in 1898. She was in good nutrition, rather stout, mental state normal, not of a nervous temperament. No especial pain; spine rather tender, co-ordination of muscular movements normal. She complained of weight and heaviness in the limbs, shuffling and dragging of feet. Supported by the jacket, she walked alone with the greatest difficulty, depending on the aid of a friend to assist her. Without the jacket she could not stand alone or take a single step. Tendon reflexes normal. Pelvic organs apparently fused by old inflammatory processes. I operated March 3, 1898, and removed enlarged, cystic, prolapsed ovaries, fixed by old vascular adhesions to an adherent retroverted and enlarged uterus I then sutured the uterus bilaterally through the broad ligaments to the abdominal wall. Convalescence was rapid and uneventful. She was permitted to get up on the twentieth day, when she could walk better than for six years. She was discharged from the hospital in four weeks, walking without the jacket. She improved steadily, resumed her household duties and is at present an active, vigorous woman.

Case 3.—Mrs. M., aged 28, menstruated at 13; married at 16. She was a healthy, well-developed girl. She has had five children, the youngest 4 years old. At the birth of the fourth child she was injured and has not been well since. Much of the time afterward she was not able to sit up more than two hours a day. She entered a public hospital on account of these conditions. Lacerations of the cervix and perineum were repaired without benefit. She was first seen by me about two years ago, when it was perfectly apparent that she had large, tender, adherent, prolapsed ovaries, associated with a fixed retroverted uterus. She declined further surgical intervention and returned to her home in New Brunswick. She was brought back to me April, 1900, with much difficulty. She has been practically bed-ridden for the last two years, and suffers continuously with pelvic pains and other discomfort. A specially noteworthy symptom has been such marked photophobia, that she has been confined to a dark room the last six months. On April 19, I removed the diseased, displaced ovaries and made bilateral anterior fixation of the uterus. At the end of a week she declared that she felt better than for months; she was not uncomfortable in a well-lighted room ten days after the operation. In two weeks she could read and write a little. She was discharged May 22, declaring that she felt better than for some years. She uses her eyes almost without discomfort.

The conclusions to be drawn from this paper are obvious: The science and art of medicine has advanced during the present generation with such tremendous strides that it is impossible for any man to be wisely conversant with it in all its subdivision and detail. In the vista of the future many unexplored fields are inviting keener research, with the promise of a fruitfulness to the race, the end of which none may safely prophesy. Already our knowledge is sufficient, if wisely applied, to increase the longevity of the race one-third, divide its suffering and diseases and double its productive capacity.

Specialism in medicine is the natural outcome of modern medical knowledge. Yet we must remember that specialism must be founded on a broad, thorough, scientific knowledge, and this knowledge must be brought into daily application by the specialist, if he becomes the really wise adviser. Other than this, the old contention of the disciples will be repeated in the statement, "I am Paul or I am Apollos," and discussions like the present may end in sad disaster; clad in the panoply of complete armor, throwing down the gauntlet, each to the other, one declaring that the fault is apparent for the shield is golden, while the other as stoutly affirms that it is of silver. When too late, it is discovered that the disaster has occurred through the intensity fraught by partial knowledge.

Most men declare that they are possessors of the rare commodity called common-sense. A brief analysis teaches that it is only special sense in common use, and that all men were intended to be armed with this five-sided shield. Only when used in this way can the special investigator be made of common profit.

AUTOINTOXICATION FROM DEFECTIVE MENSTRUATION.*

ARTHUR W. JOHNSTONE, M.D.

CINCINNATI, OHIO.

One of the principal purposes of menstruation is ridding the maternal blood of the unused fetal food. It has been known for generations that the fetus must be fed in some way, but until the last decade due allowance has never been made for the methods by which this food is obtained and the routes by which it is gotten rid of when unused.

Jacobi and Stephenson were among the first to observe the increased oxidation by which Nature burns it up. My own original work, so far, has dealt almost exclusively with the mechanics and hydrostatics of this extra wave, but what I now propose to give you is largely chemical.

We all now know that during the child-bearing age the woman eats for two. The healthy woman in the non-impregnated state gets rid of this extra amount of food by menstruation. During the intrauterine life of the child she passed it through the placenta to the child, and receives back from the child the products of its oxidation, which she in turn passes off through her own eliminative organs. After labor she passes it to the child through the breasts. As soon as the child is weaned, menstruation is re-established. This is common knowledge to you all, and only needs a passing mention; but I repeat it simply to emphasize the fact that every healthy, child-bearing woman has a superabundance of nourishment in her blood which must be disposed of in some way.

Before making a specific application, let us for a few minutes go to comparative pathology. Every one knows that a horse is accustomed to hard work; if this work suddenly ceases and he is allowed to stand in his stall and is fed the usual amount, after three or four days it becomes a very dangerous thing to take him out and work him to the same extent that he had been accustomed to the previous week. Many of you have had your pets, after such treatment, suddenly go down with that acute gout which every veterinary surgeon is constantly treating. You know that it is due to the retention in the horse's blood of the food that he would have burned up had he been kept at work. During his idleness, this food has been more or less stored up in his tissues, but when you take him out and drive him rapidly it is forced out of the muscles, cellular tissue, liver, etc., by the increased heart-beat, into the circulation. During the idle state it has not been elaborated as it should be, and instead of being burned up and disposed of, it has been gradually transformed into a toxic substance. Had the horse been kept at work, while there might have been a small amount of this toxic substance formed, his kidneys, intestines and skin would have disposed of it as rapidly as made; but when his idleness has allowed it to accumulate in the tissues, the sudden increased heart-beat has thrown a dose of it into his circulation which is simply overpowering to his nervous system, and the result is that your horse falls in the street, and, besides a veterinary bill, you have weeks or months of anxious watching as a penalty for your carelessness.

Another illustration, which is known to a few of you who handle fine cattle: Take a high-bred Shorthorn, Jersey or Alderney, of which your milkman is very fond. If he does not understand the laws of parturition in cattle, while the cow is dry before having her calf, he will give her the same amount of food that she has always had, and is liable to call your attention to how fat and sleek she is getting. The labor comes on, the calf is born; and within twenty-four hours your cow is down with a typical attack of puerperal eclampsia. The veterinaries call this puerperal apoplexy; but one case that I watched carefully proved to me that there was no apoplexy about it, as there was no paralysis of any muscles, but in every respect a typical eclampsic attack. The post-mortems in veterinary literature show the same thing. Their management of the case is the same as that of the horse that I have just described; in other words, to stimulate the excretions to their highest point, and to hold off all forms of food except water. All this proves that even in the lower animals, no matter whether pregnant or not, and that even in geldings, a superabundance of nourishment in the blood, to say nothing of undigested nourishment in the intestinal canal, is a very dangerous thing, and when it accumulates in such large quantities that the emunctories can not easily handle it, it at once becomes a violent poison. This is the key with which we can unravel many of the puzzles that have been annoying us for generations.

To begin with pregnancy itself: All child-bearing women eat for two. It is a matter of common observation that the healthy pregnant woman eats a great deal more than at any other time. While she is saved the elaboration of part of the food by the fetus, still her excretory organs are called on for double duty. If the fetus does not consume the extra amount that she has put into her blood, she has to dispose of it herself as best she can. In the vast majority of cases the first danger-signal which Nature gives us is trouble with the kidneys, but there are many cases of eclampsia in which the kidneys themselves are perfectly normal. These are exactly like the case of the horse that falls in the street. There has been more food put into the circulation than the mother and child combined can possibly dispose of. In those cases where kidney trouble appears, the kidneys have resented this extra amount of work, and in their weakened condition have allowed the germs to lodge. This most awful disease is very simple and easily understood when we think of it simply as a reproduction of what has occurred to the horse just mentioned.

---

*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Why is it an impossibility for some women, no matter how they are fed or how they are taken care of, to have puerperal eclampsia? My answer is that all such people have a fine eliminative apparatus, and that no matter how much work is thrown on them, they are equal to the emergency. But we all know that the class of people called "gouty" have very poor excretory organs, and consequently allow these poisons to accumulate in their bodies, just as the horse does when standing in his stall.

Haig was on the right track in his analysis of the human family, and has proved beyond a doubt that these defective excretory organs are transmitted from father to son. This rule I have used in the analysis of my cases for years, and from the family history of patients, I can always tell you those who are likely to have nervous troubles from either delayed menstruation or the menopause. Time and again I have been struck with the similarity of symptoms presented by a young girl with delayed menstruation and a woman naturally passing through the change of life. In both cases it is the retention in the blood of material which Nature has stored up to feed the fetus, and no matter what prevents this material from being passed off in the natural way, the patient has a greater or less dose of poison.

As to what these poisons are, I can not yet tell you, for there certainly are a great many different ones. Dr. Rachford, of Cincinnati, has demonstrated that the xanthin bodies produce a great many violent symptoms, and that in menstrual epilepsy they are the specific poisons which produce it. It was very interesting to watch the toxic effect, on mice and guinea-pigs, of this poison obtained from the most severe case of menstrual epilepsy I ever treated. The symptoms were identically the same as those in the patient. Dr. Rachford is still working on the subject, and I hope that we will not only find exactly what these poisons are, but that with this knowledge, we may find a quick way of getting rid of them. His work has been confined to the nitrogenous group, and clinically, I think that is principally at fault. In addition to the presence of paraxanthin, I believe there are a number of the other xanthin bodies which have a great deal to do with it. We now know that xanthin has a great deal to do with rheumatism, and I have cured one case of rheumatism by trachelorrhaphy. The patient had had rheumatism ever since the birth of her youngest child, then two years old. Her joints were crippled, and one knee was especially enlarged and tender. Since the accident she had had intervals of five and six weeks between menstruations. I performed trachelorrhaphy without thinking that it might have any effect on the rheumatism, but, to my great surprise, when she got out of bed, all of her joints were well, and have remained so up to this time, four years after the operation. She was of a markedly gouty diathesis. The injury to the uterus had not only disturbed its time-lock, so that menstruations were delayed and not more than ten a year, when there should have been thirteen, but the inflammation of the organ was so great that menstruation could not be full and free. Not only the thickening of the tissues themselves caused by the invasion of germs, but the chemical action of the ptomains produced by these germs, so changed the blood that the proper amount of elimination was interfered with, thus leaving in the blood many of the nitrogenous bodies which should have been eliminated.

I have had many other cases along the same lines. The repair of an injury or the cure of an inflammation of the pelvis does a great deal to regulate menstruation, and with this regulation comes the relief of headache, migrain, neuralgia, and all the other nervous symptoms. This relief is often assisted by the removal of scar tissue at the time of the operation, but this scar tissue could not cause the general systemic disturbances which most of these patients have. The relief comes gradually in most of these cases, and while each successive menstruation is better and better, still perfect relief does not come for from six months to a year after the operation. This proves to me, in the light of our present knowledge, that the relief is due to the draining of the system of accumulated poisons by perfect menstruation. An ordinary catarrhal endometritis causes many of these systemic symptoms, and, relief does not come immediately after the curetting necessary to cure it, but follows the same rule as the operations I have just mentioned.

I am sure that the majority of nervous symptoms of gynecologic subjects are due to the retained excretions which defective menstruation has failed to eliminate. Another great cause of retention of secretion is the intestinal infection which accompanies nearly all these cases. Given a pelvic lesion which interferes with the menstruation, the reflex wave of the blood-pressure necessary to produce menstruation takes out its force on the intestinal canal, the solar plexus and the other nervous apparatus of the abdomen. This results in a congestion of the whole portal system. Congestion once established, even though it be for only a few days, allows the omnipresent colon bacillus to lodge in the lining membrane of the intestines, both large and small, so that by the time the next menstruation comes on there has been precedent congestion of a part, or the whole of the alimentary tract. The next period is still interfered with by the same lesion, and the blood has not only the ordinary fetal food to get rid of, but also the ptomains which it has taken up from this irritated intestine. The temporary paralysis comes on again, the liver is called on for double duty, and with this vicious circle once established, it is no wonder that by-and-by the liver stops work. This accounts for the indigestion, constipation and general intestinal disturbances that always go with these cases. It also explains why it is that many women who are habitually constipated have a slight diarrhea during the menstrual week. For some reason the uterus has failed to eliminate as it should, and the liver takes up the compensatory work. The older gynecologists found out clinically that these cases did better under free purgation, but now we know the reason for it, and the man who watches the digestive organs carefully will always get the best results.

So far I have been dealing with the nitrogenous compounds, but the starchy foods are also capable of a great deal of mischief. When they are not burned up and converted into carbonic acid and eliminated as they should be, there results the most toxic of their products, oxalate of lime. This substance is troublesome; the symptoms which it produces when left in the circulation are manifold. It is not a trifling symptom, and should always receive due attention from gynecologists.

Nature has one other method of dealing with the starchy foods which has not received its full amount of attention, namely, storing it up in the tissues in the shape of fat. The "hotel anemia" that we are now hearing so much about has as one of its elements this very point of the storing up of fat in the tissues. These lazy, wealthy women, who are not willing to take their share of the troubles of life, and want freedom from care, and all the luxuries without any exertion, either physical or mental, are the ones about whom I speak. Like the goose in preparation for *paté de fois gras,* they are content to do absolutely nothing. In this way not only do their muscles run down, but their hearts become so extremely weak that they are no longer capable of getting up a good menstrual wave. Consequently there is little or no elimination of any kind. They are not only poisoning themselves all the time by the nitrogenous group which we have just been talking about—whence come their neuralgias—but they are not taking exercise enough to burn up the fats. Nature does the best she can under bad circumstances, and stores this up in the form of the obesity which is so commonly seen. This accumulation of flesh is sometimes seen in active women, but they are generally the patients with infantile uteri who have never had a proper menstrual wave, so that the surplus which should have been eliminated by the menstrual wave is left in their tissues in the shape of fat. This also explains the transient fat deposited at the menopause. The hardening endometrium at the age of 45 is incapable of getting rid of all that should be eliminated, and a portion of it is stored up in the tissues; but after Nature has re-adjusted itself and the digestive organs have stopped elaborating the infant's food, this fat is re-absorbed, and the patients are restored to about the same appearance they had before the menopause.

It would be useless before this body to discuss therapeutics. When the main causes of the difficulties have been pointed out, their treatment can be easily indicated. The majority of the bad cases belong to gouty families, and for their management I must refer you to Haig and Dr. Rachford, on the leucomain poisons. Elimination is the key-note of their work. Exercise is only another form of elimination, as it forces a complete oxidation.

In closing let me say, though, that if I have impressed on you the fact that the child-bearing woman always carries a superabundance of food which, if not properly handled, becomes a violent poison in some cases, these few minutes have been well spent.

Study of Leprosy.—Drs. E. Ehlers, of Copenhagen, and Cahnheim, of Dresden, have completed their study of leprosy in Crete, undertaken at the request of Prince George, of Greece. They find the disease a mild type, with a tendency to recovery, favored by the climate, and not spreading. They personally examined nearly 300 cases and estimate the total number on the island at about 700. The authorities are planning a leprosorium on an island off the coast for rigorous isolation of all cases.

TUBO-OVARIAN ADHESIONS—THEIR REFLEXES.*

A. L. BEAHAN, M.D.
CANANDAIGUA, N. Y.

The literature of inflammation of ovaries and Fallopian tubes and the resulting adhesions is copious. Wherever effusion is thrown out, organization of lymph may be expected and the binding of parts together results. The cause is usually complex, and recurring attacks may be anticipated. Each outbreak leaves similar exudates, which develop analagous formations, until the parts may be buried beneath the new-formed tissue. If this process is modified by only one attack of inflammation of moderate intensity, or several recurrences of slight severity, adhesions form of simpler nature, and peristalsis, muscular movements and postural influences will form bands, narrow or broad, between contiguous parts, according to the time elapsing after an attack. Hence pelvic adhesions involving the tubes and ovaries may be divided into two classes, the massive, intensely adherent form, whose removal requires great delicacy and strenuous effort, caused usually by severe chronic suppurative or intense inflammatory tubo-ovarian diseases, and another kind, where structural changes are less manifest, and the diseased organs more easily removed. The first class is readily diagnosed, the latter often requires careful elimination of all other possible causes of disease.

One form always causes a concentration of distress in the pelvis at the original seat of the disease; the other causes vague indefinite local manifestations, and by reflex effects causes insidious, but far-reaching, disturbances at foci removed from the first point at which inflammation was engendered. The first form is ordinarily of gonorrheal origin, the second results with equal certainty from old exanthematic adhesions of the appendages, caused by acute inflammations occurring during adolescence. The former threatens to destroy life suddenly; the latter renders life miserable from puberty to the menopause. Reflex manifestations are most prominently associated with the latter form of tubo-ovarian adhesions, and to this form this paper is especially directed. The literature of tubal and ovarian inflammation of this type is sparse and the diagnosis is difficult.

The pathology of tubo-ovarian adhesions, like that of other pelvic diseases, must follow, and not lead, in our conception of the truth relative to conditions and their direct and indirect sequences. Microscopically, the mucous surfaces of the fimbriæ are agglutinated upon themselves in a club-like mass, or, as is more common, the infundibulum of the tube is fastened to the ovary, as the boy's disc of wet leather is attached to the stone he wishes to raise by a string, and in this position the fimbriæ adhere, yielding only in places, so that the adhesions become of band or string-like character. As temporary adhesions occur normally at menstrual periods, it requires only slight inflammatory exudate to fasten the parts together inseparably. The rupture of small cysts may induce sufficient inflammation to give this effect, and the gross appearance of the disease under consideration is that of a cystic, cirrhotic ovary, with calcareous, sometimes marble-like concretions, the tubes not swollen, as is usually the case, and the uterus undergoing retrograde metamorphosis, if it be not infantile as a result of an exanthema. The guy-line adhesions of tubes to ovaries and the plastering of the fimbriated extremities of the tube to the ovary, or the formation of hematomatous club-shaped masses at the end of the tube, and still a coexistence of string-like adhesions from the ovary to the tube, or from either, to adjacent parts, make a formidable amount of mischief. But such tubes and ovaries are easily raised from their beds, and no such quarrying effort is required to deliver the diseased masses as is usually the case in chronic tubal and ovarian diseases.

---

*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

One important aspect of this subject is that the development of tubo-ovarian adhesions is never ushered in by severe symptoms. The pain borne by women at the menstrual periods is not so much increased, when small cysts rupture, as to give rise to suspicions of any serious trouble. The attack of mumps, measles or scarlet fever induces of itself such febrile disturbances and indiscriminate pains that in such cases it is not to be anticipated that the patient will ever after voluntarily allude to this period of her life, with any probability of giving a clear, consecutive history of cause and effect.

It seems probable that when tubercles form on the ovary and tube, the peritoneal attacks resulting therefrom leave a like result. The first indications of disease will be in the remote effects of these underlying causes, which effects act through the sympathetic system on distant organs, which we call "reflex." As it is hardly probable that the history of the case or the local symptoms will indicate the existence of the disease, and as the manifestations are the vague, uncertain expressions of nerve-exhaustion and disturbances of the vasomotor and sympathetic nerve-centers, as well as the higher nerve-centers, it is not strange that effects are considered to be causes and that patients are treated for hysteria, neurasthenia, nerve-strain, dyspepsia and various other lesser forms of enervation. But there is not a loss of will-power in this nerve expression. The outbreaks of nerve-storms at first center about the menstrual epochs, and only when these impressions have been long continued, do the attacks occur at other times.

These patients of nervous organization are never very strong, are subject to fainting-spells, have attacks in which they are motionless, can not talk, and still are conscious. They grow ill and are confined to the bed at intervals, even for weeks at a time. The reflex may involve the head, the stomach and the bowels, giving headache, nausea, constipation, alternating with diarrhea, or the surface of the body may be hyperesthetic, and various pains of neuralgic character may be suffered. Vaginismus and rectal spasms are often present, while eye-strain and nasal obstruction need to be eliminated, that the picture may be clear and distinct. From this description it is evident that great care must be exercised to discriminate between this form of disease and other psychic developments. Given this group of conditions, a careful examination under an anesthetic becomes necessary, and when local disease, such as enlargement of the ovary, with perhaps an infantile uterus, is discovered, and a diagnosis by exclusion reached, it is inferentially clear that radical measures must be used. It parallels the comparatively few cases where complete removal of ovarian disease cures certain mental disturbances, and if we have made a clear case, it proves that certain conditions in women simulating hysteria are due to gross ovarian disease. With enlarged ovaries filled with cysts, hematomata, calcareous masses, or olivary bodies, with small tubes united by string-like adhesions and an infantile uterus, chronic inflammation of the appendages, by inducing harmful adhesions, and a degeneration of ovarian stroma, and atrophy result, in all the reproductive organs. The ovary and tube become useless irritants, capable of much harm, either in inflammatory or reflex effects. If an ovum is thrown off, it must drop into the abdominal cavity, and at the very onset, the whole chain of the menstrual function is demoralized. But so long as the Fallopian tubes remain, the menstrual flow must be provoked, and the profound effects of this half-conceived function be perpetuated.

The adhesions are peculiar to this form of ovarian disease, being of the already described guy-line or band form, so that the rule of removal only when adhesions are pronounced, does not here hold good. But as this form of adhesion may be called reflex, and each hyperemic effect of the menstrual act congests and weights the tube, causing the lines fastening to the ovary to grow taut, or, at intervals, to pull on the adhesions with a jerky hitch, it is easily conceived how, in erectile tissue, such movements without difficulty excite, and finally disturb, nerve-centers. In neurasthenia, or hysteria, in women, chronic invalidism should make the physician carefully weigh the possibility of a concealed cause, and if gross ovarian disease exists with the symptoms recited, the disease is surgical, not medical.

This is a border-line condition, but it does exist, and its cure returns to usefulness an individual who can not engage in any vocation or social function, and who may vainly spend time and means seeking health. Structural disease of the uterine appendages causes insanity. Complete early removal of the diseased organ cures. It is no argument that the cases are considered rare, and that operation has failed to relieve. The exceptions again prove the rule and demand early interference. For the form of diseased appendages, where the reflex is so active and profound, and which is not sufficiently well emphasized and discussed in the available medical literature, but which occurs, and probably more frequently than appreciated, the only sure relief is early operation, ridding the system of diseased ovaries, adhesions and attenuated tubes. The nervous system will then quickly right itself and complete health be restored.

These cases are not so isolated as to be rare, but their pathology needs to be written and their histories to be taken at the bedside, that we may know their bearings.

It is well to emphasize the fact that tubo-ovarian adhesions occurring in the early years of a woman's life may, by reflex, as well as by direct, effects, give through insidious ways obscure nervous symptoms, and a great error will be made if from a lack of a discriminating diagnosis this disturbance is characterized as one where systemic forces alone, instead of local, are at fault. A clean removal of both appendages cures the patient, and a nervous wreck becomes a healthy, happy, useful being.

Yellow Fever at Pinar del Rio, Cuba.—A special order issued from the headquarters, Division of Cuba, July 27, 1900, directed a board of medical officers, consisting of Major William C. Gorgas, Medical Department, U. S. A.; Major Damaso T. Laine, Surgeon, U. S. Volunteers, and Major Marlborough C. Wyeth, Medical Department, U. S. A., to be convened in the office of the chief surgeon of the division at 10 a. m., Saturday, July 28, 1900, or as soon thereafter as practical, for the purpose of examining into the present outbreak of yellow fever among the troops stationed at Pinar del Rio barracks, determining why it was not properly diagnosed and proper measures taken to avoid the spread of the contagion, and to what extent, if any, the post-surgeon should be held responsible therefor, and to submit such recommendations as it may deem pertinent.

GALL-STONES AND DISEASES OF THE GALL-BLADDER AND NERVOUS SYMPTOMS RESULTING THEREFROM.*

EDWIN RICKETTS, M.D.
CINCINNATI, OHIO.

Gall-stones have been found in the bile-duct; in the intrahepatic cells; in adventitious sacs; situated between the hepatic ducts; beneath the ampullæ, and in different portions of the intestinal tract. In subjects of 50 years of age and over they are not infrequently the exciting cause of cancer of the liver and its ducts. Almost as frequently do they cause intestinal obstruction after having ulcerated through and into the duodenum. They are foreign bodies from the intrahepatic cells to the rectal pouch, and are the only foreign bodies in the human economy concerning which many physicians and fewer surgeons persist in teaching the very dangerous doctrine of "hands off" until the resulting death-rate becomes a reflection on our art, worthy of our most serious consideration. Infection coming from the intestinal tract, through the duodenal door opening into the liver by way of the common duct, along with the entering of the bacterium coli commune or pyogenic streptococcus, through the walls of the portal vein, with the shedding of the epithelium from the inner walls of the biliary ducts furnishing a nidus for calculi, are given as causes for the formation of gall-stones.

Gall-stones have passed per rectum during the administration of remedies, from the sugar pellet of one "pathy" to the large doses of olive-oil of another, which proves that its passage was purely coincident, nothing more. With gall-stones recognized early, surgical intervention is to be accomplished by a simple procedure seldom followed by any serious complications; while delayed operations bring complications that oftentimes cause the surgeon almost to wish that he had not been born. Under such circumstances he shoulders grave responsibilities that justly belong to others. If every subject suffering with gall-stones could have the severe attacks of biliary colic with his physician ten miles away, and with a hypodermic syringe working poorly, we should have more timely operations for gall-stones. The graver cases do not always have the acute attacks of colic of the severe jaundice, and yet they lose flesh and strength from the lack of bile that is so necessary to general nutrition and the continual disinfecting of the great body sewer.

Of the forty-six operations on the gall-bladder in private practice, the subjects suffered from peculiar nervous manifestations—peculiar for the reason that they did not know how best to describe them. The following selected case will illustrate fully:

Mrs. C., aged 36, widow, very intelligent, professional nurse, consulted the writer two years ago for a dull pain over the region of the gall-bladder. There were occasionally stools of color and consistency of putty. No morphia has ever been required for pain. She weighed 165 pounds. On examination I found tenderness over the region of the gall-bladder and, on account of a thick abdominal wall, the gall-bladder could be mapped out only with difficulty. Diagnosis: gall-stones. Operation refused. Last March she returned, having lost more than fifty pounds in weight during the previous six months. The skin and sclerotics were jaundiced, and the urine was rather highly colored. During the past two years she had followed her occupation with difficulty; suffered from loss of sleep, and her appetite was poor. There was periodic escape of bile into the intestines, as the stools would show. She was "nervous," as she expressed it, for the reason that she did not have sufficient strength, although until two years ago her health apparently had been perfect.

A cholecystotomy was made and fifty-three small calculi weighing 70 grs. were removed from the gall-bladder and the common duct, together with a dram of pus. The ducts were syringed out with warm water, after which the walls of the gall-bladder and distended upper end of the common duct were curetted gently and then washed out with warm water. A drainage-tube was left in for four days, when bile was flowing into the intestine. The recovery of this patient was most satisfactory. Bile has disappeared from the urine; the wound closed; her appetite is good, and she is rapidly gaining in flesh, while the long-continued nervous manifestations have disappeared.

That there are peculiar nervous manifestations, arising from the action of bile on the nervous system, in all cases in which the flow of bile is obstructed for a longer or shorter time, clinically I am well convinced. I am at a loss to explain the modus operandi, but it is probably nothing more nor less than exhaustion.

PREVALENCE OF GALL-STONES IN INSANE PATIENTS.

Brockbank says: "They occur very commonly in inmates of lunatic asylums, but their presence during life is not usually suspected." He also says that "lunatics are prone to catarrh of the bile-ducts," but offers no explanation. Beadles found in 18 post-mortems on female lunatics gall-stones in 50 per cent.; Snell in 500 females, 19.4 per cent; Warnock in 8 females, 50 per cent., and Goodal in 141 females, 20 per cent. The experiments of Brockbank dispose of the supposition that the so-called saline cholagogues have any solvent action on the gall-stones. Mayo Robson says, "When gall-stones have once formed, no medicine, so far as we know, can dissolve them or produce any material benefit except by way of palliation." Such is the opinion of Hans Kehr of Halberstadt, Germany, who has done more surgery of the liver and its ducts than any other operator.

The literature of the subject is very meager, but the field for future exploration is large. Cushny says in his book on the action of drugs: "Bile when given by the mouth does not cause any symptoms except those from the intestine and liver. When it is injected into the blood, however, it depresses the central nervous system and the heart-muscle, from its direct action on these organs, and decomposes the red cells of the blood. Muscles and nerves suspended in a solution of bile salts rapidly lose their irritability, and some unicellular organisms are also killed and dissolved by them. The poisonous constituent of the bile seems to be the salts of the bile acids, but several authors have stated that the pigment is also active."

"As a cholagogue it is without a rival, but no condition is known in which an increase of the bile secretion is indicated, for although it has been proposed to expel gall-stones by raising the pressure in the gall-ducts by cholagogues, it is found that when the pressure is only slightly increased, the secretion is arrested." He says further, "It is inconceivable that the small rise in pressure could force out an impacted gall-stone." Bile pressure is very low. In Warnock's 44 post-mortems, 13 had marked heart disease. This bears out Cushny in his statement: "When bile is injected into the blood, however, it depresses the central nervous system and the heart muscle from its direct action on these organs, and decomposes the red cells of the blood."

Following the cholecystotomies done by the writer, he, with Brooks F. Beebe, gave a clinical demonstration of calomel in 1/10 gr. doses by the mouth. In every instance the flow of bile was very materially increased; it poured out through the abdominal incision, saturating the dressings and a portion of the bed. A week or ten days later we would repeat the experiment, which was followed by the same results. Our conclusions were that calomel very materially increases the flow of bile after each administration. The results of these experiments were given to the Cincinnati Academy of Medicine soon after.

---

*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Before closing, I wish to make a brief report of the following case handed me by Dr. David Riesman, of Philadelphia:

> The patient is a professional man, about 30 years of age, whom I saw with Dr. L. W. Steinbach. For a number of years he has suffered from what might be called a chronic bilious state—impaired appetite, coated tongue, heavy breath, sluggish bowels, lack of energy and ambition, and symptoms of mental depression. On several occasions he has had severe pains in the right hypochondrium suggestive of gall-stones, and occasionally he had been jaundiced. A brief cure at Carlsbad, half-heartedly undertaken, did not benefit him. Lately he has become pronouncedly jaundiced, the bowels have been constipated and offensive, the tongue heavily furred, the lips dry, the breath foul, and the appetite in complete abeyance. At the height of this attack he became melancholy, with fear of the future, which seemed to him inexpressibly dark, although from a financial point of view he was very prosperous, and his social position was assured. He became extremely depressed and even began to talk of suicide. Fever developed, which at first was thought to be typhoidal in character, but subsided after ten days. The Widal test and diazo-reaction were negative. He had had an attack of typhoid fever eleven years ago. Before that he had had no trouble with his liver or gall-bladder. The jaundice has now disappeared, the tongue is clean; the conjunctivæ clear; and while his mental attitude is not yet one of unreasonable happiness, it is much better than it was, and he no longer harbors any melancholy thoughts. Both Dr. Steinbach and myself looked upon this case as one of autointoxication. There was no doubt a bacterial agency, resident perhaps in the gall-bladder and to the toxin production of the bacteria were added the effects of retention of bile.

PELVIC AND NERVOUS DISEASES.

THE THIRD ELEMENT IN THE EQUATION BETWEEN PELVIC AND ABDOMINAL DISEASE IN WOMEN AND DISTURBANCE IN THE NERVOUS SYSTEM.*

H. A. TOMLINSON, M.D.
SUPERINTENDENT ST. PETER STATE HOSPITAL,
ST. PETER, MINN.

While getting together the material for the study of this subject last year, I was particularly impressed by the fact that epileptic women who were insane and those primary degenerates who were markedly defective and lapsed into dementia during the period of adolescence were practically free from either history or evidence of any menstrual disturbance; also that there were a great many women coming to the hospital, as well as a certain number among those who had been in residence for some time, who were suffering from apparently grave pelvic lesions which had not been recognized before coming to the hospital and of which the patients themselves were not conscious. Further, among those women who complained most of the symptoms of pelvic disease and in whom there was the most intimate association apparent between the pelvic and mental disturbance, the most trivial lesions were present and the slightest departure from the normal in the physical manifestations of the menstrual molimen. Again, almost all of the women who came into the hospital with a history of pelvic disease giving rise to symptoms had received special treatment, generally surgical, but without benefit to their mental condition, as was evidenced by the persistence of insanity and their commitment to the hospital.

As I stated in a former paper,[1] during the past five years in the hospital at St. Peter, these women have been carefully examined and placed on appropriate treatment as soon as admitted; but with no more result, as regards direct influence on their mental condition, than was attained before they came into the hospital. These facts confirmed to my mind a conclusion, before reached from other data, concerning the relation of somatic conditions in general to disturbances in the nervous system; namely, that there must be another factor which determines the association of the different neuroses with pelvic disease in women. This I have designated the third element in the equation; and it may be defined as the nervous potentiality of the woman. I quote from the paper before referred to as follows: "We have not found that there is any particular form of insanity associated with pelvic disease, nor that there is any relation between the intensity of the mental disturbance and the severity of the pelvic disease, and the same holds true in the relation between menstrual disorders and insanity. In those cases where there was a distinct exacerbation of the mental disturbance in connection with the menstrual molimen, the patient was either free from menstrual disturbance or it was very slight. But in all of the cases where there was well-defined menstrual disorder, there was more or less severe physical disturbance. There were 18 cases of infantile uterus among the young unmarried women, and in most of these cases the ovaries were small and hard. These women were, however, primary degenerates[2] and more or less completely demented before coming to the hospital. Among the epileptics there is usually an increase of mental disturbance, and in the number of convulsions during the menstrual period, but those under our care are free from pelvic disease or menstrual disorder. In studying the histories of the 231 women we found that in 10 cases the insanity was attributed to the influence of the change of life, in 19 cases to menstrual disorder and in 15 to pelvic disease. In all of these there was the same want of relation between the severity of the pelvic disease and the intensity of the mental disturbance. In fact, most of the cases, after careful examination and study in the hospital, failed to disclose any evidence of severe pelvic disease or any connection between the insanity and the disease of the generative organs. At the same time, it was quite evident in other cases that if the existing pelvic disease had been recognized and carefully treated in time, the mental breakdown of the woman might have been averted. During the past five years there have been committed to the hospital five women on whom laparotomy has been performed, and some one or all of the generative organs removed for the purpose of curing the existing insanity. In one case the patient was sent to the hospital soon after the operation, as she had torn open the abdominal wound during an outbreak of violence. Her recovery from this accident was uneventful and she got well enough mentally to go home. The other four are still with us and always will be, and during the past ten years there have been twelve other women committed to the hospital on whom laparotomy had been performed for the cure of insanity. They, too, had not been benefited mentally and have since died or are still with us."

---

*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Tomlinson: Association of Pelvic Diseases and Insanity in Women, and the Influence of Treatment of the Local Diseases upon the Mental Condition, THE JOURNAL, Sept. 30, 1899.

[2] I mean by primary degenerate, a defective individual who becomes insane during the period of adolescence and lapses into dementia.

The diseases of the nervous system associated with pelvic lesions and said to be due to them are always functional, and I can not find that the claim has ever been made that gross degenerations in the central nervous system have resulted from disease or lesion in the generative organs of women. While a considerable number of women who come to the hospital suffer from pelvic disease or menstrual disorder, these conditions and their influence on the mental state of the woman seldom form a part of the clinical history of the case before admission. But when we consider the intimate association between the nervous system and the functional activity of the generative organs in women, and the further fact of the association of arrested development in the generative organs with instability or defect in the nervous system, it is easy to understand why these disease-conditions should stand in apparent causative relation with each other. This associated defect is frequently so marked in primary degenerates, that the uterus and ovaries present all the characteristics of senility, while menstruation is either scanty, delayed, or sometimes absent for long periods. In two cases in this hospital, both primary degenerates, admitted during the period of adolescence, there was a history of infrequent and scanty menstruation from the advent of puberty, and with the outbreak of mental disturbance, menstruation ceased entirely. In one case this amenorrhea has lasted three, in the other, two years, and there has been neither physical nor mental evidence of the recurrence of the menstrual molimen. Again, in this class of cases, it is the rule for the advent of puberty to be delayed, the average being 17 years; and yet no one at all familiar with insanity would think of attributing the mental disturbance accompanying the progressive degenerative changes in the nervous system in these cases to menstrual disorder. However, it is not uncommon to see young women with unstable nervous systems, whose uteri have been curetted or their ovaries removed with the object of curing a condition dependent upon progressive degeneration in the nervous system; because the physician, while recognizing the intimate relation between the nervous system and the generative organs, failed to see that the pelvic symptoms were dependent upon the degenerative process in the nervous system, and that both were due to defective development.

The study of the life history of animals shows that in the lowest types, the life of the female is constituted in the generation of offspring and that all the activities of the adult organism are directed to that purpose. In the higher animals and man, while this absorption of the somatic activities in the reproduction of the species is apparently not so complete, yet it really is so, but presents a different aspect, because of the alterations in the nature and capacity of the organism resulting from changes in environment and the increased complexity of the activities involved. In the human species the largest share of the energy of the mother is devoted to the preservation of her offspring until they become self-sustaining, and we know from the history of civilization that this period of helplessness has grown progressively longer in proportion to the increasingly complex environment of the human being. Along with these changes in the way the female of the human species has been conditioned, corresponding changes have occurred in her organism and especially in those activities involved in the process of maternity. Conspicuous among these changed and increased activities have been the growing influence of the nervous system upon the cycle of maternity and the converse of this influence in the untoward effect of the stress and accidents of maternity upon the nervous system. The resistance of the organism has been lessened in every direction, so that along with greater capacity to feel has come the tendency toward exaggeration of those sensations and activities which were pleasurable or negative, until they become painful.

While the greater development of the nervous system has increased the capacity of the organism to respond to the incident forces in its environment, it has also made active in consciousness those sensations which result from visceral functioning and which under more primitive conditions were not evident, but now respond excessively to slight stimuli and become conspicuous because defect in their structure interferes with the proper performance of their function, or disease makes their activity strenuous and distressing. Analogous proof of this change is found in the life history of the higher domestic animals, which are placed under artificial conditions as the result of in-breeding and unnatural surroundings. What horses and cattle gain in beauty of form or special capacity they lose in hardihood; because those characteristics which depend upon the greater activity of the nervous system are developed at the expense of the rest of the organism.

The function of maternity in the female of the human species has, as a result of civilization, grown from a simple physiologic to a complex and largely pathologic process, and conspicuous among the changes which have resulted are disturbances of the function of the nervous system, manifested by pain, excessive emotional mobility, and aberration from the normal plane of mental activity. If the conditions of modern civilization have brought about this result in the average woman, it is not surprising that we should find an exaggeration of these manifestations in the unstable and defective. These women have for a common characteristic, excessive cerebral mobility, either resulting from inherited imperfections of structure, or acquired causes of instability; they are constantly affected to an extreme degree by disturbances, which although trivial in their nature, have an exaggerated effect on their unstable, mental equilibrium, making the everyday trials and disappointments of life, which are borne by the average woman with equanimity, insupportable calamities and the resultant excessive emotional activity produces extreme mental irritation and physical exhaustion. Should one of these outbreaks occur during a menstrual period, it would be quite natural that some physical disturbance should occur, either in the form of headache, dysmenorrhea or amenorrhea. The recurrence of these conditions with any degree of frequency would of course soon establish a typical neurosis associated with the menstrual molimen. Again, should this association occur in connection with the cycle of maternity, or in the presence of chronic pelvic disease, a neurosis or psychosis might easily be established, the permanence of which would be determined by the degree of defect in the nervous system of the woman.

The effect of pregnancy upon the nervous system of the mother and the peculiar susceptibility of women to causes of mental disturbance during the puerperium are so well known, even among the laity, as to have resulted in a definite tradition, with conventional rules for the conduct of the pregnant woman and her environment during the puerperium; because experience has shown that the woman is more susceptible to external sources of irritation at this time and is liable to serious disturbance of physical health, by untoward conditions in her environment, which at other times would be innocuous and especially those which affect the nervous system. These ill effects seem to increase with civilization and its requirements. In other words, along with the increased capacity to enjoy there goes a proportionate tendency to suffer; so that while frequent child-bearing, overcrowding and bad surroundings in the tenement districts of the city, and exposure and overwork in the country among the poor, bring a train of physical ills to complicate maternity, high-pressure intellectual life and social competition have an equally disastrous effect upon the well-to-do. Thus, whatever weakness or defect may exist in the mother is exaggerated by her condition, and what was originally a physiologic becomes a pathologic process, out of which develops a host of conditions, most of which are temporary but that often destroy the physical or mental health of the woman.

When we come to the analysis of case records, however, we can not help being struck by the relatively small number of women who have borne children and in whom pelvic disease has resulted, who become the victims of any one of the different chronic neuroses or psychoses. When we consider further how common it is to find profound neurasthenia or hysteria associated with a slight perineal tear, increased mobility of the uterus or slight malposition, while a fibroid tumor wedged in the pelvis, pus-tubes, or a complete perineal tear, in another case will give rise to no nervous symptoms whatever, there is still further evidence that the lesion of the generative organs is not the cause of the neurosis associated with it.

Two women came under my observation last year who well illustrate the antithesis. One, a young woman, the mother of two children, the child of a consumptive mother, had been highly neurotic as a girl and had suffered from dysmenorrhea. When I saw her she had been in bed most of the time for six months and had all sorts of pelvic and nervous symptoms. She had a small perineal tear and some prolapse of the vagina, but no disease of the pelvic contents, and she menstruated regularly without discomfort except from the nervous symptoms. The other was a woman 60 years old, who was in robust health, without an ache or pain, and who was doing the work of a man out of doors; yet her perineum was torn to the sphincter and the elongated cervix with the prolapsed vaginal wall protruded three inches from the vulva.

In St. Mary's Hospital, Rochester, Minn., where a large number of operations for abdominal and pelvic disease are done every year by my friend, Dr. W. J Mayo, the records show that those women who complain most and have the most marked nervous and mental symptoms in connection with pelvic or abdominal disease, usually have the most trivial lesions, and in nearly all cases where the neurosis and psychosis is attributed to the pelvic or abdominal disease, he has found evidence of attacks occurring before the physical disease existed. Furthermore, he has seldom seen the nervous conditions cured by operation for the pelvic or abdominal disease in this class of cases; athough a temporary benefit may accrue as the result of the preparatory treatment and the period of convalescence, as well as the suggestive effect of the operation itself. In his experience, only those neuroses and psychoses have been benefited which have made their appearance after the onset of the pelvic disease, and which grow worse in proportion to the interference with the physical health and welfare of the woman. The different neuroses were not present in his experience, except in those cases where the personal history of the woman showed pre-existing instability or defect in the nervous organization.

While it is undoubtedly true that a great many women who have an unstable nervous system become insane or the victims of neurasthenia or hysteria in the presence of severe pelvic or abdominal lesions, these disturbances do not take place until the disease has existed for some time, that is, until the general health of the woman has been seriously impaired, her vitality lowered and her resistance materially lessened. Besides, associated with these lesions are usually anemia, septic infection and autointoxication, and usually after these secondary conditions are established, the nervous breakdown takes place. To illustrate: A woman came under my care, transferred from a general hospital where an operation had been done for the removal of pus-tubes. She was 35 years old, the mother of four children and had been in good health until the birth of her last child, three years before. She was and had been highly neurotic and had several explosive outbreaks as a girl, besides presenting other evidences of instability. She had been quite ill for a year before the operation, but passed through it without any untoward symptoms and was apparently convalescing nicely, when, seven days after the operation a stitch-abscess formed in the abdominal wound. The day this was opened she became restless, did not sleep the following night, and in a few days passed into a condition of violent excitement, in which state she came under my care. She had borne successfully the illness resulting from the pelvic lesion and the shock of the operation, but the reinfection from the stitch-abscess, added to the artificial establishment of the climacteric, was too much for the unstable brain and a degenerative process began, which in her case was permanent.

Taking these facts into consideration, it would seem evident that the equation between pelvic and nervous disease is not a simple one, and also, that with the prognosis as *x*, the third element is the most important; especially when we have to consider the effect of surgical procedure and its potentiality for cure in those cases where pelvic lesion and nervous disease are associated. The functional activity of the general nervous system is manifested in the perception, transmission and relation of external and visceral impressions, and in the co-ordinate discharge of motor impulses in the manifestation of muscular and visceral activity. This adaptation of internal to external relations constitutes the life of the individual, and as the tendency is for all activities which persist to become definite and uniform, most of those which have to do with the vegetative and locomotive functions become automatic and are performed without the active intervention of consciousness. It will be readily understood that the welfare of this mechanism will depend upon its proper nutrition and the abscence of any unusual or excessive strain. Should such a strain occur, the result would be a disturbance of definiteness and uniformity proportionate to the amount and character of the strain, while the persistence of the aberration of function would depend on the degree of interference with nutrition and the relative perfection of the different parts of the mechanism.

The history of the sexual life of women shows that, even among the most healthy, excitement, overwork or emotional disturbance are reflected in disturbance in the function of the generative organs, especially among those in adult life and who have borne children. If these abnormal conditions occur during the menstrual molimen or in the cycle of maternity, they result in dysmenorrhea, headache, emotional outbreaks, or abortion, delirium, subinvolution, leucorrhea and ovarian tenderness; all of which disappear as soon as the general health of the woman is restored to normal. On the contrary, if the nervous organization of the woman is unstable, these untoward effects are exaggerated and tend not only to recur but to persist and become habitual. This is manifested by the change of character, which as a rule is permanent; the failure of memory and attention; and the lessened or lost capacity for continuous mental effort. Even in the mildest cases there is loss of self-control, manifested by impatience, irritability and complete loss of "grit," so that the victim succumbs to trifling disturbances, is exhausted by slight muscular effort, and on account of these conditions becomes abnormally self-conscious, recording all experiences in a staccato key and looking upon every relation in life from the standpoint of individual personality; realizing vividly the responsibility of others toward herself, which she magnifies, but losing sight entirely of her responsibility toward others. These people are most unhappy, living always on a transcendental plane of nervous erethism, magnifying every ordinary sensation into a profound emotion; seeing in every call for muscular effort a herculean task, and resenting the apparent want of sympathy shown in the failure of those around them to appreciate things as they see them; while at the same time their exaggerated egotism makes it impossible for them to realize that there is any standard other than their own.

If I am right in my contention it would follow that the symptoms accompanying pelvic disease and menstrual disorder and referred to them are the result, rather than the cause, of disturbance in the nervous system, and that their variation, intensity and persistence are dependent upon the nervous potentiality of the woman. Therefore, in determining their pathology and considering their management, as well as the prognosis and the effect of treatment of the disease of the generative organs; we should be guided by the data to be obtained from the family and personal history of the woman, which show the limitations of her nervous potentiality and the nature of its response to the untoward conditions in her environment.

Neuroses and psychoses as they occur in men are quite commonly attributed to disease conditions in, or abuse of, the generative organs, but we do not hear of operative measures being recommended for the cure of the existing neurosis or psychosis. On the contrary, it is fully recognized by those whose experience has made them familiar with the manifestations of insanity, that these disturbances or perversions of sexual function in men are symptoms and a part of the neurosis or psychosis. The gonorrheal infection, which in woman produces a pyosalpinx or hydrosalpinx or pelvic adhesions, in man produces cystitis, pyelitis or septic arthritis. Yet, if these conditions occurred in association with a neurosis or psychosis, they would not be looked upon as causative factors, and we would not expect to cure the nervous disease by operating upon the generative organs; although such an operation might be done for other reasons.

Three men have been admitted to the hospital at St. Peter during the last ten years, the victims of self-mutilation, in all of whom dementia rapidly supervened upon the castration. Their history, however, showed them to be defective individuals, in whom the mental breakdown was the result of the incidence of the ordinary stress of industrial and social competition upon a limited cerebral potentiality at a time when resistance was lessened by privation or disease.

I can not do better in closing than to quote from the conclusions expressed in my paper of last year on this subject: Menstrual disorder and pelvic disease are quite commonly associated with the different neuroses and psychoses, but in my experience they bear no apparent causal relation to the nervous disturbance; nor is the intensity of the nervous disturbance in proportion to the gravity of the physical disease; but on the contrary, the most grave pelvic disease, even among the neurotic and insane, exists without disturbance in the nervous system and frequently without physical symptoms.

In cases where the insanity or chronic nervous disease has existed for more than a year, or the patient has a defective nervous organization, treatment of the disease of the generative organs is practically without effect upon the insanity or neurosis, and in such cases operative interference resulting in the establishment of an artificial menopause almost invariably hastens the onset of dementia.

Operative interference is called for in the treatment of pelvic disease among the insane for the same reasons that would determine the necessity for such treatment among the sane; that is, for purely surgical reasons.

In order to determine whether or not treatment of the disease of the generative organs will have a curative effect on the insanity or neurosis, it is important to know the family and personal history of the patient with regard to the presence or absence of evidence of unstable or defective nervous organization, the length of time the insanity or neurosis and disease of the generative organs have existed, and to what extent the general health of the woman is affected by the pelvic disease independently of the insanity or nervous disease.

PELVIC DISEASE AS A FACTOR OF CAUSE IN INSANITY OF FEMALES AND SURGERY AS A FACTOR OF CURE.

EUGENE G. CARPENTER, A.M., M.D.
Superintendent Columbus State Hospital; Professor Nervous and Mental Diseases Ohio Medical University; Neurologist to Protestant Hospital.
COLUMBUS, OHIO

In considering what we know of the causes of insanity, the unknown quantity represents an equal ratio with that which may be fairly regarded as the known. In the psychiatric revival of the last ten years, the moral causes, upon which so much stress was wont to be laid in the past, have sustained a severe recession.

---

*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Formerly excessive grief or excessive joy, loss of property or loss of soul, diabolism or sainthood; in brief, any disturbance of the emotions, was sufficient in assigning cause. To-day, in the light of what we know of anthropology, pathologic chemistry, bacteriology, and autointoxication, science has turned to physiologic phenomena for explanation in the disease, insanity. It having been observed in the early history of medicine that many nervous and emotional disturbances in women were associated with disorders occurring at puberty, the catamenia, the puerperal state, the lactic and the climacteric periods, the older observers placed great weight upon these normal physiologic appearances as evidences of pathologic manifestations.

If the insane condition suggests a disturbed brain on the one hand and pelvic disease on the other, an allied pathologic condition would naturally suggest a close anatomic connection and an intimate physiologic association. For what interest it may lend we will briefly rehearse the early development of these two sets of organs and note in how far there is justification for this faith from an embryologic standpoint. The earliest evidence of anything like form in the embryo of organic life is the aggregation of the epiblastic cells about a medullary groove, which ultimately becomes the neural canal; then there quickly follows in the anterior portion of this canal the formation of three vesicles which later go to make up the brain. In the chick all this process occurs wthin the first twenty-four hours. About the forty-fifth hour there appears upon the field for the first time the earliest indication of any cell arrangement in connection with the genital organs, viz., the Wolffian duct, a product of the mesoblastic layer. On the fourth day may be seen on transverse section of the embryonic chick the first appearance of the Wolffian bodies. These are vascular glomerulous structures, and in the human appear to have some connection with the embryologic evolution of the genital organs. They remain functionally active throughout life in some lower vertebrates, but atrophy before birth in mammalia (Quain). However, vestiges remain as the efferent ducts of the testes, the paradidymis and the gubernaculum (Kobelt) of the male, the paroophoron (His and Waldeyer) and the round ligament of the uterus of the female. They seem to establish their identity in these parts of the genital organs. According to Waldeyer ova are seen in the thickened germinal epithelium of the embryo chick of four days. Up to a certain time in the human the external organs are entirely of the same form in both sexes, and the genital organs which afterward distinguish sex have a common origin. At about two and one-half months the genital tubercle projects about 1.5 mm., and has a knob-like end which indicates the future glans penis or clitoris. On its lower surface is situated a groove bounded by the genital folds, which in the female become the nymphæ. At twelve weeks the sex is yet indefinite, and not until three and one-half months is the sex distinguishable. Thus, while the genital apparatus has not taken on its form or function, the brain and cord are long since established in both and preside over all. Flechsig and Edinger, in their investigations in the embryology of the nervous system, have shown that most of the nerve fibers develop their medullary sheaths before the fourth and sixth week. Before the sexual organs have begun to functionate, the various segments of the cord are fixed and established, and are concerned in the evolvement of the very organism of which they are but an embryonic part. It is to be borne in mind in this brief résumé that the entire nervous system, including the peripheral, sympathetic, and splanchnic systems, develop from the epiblast, while the genital and urinary systems take their origin from the mesoblast; that these different systems of organs were formed at different stages of early development; that the function of the generative organs comes into activity later and departs earlier. Furthermore, after the organism is fully evolved, and all its parts fixed in function, that the pelvic organs are formed to be innervated by the lowest centers of the cerebrospinal axis; that their connection with the higher brain centers is indirect and remote; that their functions are largely, if not wholly, involuntary and automatic, as are those of other organs of the viscera depending upon the spinal cord for their innervation. The burden of explanation of these pathologic seemings must needs, therefore, fall upon the sympathetic system, of which we know so little, but whose screen is so convenient when something of a functional character is to be elucidated. In approaching the subject from this standpoint should we not have a care in crediting an inferior organ which has developed under the dominance and supremacy of a higher organ with so great an influence in instituting pathologic processes in that organ? When we consider the distance and indirect path which an impression must pass from the lowest segment of the cord to the highest cortical level, is not the probability scant for minor local lesions or disturbances causing such a degree of irritation as to establish a central psychical disorder?

All the eminent authors, past and present, who have written of mental disease have treated the subject of the relation which disturbances of the genital organs of females sustain to the cause of their mental difficulties.

Hippocrates spoke of the first menstrual effort in this connection. Esquirol says in his text: "Menstruation, which performs so important a part in the economy of women, can not be a stranger to the production of insanity. It even takes a sixth place among physiological causes." He alludes with equal fervor to leucorrhea, the puerperal state and period of lactation. Greisinger and Feuchtersleben, the older German writers, with equal enthusiasm allude to the part which disturbances of the genital organs take as physical causes of mental disease in woman. Clouston recognizes puerperal and lactational insanity as special forms, although other reliable observers discredit these as special types. Maudsley must be added to the list, but modifies his argument as follows: "So frequently is hereditary predisposition more or less traceable in these three forms of insanity—that of lactation, puerperium, and pregnancy—occurring in connection with child-birth, that we are warranted in declaring that it is quite exceptional for any of them to be met with where it is entirely absent." He adds that "disease of the pelvic organs may act as a powerful co-operating cause for the production of insanity without giving rise to any particular group of symptoms." Among the older writers reference is made to special cases of mental disturbance which seem to depend upon pelvic disease. Schröder Van Der Kolk alludes to that of a woman, perpetually melancholy, who was relieved by replacement of the uterus. Fleming also relates cases cured by the employment of pessaries. Since these men wrote, all that is known of asepsis, chemical pathology, abnormal states of the blood in the pregnant condition, and kindred matters, have been added to pathology in general and have become common property in the pathology of the insane state.

As representing the more modern and rational view of this question your attention is called to two authors particularly.

Krafft-Ebing maintains that the influence of diseased generative organs in woman should not be underrated as a physical cause of insanity, and gives them the following order: "1. Uterine trouble, accompanied by chronic inflammatory irritation changes. 2. Neuralgic and hyperesthetic affections of the vagina. 3. Chronic catarrh, hypertrophy, erosions, etc., of the cervix." He holds that malignant disease seldom leads to insanity; that the psychosis presents nothing characteristic; that genital disease sometimes so weakens a constitution that it falls a prey to mental disease, or occurring in a predisposed person, acts as an exciting cause of insanity.

Kraepelin, with no little degree of conservatism, admits a close relationship between psychic conditions and the sexual life, as evinced by the changes in character in the normal development and retrogression of the sexual organs, and in the altered character of the castrated. He regards it, therefore, comprehensible that disease of the sexual organs may have a decided effect on the psychical life. Reference is made by him to the special disposition of women to develop insanity at the climacteric, a period of retrogression and degeneration noted in men as well at the beginning of old age, to the circumstance that operative procedure originated from the fact that certain forms of hysteric insanity improved by treating existing genital disease, and the conclusion was drawn that displacements of the uterus, erosions of the cervix, diseases of the tubes, ovaries and vagina, were actually able to produce insanity, and that hysteria is often the clinical expression of these cases. These cases furnish the list of wonderful cures by operation. We know, however, that the same results are obtained through entirely different, even senseless means, from which we conclude the effect to be a psychic one. In fact, upon the ground of clinical experience to-day, we can say with certainty that disease of the female genital organs leads to insanity only when the ground has been already prepared by disease-predisposition. It is without characteristic clinical features, which are dependent on the constitution of the one affected. We will have to do with some one of the many forms of degeneration insanity. It is noteworthy in the entire matter that the severest diseases of the pelvic organs—the malignant tumors—comparatively seldom produce insanity. When this is the case, they are such forms as occur with all severe disturbances of nutrition.

Since prominence has been accredited the physical element as a factor in the cause of insanity, renewed effort has been made to increase the percentage of recoveries of the insane, but with little promise. Despite the pursuance of lines of treatment in accordance with our newer ideas of pathology, our increase in the list of recoveries is not commensurate with the effort and energy employed. Out of the theory that disease of the pelvic organs of females was responsible for many of the neuroses incident to this class, and out of the fact that some brilliant results have been demonstrated by the use of the knife, that instrument in the hands of the surgeon has been heralded as a therapeutic agent of virtue in the cure of the insane.

The knife as a factor in cure has widened its sphere of action and utility in a number of new fields during the last quarter of a century. The part it has played in the realm of the abdomen, the kidneys, the urinary tract, the organically diseased brain, the stomach and the intestinal tract, has given an impetus to this means of cure, until now the only question arises as to what are the limitations of its real usefulness. In this observation I have reference to the rôle which surgeons play in the cure of insanity by operations upon the pelvic organs of the female.

Neither one nor several successful cases is sufficient to establish a rule of practice. While reports of a considerable number of successes have been recorded, those cases in which failure resulted, and those in which the condition was made worse have no place in publication. The results have been so various that the entire subject is a mooted one, and our object in this paper is to throw some light upon it. On the other hand, most alienists, while granting that cure may possibly follow the use of the surgeon's knife, are not willing to join the ranks of those of such strong faith, but oppose it with a conservatism which they regard as justified by a broad and practical experience. Between these two positions the writer believes there is a middle ground on which all can stand with rationality.

Before endeavoring to indicate what this position should be, it is our purpose to present some practical results of operations gleaned from those who have been investigating this subject, and from the observations of others equally interested.

Dr. H. A. Tomlinson of St. Peter State Hospital, Minnesota, reported, in a monograph, in 1899, a study of 450 female cases. Half of these had some menstrual irregularities. Of the married women 58 per cent. had pathologic conditions of the pelvis, mostly dependent on labor. Many of these were operated on—number not stated—with the following general results: More or less improvement of physical condition, occasionally slight improvement of mental condition, but in the majority of cases practically no effect on the mental condition, and no cases cured. Another series of 231 unselected cases contained 38 whose mental disturbance was apparently increased by the pelvic condition. Seventy presented pelvic diseases justifying operation. Results: Pelvic condition cured in 22, improved in 48; mental condition, no cures, 29 improved, 51 unimproved.

Dr. R. M. Bucke, Ontario Asylum, reports that 136 selected cases—out of 750—showed 126 with pelvic disease; of these 110 were operated on, 196 operations being made altogether. General results: 3 deaths; 40 recovered mentally, 36 per cent; 32 improved, 29 per cent.; 35 unimproved, 32 per cent. The results in inflammatory were much better than in non-inflammatory conditions. Of the cases benefited by operation, the number where duration of insanity exceeded two years equaled the number under two years' duration. Thirty-two non-gynecologic operations showed no mental recoveries. This author places importance on the toxic effect of internal secretions of the ovaries and glandular structures of the cervix, and claims that one-fourth to one-sixth of all female patients in asylums are there because of pelvic diseases.

Dr. A. B. Howard, of the Cleveland State Hospital, reports 12 cases operated on. Results: 1 cured—acute case of 9 months' standing—6 improved—in 3 the improvement was of short duration—4 unimproved; 1 death from malignant disease. Of our own cases, 10 operated on at the Columbus State Hospital showed no recoveries, and in 2 the operation resulted in making the mental condition worse. Another group of 4 cases of ovariotomy was under my observation while acting as assistant in the Cleveland State Hospital, about twelve years since. Results: 1 recovery, 2 improved, 1 unimproved. These cases were 2 of hystero-epilepsy, 1 improved, 1 unimproved: 1 of recurrent mania, improved, has since had one recurrence; and 1 of hysteromania of five years' duration, resulting in a perfect cure.

1. The 206 cases mentioned here as operated on have been gathered out of an aggregate of 2000 insane females.
2. Of the selected cases it appears that we may expect recoveries in about 33 per cent.
3. Of the unselected cases we may expect a cure in about 5 per cent.
4. Inflammatory pelvic diseases promise the best results.
5. The cases wherein the mental disturbances are associated with the catamenia offer the best probable results.
6. Operation on the hereditary, predisposed cases, with no local disease, will most probably result in failure, and leave the patient in a worse condition than before operation by hastening an early climacteric period.
7. The class of cases predominating in different localities differs to such an extent as to probably account for some of the lack of uniformity of results noted by widely separated observers.

After an inventory of the data at hand, it appears that we are justified in the conclusion that pelvic diseases are a factor in the cause, and that surgery is a factor in the cure, of the insane condition. The question now confronting us is what estimate may be placed upon them as factors; as such both evidently have their limitations. The established law of multiplicity and complexity of cause admits few exceptions in singleness of cause. It is important to take the broadest view in the consideration of etiology in insanity. The specialist is too prone to infer the organ of his specialty to be the source of all other pathologic conditions in the body, when the lesion and the remote symptoms may be but consequential to general conditions. In the consideration of cause in the insanity of females, hereditary predisposition, puberty, the puerperal and the climacteric periods are especially to be borne in mind. In the general physical examination, pelvic disease should always be sought for, and when found to exist should be eradicated. No physician should consent to the commitment of a female until the existing pelvic disease is removed, except under absolute necessity from her mental condition. Upon entrance into an asylum, every female should be examined by a conscientious specialist, and if found diseased, operation should be urged. In brief, the rule of practice should be to give the insane woman the same advantages of treatment as the sane, when disease actually exists.

In the absence of pelvic disease, operative procedure as a possible curative factor should be approached with the best judgment and the greatest caution. It is questionable if medical knowledge and experience would justify operating on the defective classes, females at puberty, idiopathic epileptics and those whose insanity is of not over two years' duration. All our asylums have representatives from these classes, who have not only been not benefited, but in reality have been made worse by operation. This is the list it would be at least instructive to parallel with that of the cases benefited, before passing judgment on any case to be operated on.

There are patients who, I believe, may be regarded as non-diseased but operable. These include the hysterical, those especially disturbed at the catamenia, and those in the post-climacteric years. From the first two, some of our most brilliant recoveries have come by the employment of surgery alone. Operation in the post-climacteric period may hasten senility, but is not likely to do much absolute harm.

BIBLIOGRAPHY.

Feuchtersleben: Medical Psychology, 1847.
Griesinger: On Mental Diseases, 1867.
Esquirol: Treatise on Insanity, 1845.
Clouston: Mental Diseases, 1898.
Maudsley: Physiology and Pathology of the Mind, 1867.
Krafft-Ebing: Psychiatrie, 1893.
Kraepelin: Psychiatrie, 1899.
H. A. Tomlinson: Association of Pelvic Disease and Insanity, THE JOURNAL, Sept. 30, 1898.
R. M. Bucke: Surgery Among the Insane in Canada, Am. Journal of Insanity, Vol. lv, No. 1, 1898.

DISCUSSION ON PAPERS OF DRS. NOBLE, MARCY, JOHNSTONE, BEAHAN, RICKETTS, TOMLINSON, CARPENTER AND HUGHES.

[Dr. C. H. Hughes' paper on "Interrelation of Gynecology and Neurology in Practice" was printed in the *Alienist and Neurologist*, of July, and an abstract thereof in THE JOURNAL, vol. xxxv, p. 257.]

DR. W. E. PORTER, New York City—The most interesting and instructive fact which has been demonstrated by these highly interesting papers is that we must not, as gynecologists, attempt to deal with this most important subject alone. We must combine with the neurologists, but how infrequently this is done. We have a case presenting these nervous phenomena and we proceed at once to operate, without consulting the neurologist, and unfortunately do more harm than good. The patient is put into a mental state far worse than that which existed prior to the operation. This phase of the subject has not been dwelt upon and I will take the liberty to refer to nervous phenomena as the result of a premature menopause brought on by oöphorectomy and similar operations. In my clinic in St. Vincent's Hospital I frequently have such cases brought to me. Hysteria, mania and hystero-epilepsy occur in a surprisingly large number of cases. The patient has convulsions, epileptiform in character, occurring two or three times a month. I am sure we have all seen many of these cases. The ordinary nervous conditions are most commonly observed. Hence, before proceeding to operate on cases having a history of some nervous condition, we should consult with a neurologist and work with him. There should be in connection with the asylums for the insane a consulting gynecologist. The superintendent can not make a local examination, which every patient should have, and the gynecologist would, therefore, be a most valuable addition to the staff of the asylum.

DR. GEORGE ERETY SHOEMAKER, Philadelphia—It seems to me that Dr. Hughes struck the point at issue, that the gynecologist and neurologist should have the same view-point from the one central standpoint of truth. If we could all have the same training, and look at these things from the same point of view, our problems would be easily solved. Even as it is, our objects and methods are nearer alike than some think. A friend of mine has charge of a large institution for the insane, and is opposed to the gynecologic treatment of the insane. Now, he says that many of his patients show defective nutrition and he always proceeds to build them up. He says he cures quite a number of insane in this way and improves a great many belonging, of course, to certain types. The gynecologist goes to work on cases showing profound nervous symptoms as well as gynecologic symptoms in very much the same way, and proceeds to remove whatever trouble he can detect as an indirect way of improving the patient's nutrition. He has learned from the study of hematology that the presence of a pyosalpinx will alter the proportion of red and white corpuscles and other constituents of the blood. The soreness present prevents all healthful exercise. He removes the infected tubes, not to cure a nervous condition directly, but to put that patient on the highest possible plane of nutrition. He has seen fibroids which have bled a little for years and years and finally the nutrition of the patients is brought to such a low point that disorders to which they may be liable have an opportunity to develop. Given a nervous system unstable by heredity, a bleeding fibroid may thus be an indirect cause of certain disorders of the nervous system. The gynecologist removes the bleeding fibroid, not to cure the insanity or neurasthenia directly, but to help the patient to a better state of general nutrition, and in some instances the result is remarkably good. He finds another patient who gets up ten or twenty times during the night to urinate because of descent of the bladder. The loss of rest has told sadly upon her nervous condition. He restores the pelvic floor and makes the patient comfortable. She rests well and regains her normal nervous equilibrium. We are, many of us, working to secure the same ends, and why need we clash in our theories?

I want to call the attention of our neurological co-workers to a misleading statement which sometimes appears in their statistics or case reports. The statement is "that such and such patients have had their ovaries or uteri removed to cure insanity, etc., without effect." Now, by what authority can they state that those ovaries were removed *to cure insanity?* How do they know whether or not there was grave ovarian disease in those organs? For example, a patient of mine had hysterectomy for large bleeding infiltrating adenoma, practically adenocarcinoma. She was of bad heredity, afterward became insane, and is now in an asylum. I submit that the superintendent of that institution, who has never communicated with me, gravely errs when he classes that patient with others whom he supposes have been operated on for insanity.

Dr. Joseph Eastman, Indianapolis—If there is one thing more important than another, any two things more appalling than any other two, it is the rapid increase of insanity and cancer. If there are more important problems for the coming century I would like to know what they are. Physical deterioration is the law of advancing civilization. The nervous tension so much in evidence in our school system and in society surely stands in a causative relation to the two dire maladies I have mentioned. A young gentleman, the other day, asked for the privilege of serving an apprenticeship with me in order to learn my specialty. I asked him how long he had practiced. He answered, eight years. I told him he had better go back and do general work two years more, as ten years in general work was an essential prerequisite before beginning a specialty. From the remarks this afternoon it looks as though the old-time general practitioner, who looked through the patient's entire system as well as through the speculum, was again coming into vogue. To plough deep, however, implies no attempt to turn a wide furrow. So it seems to me that a series of specialists, ploughing deeply along their respective lines, are needed in these obscure cases and will get good results. I recall two instances where gentlemen relieved insanity by neurologic and gynecologic treatment combined. I have said enough. It was only my desire to pay respect to the subject, which prompted me to take the floor. It were like adding color to the beauty of the rose with a paint brush, or embellishing the beautiful tint of the lily with a pencil to attempt to add one word to the subject under discussion after the scholarly, elaborate, eloquent and beautiful remarks of America's most distinguished neurologist, Dr. Hughes, of St. Louis.

One point with reference to Dr. Rickett's paper, I would like to call his attention to the report of the Edinburgh committee, that calomel beyond a question diminished the flow of bile. What seemed to be an increase of bile was in reality the subsulphid of mercury.

Dr. I. S. Stone, Washington, D. C.—I am reminded this afternoon of a discussion some years ago along the same line, when several papers were read on this very subject. I wrote to nearly every insane asylum in the United States to ascertain whether any examinations of the genital organs were made, and I was astonished to learn that in not a single institution in this country were these examinations made. I want those gentlemen of the asylums—the alienists— to at least give us credit for stirring them up in that matter.

In regard to Dr. Noble's paper, I see he has gone to much trouble and has done a great deal of work. He tells me that he has not read some of the most valuable parts of his paper. Regarding Dr. Rickett's paper, I do not see why he claims that reflex nervous disturbances are peculiar only to gallstones. I am very willing to admit that reflex phenomena do occur. I have operated in such cases, and produced a cure. Adhesions may have some influence on the nervous system, but at the same time it seems to me that an irritation of the foot or any part of the body would have much to do with autosuggestion and influence on the mind. I operated on a case for lacerated cervix, and the patient went insane. She thought her ovaries were removed. I had closed the uterus so tightly that she could not menstruate, and there was a collection of blood. She and her friends consequently believed that her ovaries had been removed because she did not menstruate. She was insane for about three months, when she was operated on again, the uterus was opened, menstruation reappeared and she recovered. I believe many cases of this kind occur.

Dr. D. Benjamin, Camden, N. J.—I have found by examination and observation that a great many ovaries are being removed for pain. The discussion this afternoon, showing the relation of neurology to gynecology, has brought to my mind the fact that when I was assistant in the neurological clinic of the University of Pennsylvania Hospital, we often had patients with severe pain over the eyes, sometimes between the ribs, sometimes in the liver, but that did not mean that we were going to remove those parts. On the contrary, we endeavored to cure the pain by medicines and hygienic measures. Then, when I got into the gynecólogical clinic, and afterward had charge of an hospital, as I have now, I found that many of these pains were of the same character. We are too liable to forget that factor, especially when a patient comes in as a gynecological case. Many times women will come in and say that they have no pain; sometimes they are run down generally, and sometimes there is a local irritation. I have found that usually the operator proceeds at once to attempt a cure of the local condition, but the same symptoms are present after the operation, either there or elsewhere. I invariably prescribe for patients who are complaining of these pains, without any clear indication of organic disease or the exact locality of a lesion, those medicines which we use in the neurological cases. My assistants have repeatedly remarked about my exclusive use of medicines in many of that class of cases, but the results have justified my doing so. If we will remember to give those patients a full course of antimalarial or antineuralgic and electrical treatment, we will be able to cure many cases without an operation.

Dr. E. G. Zinke, Cincinnati—What a wonderful difference between the meeting of to-day and that of two years ago at Denver. It shows what progress has been made within two years. Two years ago it was war and to-day it is peace. I have been very much instructed and have profited considerably by what I have heard this afternoon, and I wish to contribute my share of the compliments due to Dr. Hughes for presenting this matter in the proper light. No operation should be performed unless there is disease, and no woman should be confined to the insane asylum unless she has been examined by a gynecologist.

I wish to speak of two cases in which, within the last two years, I was called on to operate for pus-tubes. One patient was one of the most charming women I ever met. The result was all one could desire; there was perfect union and the lady left the hospital as well as any one possibly could do. Within one week thereafter symptoms of insanity developed and she had to be sent to the insane asylum, where she was confined for many months; nearly two years passed before she recovered. I was condemned by her family and friends and by many of my fellow practitioners for operating on this patient. Two months afterward I was called to see a similar case. I advised removal of both tubes, and ovaries, too, if necessary, notwithstanding my experience in the other case. Some one hearing of this went to the family and asked them who advised the operation. They were then urged not to submit to the operation. The patient would surely lose her mind if she did. Two weeks afterward that woman went insane and has not fully recovered yet, whereas the first patient recovered completely and has long since been restored to her former sphere of usefulness.

As to Dr. Rickett's paper, I regret that I can not agree with him in everything he has said. He is an enthusiast, and his enthusiasm has carried him away on the subject of gall-stones. There are many men and women, victims of gall-stones, who eventually recovered without operative interference. There are many such cases on record and we must not lose sight of them. I am firmly convinced that some cases recover without operation, and it does not seem right for us to take the stand that every case should be operated on as soon as the diagnosis of gall-stones is made. I do not believe that the mortality will be reduced one iota by following a rule like that.

Dr. J. H. Carstens, Detroit—If we will simply remember that healthy ovaries, uterus and tubes will not produce insanity, I think we will be on the right line. If we will consider that diseased ovaries may produce a disturbed alimentary canal, and will interfere with metabolism and the elimination of effete material, interfere with the blood-vessels and nourishment of nerves, we may say that this might increase the occurrence of insanity. If we consider another thing, that the pathological condition is simply irritation at the nerve periphery, producing a congestion and malnutrition of that nerve where it comes out of the spinal column; if that irritation is continued for any length of time, there will be blood-vessel changes, changes in the nutrition of the nerves. We may remove that distressed nerve, but the condition in the brain and blood-vessels has become permanent, so that the removal of the cause will not cure the patient. Hence, the point is to diagnose the case early, remove the cause early, and then you will not have the permanent pathological change take place in the blood-vessels and other tissues. Then you can do some good.

A few years ago I had a young woman, engaged to be married, who tried to kill her lover. She had homicidal mania. She had this insanity for only one week, during every month at the menstrual period. On examination I found diseased tubes and ovaries. I removed them on the request of the family physician, thinking that it was a case of sure cure. That woman went to the insane asylum, and it taught me a good lesson. My prognosis now is not as good as it used to be, and I want to say right here that it is not the gynecologist, but the common general surgeon who removes the healthy ovaries and does no good. We must be very careful about our prognosis. The family physician usually promises his patient a great deal from an operation where there is a morbid condition. I would not promise so much, and when I see that it is too late to operate I positively refuse to do so.

I want to defend my friend Ricketts. If a pus-tube is a bad thing and ought to be operated on as soon as possible, then gallstones are bad things too, and ought to be removed just as well.

Dr. J. M. Baldy, Philadelphia—It seems to me that the whole question has resolved itself into two propositions. Will pelvic troubles cause insanity? If they do, will an operation cure them? After due consideration and after carefully weighing all the facts presented to-day and in the past, I am more convinced than ever that gynecological troubles, *per se*, do not cause insanity. I am so convinced of that that I think the proposition made here to-day that every female patient entering an asylum should undergo an examination for pelvic troubles, and, if found, operated on, is preposterous and wrong. The majority of women who have been married, who have sustained the sexual relation and have borne children, have pathological lesions of the pelvic organs. There are probably a greater number of lesions amongst so-called healthy women than among patients in the insane asylum. The proportion of women in the almshouse suffering from pelvic diseases is much greater than among the patients in the insane asylum. The only justification for any operation in gynecological lesions is for a lesion which produces symptoms; the larger number of such lesions do not cause symptoms. The fact that one or two cases can be quoted as having become insane from gynecologic reasons does not change the general rule. I admit that any woman, sane or insane, who has lesions that are endangering her life or causing her suffering should be operated on. Almost all of Rohé's cases were due to puerperal fever; those are, by all odds, the cases where insanity follows pelvic trouble most often. Nearly all of these cases become well without operation. I do not mean to say that there are not individual cases here or there which do not follow the general rule, but by far the greater majority of them do. I have operated on many gynecologic patients who were insane, but I have yet to see the first one get well and be cured of the insanity on account of the operation.

Dr. Palmer Dudley, New York City—I am a gynecologist, and from my experience of over a quarter of a century, I have noticed one thing, namely, if the neurologist will look over the statistics of his cases in women, he will find that aside from heredity, where the insanity can be traced down through the family, the majority of the cases coming under his care are puerperal, that is, having puerperal fever as a starter. Aside from neurotic girls who come from such parents, those are the majority of insane patients. In what way does the puerperal condition produce insanity? By autoinfection, which at the same time results in gynecologic diseases. I do not believe that any of the gentlemen who read papers to-day will contend that point. Unless a woman is infected by puerperal sepsis, the nucleus of the trouble is hereditary. Therefore, do not promise too much when you are called on to operate on such cases.

How about the girl? She has a monthly poisoning; in the same way you find in neurotic girls that the ovaries are cirrhotic and the blood from each monthly epoch is absorbed and the woman is poisoned in that way. I have known many such cases and have relieved many puerperal insanity cases by operation. I remember one case in particular at the Bloomingdale Asylum. She had puerperal mania, the worst case they had, and it would astonish you to hear what we found stored away in her genitals. I curetted out a portion of retained placenta and she is a happy mother to-day. Therefore, I do not agree with the neurologist that insanity is directly produced by pelvic trouble.

Dr. L. S. McMurtry, Louisville—By reference to the program it will be observed that the subject under discussion is the relation of pelvic diseases in women to nervous diseases. It seems to me that almost the entire discussion has been devoted to insanity. I desire to call attention to a very common cause of disappointment in gynecologic practice where the question of neurasthenia is involved. These cases occur frequently. An operation is advised, the patient is assured that the repair of a demonstrable lesion of the pelvic organs will assure prompt recovery. This course will often lead to disappointment. Take for example a woman who has a laceration of the cervix or a torn pelvic floor, and who perhaps has gone for years without symptoms. She has some great disappointment or sorrow, trouble with her husband, or distress over a sick child; she suddenly develops a neurotic condition, which we classify under that general term "neurasthenia." She may have had a visual disturbance for years, and just as soon as the nervous system is depressed and the patient becomes neurasthenic, all these disturbances become prominent. The oculist is consulted, the neurologist and the gynecologist as well, and if a prognosis is given that she will be promptly cured by operation, there will be disappointment. We promise too much. These cases need the co-operation of the gynecologist and the neurologist. The local trouble should be taken care of by the gynecologist; but we should not say that this will cure the patient, nor should the neurologist assure the patient that a protracted course of rest treatment is going to cure her, for they will both be disappointed. The correction of impaired functions, the repair of neglected lesions of the pelvic organs, and appropriate treatment of the nervous system conjointly will obtain the desired result.

Dr. C. L. Bonifield, Cincinnati—My friend, Dr. Johnstone, of Cincinnati, made an assertion in his paper which should not go unchallenged. He said he cured a case of rheumatism by doing a trachelorrhaphy. I do not think any man ever did that. I do not doubt his veracity, but I doubt his judgment. While most of us here to-day are exclusively surgeons, yet we are sufficiently versed in medicine to know that salicylate of soda is not the only remedy for rheumatism. Free purgation, rest in bed, warmth applied to the affected part, and restricted diet are well-recognized methods of treatment for this disease. Nearly all patent medicines for the cure of rheumatism contain violent purges. It is probable that Dr. Johnstone prepared his case for operation with a free purge, that after operation she was confined to bed for a number of days, and kept on a restricted diet. It seems to me that it is more reasonable to attribute the cure of the rheumatism to these measures than to the uniting of a lacerated cervix.

Dr. C. H. Hughes (closing the discussion)—The one very important point that has been broached is the question of promising too much. That, I think, is the trouble with gynecology and sometimes with neurology. I have always endeavored to guard against this whenever I advise an operation, as I have often had the opportunity to do. I have never made the mistake of saying that the operation would certainly cure. Another great difficulty in both departments of medicine, especially in surgery, is the amateur, the gentleman who comes straight from college and practices gynecology. We often have to encounter him and his self-confident counsel.

It was stated here to-day that gynecological procedures would cure insanity. It is always a mistake to say that any procedure will cure insanity. Neurology and psychiatry look upon insanity as the product of one or more generations of disease. They consider the neuropathic factor as the predisposing cause. Heredity is another factor. Neurologists all acknowledge that disease of the uterus and its adnexa, or any transmitted irritation, may act as an exciting cause if long enough continued. We then have insanity connected with uterine trouble. The gynecologist who will tell his patient that she will get well after an operation, is likely to make an error of judgment, although sometimes he may be making a correct statement. My rule in advising people is always the same. I tell them that this thing is a source of irritation, that if I had it I would get rid of it in order to give myself the best chance. I have always been very careful not to commit myself as to the outcome of the trouble. I have seen a trifacial neuralgia which ultimately recovered by persistent treatment, and yet after the patient had recovered I was surprised to find mental aberration set in. I had to treat her for two months before she began to recover. She had been gynecologically treated some years before that and the people blamed the gynecologist for the insanity.

Dr. E. C. Carpenter (closing the discussion)—My position with regard to giving the insane woman the same chance as the sane I still hold as tenable, because I regard the mental part of the disease so serious a matter that even where local disease is only a probable element, the patient should have the opportunity of having that cause removed.

Dr. Edwin Ricketts (closing the discussion)—I will admit that Dr. Zinke's criticism that gallstones sometimes recover is correct, but I am quite sure that he would not take the chance on any pus-tube. Nevertheless, we know that some neglected cases of pus-tube empty themselves and recover and yet we do not stop to advocate the removal of pus-tubes. As to Dr. Eastman's remark, I want to call his attention to the fact that there is quite a difference betweeen bile escaping from a fistulous opening and that coming through the anus. That is probably responsible for his sulphid of mercury.

Dr. Henry O. Marcy (closing the discussion)—A consultation took place, more than sixty years ago in London, between Sir Benjamin Brodie and Dr. Thomas Watson, who wrote the most excellent text-books on medicine and therapeutics, the standard works for a generation. The great surgeon, Sir Benjamin, asked the famous physician to first give his opinion. Dr. Watson replied:

"It is good medical practice to remove the cause of irritation, if possible, and then trust that the irritation itself will cease." Therefore you see that we, in this closing period of the century, are not very much wiser than those men of the earlier time. I wish to refer to certain of the points not brought out in regard to Dr. Bucke's report. Quite a number of years ago he and I discussed the relation of nervous and mental diseases as often dependent on pathologic conditions of the reproductive organs. He said: "I will examine the 500 women under my care and ascertain how many, if any, are the subjects of pelvic diseases." The results have been published and he is now the most enthusiastic gynecologist I know. Cured, 40 per cent.; greatly improved, 30 per cent.: making 70 per cent. benefited by operative procedure. I suppose Dr. Bucke would say that he had removed the cause of irritation and therefore the patient recovered. I have asked superintendent after superintendent of the asylums what they knew of the pelvic diseases of the women under their care; the answer has been invariably a negative one. The multiplied testimony of to-day goes on record to show that the gynecologist and neurologist are in a common service, removing causes of irritation, believing that the mechanics of the great human machine, restored to its normal equilibrium, will permit the execution of its normal functions.

THE RELATION OF SURGERY TO DIABETES.*

C. P. GILDERSLEEVE, M.D.
Attending Surgeon to St. Peter's Hospital.
BROOKLYN.

There exists an intimate relation between diabetes and surgery, principally due to the fact that diabetics are prone to gangrene, and this intimacy, in my opinion, is rendered especially dangerous from the fact that its existence is too often carelessly dealt with, and a great many men have failed to appreciate its importance until they have seen a gangrene follow an operation in which there was apparently nothing present to result in any such course, and it certainly seems to me that insufficient importance is attached to this subject. So far as I have been able to learn, not very much has been written and the standard text-books say but very little. Erichsen makes no reference to diabetic gangrene; I quote the following from "The American Text-book of Surgery," and it is practically all it says: "Individuals suffering from diabetes are frequently attacked with gangrene. Operations on these patients are supposed to be frequently followed by gangrene, and it is advised by some authorities to abstain from operating on these cases if possible. A more extended experience with aseptic surgery, however, will probably not sustain these views."

In Dennis' "System of Surgery," the author admits that diabetic patients are liable to suffer from gangrene, and gives as the reason the fact that the tissues in these patients are weak and are probably in a condition favorable to the growth of germs. He states that the mere presence of sugar does not cause gangrene, but claims that it is due to the accompanying arteriosclerosis. The "International Text-book of Surgery," which has just been published, says nothing in addition to the foregoing. Dr. C. Von Norden makes the following statement: "Wounds of the skin, also deeper wounds, heal more slowly in diabetics." Infection gains access more readily, granulations incline to necrosis, and he thinks that former reports of an unfavorable course of wounds in diabetic subjects are due to infection caused by imperfect surgical technique; he claims that with the asepsis and antisepsis of to-day this has been entirely changed, and that the results are now such that no distinction need be made between diabetics and non-diabetics so far as operating is concerned.

---

*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

Dr. Naunyn, in an article on "Diabetes Mellitus," makes the statement that "Septic infection increases the glycosuria, and that in cases of carbuncle, phlegmon, and gangrene the glycosuria at once diminishes and frequently disappears after the abscess has been opened, or the gangrenous member has been removed."

Legroux reports an interesting case. The patient suffered from diabetes insipidus, without a trace of sugar in the urine. He received an injury to the leg, which would not heal, and the wound became gangrenous, and then it was found that the urine contained considerable sugar. This author holds the same views as Von Norden in regard to wounds in diabetics, viz., that with antidiabetic diet and with thorough asepsis and antisepsis the wounds do as well as in non-diabetics; but admits that in fractures the bones in diabetics unite with difficulty. Taking the foregoing as a sample of the literature on the subject, it appears to me that, while there is a direct relation between diabetes and gangrene, the connecting link has not yet been discovered. It is true that these patients often have arteriosclerosis, and other conditions frequently coexist which favor the development of gangrene; still, it is also a fact that gangrene often develops in a case where the only apparent reason therefor is that the patient has diabetes. These are the reasons which in my mind render it advisable to connect diabetes and gangrene in the relation of cause and effect. Two years ago I operated on a patient 58 years of age, for gangrene of the great toe, who also had glycosuria to a marked degree. His general condition was fairly good and he was attending to his work until the condition of his toe forced him to bed. His arteries were moderately atheromatous. In this case I made the mistake of not amputating sufficiently high, as I operated near the proximal end of the metatarsal bone. My object in selecting that point was the fact that experience has taught me to leave the tarsal and carpal joints alone when possible, and in this particular case the foot outside of this toe was apparently in good condition. But whether I was too conservative or not, the fact remains that gangrene promptly set in, and I lost no time in advising an amputation just below the knee, to which the patient readily assented. Anticipating sloughing, I left the flaps long, and the wound open. Gangrene developed in the flaps and they sloughed away, leaving the bone slightly exposed. Finally the wound began to granulate, and I distinctly remember that the healing process went on much more rapidly under the influence of hot charcoal poultices. These I first applied to hasten the slough, and after that I tried nearly everything, such as aristol, iodoform, balsam peru, etc., but nothing stimulated the granulations as these poultices. Since then I have often found that in indolent granulating wounds this treatment gives good satisfaction. This patient to-day is wearing an artificial limb and his general condition is fairly good.

About one year ago, I had a case of phimosis occurring in a man 50 years of age; the foreskin was tight and indurated. I circumcised him and gangrene promptly developed at the seat of the operation; a circumscribed spot also developed on the scrotum, which rapidly spread and caused his death in a few days. This man's arteries were in fairly good condition; his general condition was not good; his urine was loaded with sugar and he claimed to have had diabetes several years. Still he was not confined to his house, but was out most of the time. This is one of the cases which causes me to believe that there is some obscure but certain reason why gangrene so often develops in these cases. Another peculiarity in these patients is the effect which an operation has on them, so far as their glycosuria is concerned, which is not uniform. In the majority of cases the amount of sugar in the urine diminishes as it did in the first case I mentioned, but in other cases the glycosuria increases after an operation, and these patients often die with diabetic coma.

I remember a case in which I amputated in the middle of the forearm for gangrene of the hand occurring in a case of diabetes. The patient was a woman of 45 years of age, and the first suspicion that she had diabetes was when I examined her urine, and she had previously been seen by two medical gentlemen who had simply diagnosed "gangrene of the hand," and without any hesitation advised amputation. Her arteries were in good condition, and certainly not in a condition which would warrant one in attributing the gangrene to any disease of the vessels. After the operation the glycosuria increased and she promptly died, with diabetic coma. This may have been a coincidence; her death by diabetic coma may have been due at that time, and the fact that she had been subjected to an operation may have had no bearing on the result, but I believe that the condition was brought about, at least that it was hastened, by the operation.

The symptoms and signs of diabetic gangrene are so generally well known that it is not necessary to dwell upon them, but the question naturally arises: what shall we do in these cases? Here, as elsewhere, we have to be governed by circumstances, but there are a few rules which I believe it well to follow, and I base them upon the belief that, regardless of asepsis, antisepsis, antidiabetic diet or anything else, there exists a tendency in diabetic patients toward gangrene. Diabetics are not favorable subjects for anesthesia; and the number of cases that have been reported in which the glycosuria was increased after an operation, and several cases in which death resulted from diabetic coma, cause me to feel that we should always make a broad distinction, so far as operating is concerned, between diabetic and non-diabetic subjects. I make it a practice to observe the following rules:

1. I would not operate on any patient suffering from diabetes without first explaining either to the patient or some one in authority the possibilities which might follow.

2. I would refuse to operate on an elderly diabetic subject for any of the simple affections, such as benign tumors, etc., unless there was some special reason for operating, and it is certainly a good rule to always examine the urine in any case of gangrene occurring in elderly people.

3. In the painful, rapidly-spreading gangrene which often occurs in these cases, and which is bound to cause their death if left alone, I believe in prompt and high amputation. As a rule, I wait until a line of demarcation forms: but in some cases, although the line has not formed, one can judge fairly well about how high it is going by the appearance, and in such a case I would operate before the line had actually formed. Some of these cases are inoperable; they may have complete gangrene of the foot, and the leg may be in good condition. Again, the leg may be indurated and boggy, and this condition may extend as high as the knee or above it, and it would be poor judgment to operate on such a case. Another class of cases is the dry, comparatively painless gangrene which often affects the toes in these patients. These cases will often run their course and be cast off,

and as a rule they should be left alone, so far as operations are concerned.

Furuncles and carbuncles frequently occur in diabetic patients. The furuncles will usually succumb to the general treatment for diabetes. In the case of carbuncles, however, surgical treatment such as hot applications and the knife at the proper time are required.

FRACTURE OF THE SUPERIOR MAXILLA IN A MAN 70 YEARS OLD, WITH RECOVERY.*

VIDA A. LATHAM, M.D., D.D.S., F.R.M.S.,
ROGERS PARK, ILL.

The subject of fractures of the superior maxilla must always be of interest to some of the profession. As a general rule, perhaps the injury comes first to the general surgeon, who may or may not call in a skilled dentist to assist him. In many instances, I am afraid a general practitioner is not as well informed in the treatment as he should be from a dental standpoint, and it is not to be wondered at when we consult our text-books or journals of surgery on the subject—the information being exceedingly meager and ancient. It may again be asked: Is the dental surgeon, unless doubly qualified,[1] capable of taking entire charge of such cases, especially as the injury is usually severe and may have complications, as shock, hemorrhage, meningitis and septicemia? The position of a dentist has recently been decided in at least one of the states by the courts. The court maintained that by using the title "dental surgeon" or "dentist," he has the right to treat such cases without fear of being judged unqualified or incompetent. By some, the question of not treating the case in consultation with a dentist and surgeon would be considered wrong. It may be asked if our dental schools are wise in not requiring a better course in oral surgery, with operative demonstrations on cadavers, etc., and at least giving a good training, so that a qualified dentist would be able to treat intelligently the usual class of cases belonging to the head and neck, and not consider a "tooth" as the only occupant of a patient's head.

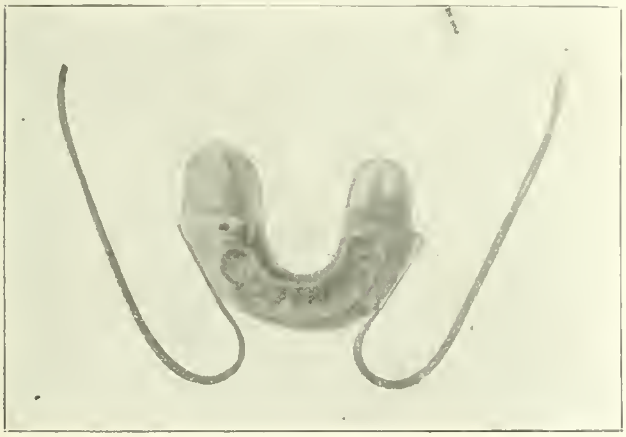


Fig. 1.—Lower Surface of Splint for Mandible to fit in and Holes to Wash Through.

As I previously mentioned, the literature is meager on the subject of such cases. Is it from the rarity of such injuries? Possibly not, for in looking over the reports and bibliography, I soon came to the conclusion that more cases might be found if considerable time could be given, for the classification is so mixed as to make it nearly impossible to avail oneself of those reported. Almost every variety of heading must be looked under, viz., "face, maxillary, maxilla, malar, jaws, crushing injuries, dislocations, nasal bones and surgery." One case I found, by accident, under "Typhoidal Widal Reaction" in the *Index Medicus.* Dr. John S. Marshall, in his work on "Injuries and Surgical Diseases of the Mouth and Jaws," 1897, reported a similar scarcity, finding only 19 cases in the literature within his reach. To these I can add 14 more in the literature I was able to obtain; and one case besides that came under the care of Dr. Bertha E. Bush and myself. I will here give a brief summary of one of the reported cases, to show some of the difficulties in treating it.[2]

J. W., aged 38, injured by the bursting of an emery wheel. Fractures of left malar, nose, and four distinct comminuted fractures of the superior maxilla, two transverse, one in the middle line of mouth and separation of nearly all of the alveoli containing the teeth and a depression of the same of about ½ inch. Seen in a semi-comatose state, in which he remained for hours. Hemorrhage free and shock. On the third day a vulcanite splint was attempted after the manner of the Gunning pattern, patient being etherized for the purpose. The plate had to be removed, as the fragments would not stay well in position at the end of the week. After consideration, ether was again given on the tenth day and the bones drilled, silver wire being used to coaptate the bones; a roller bandage and chin support were used. Liquid was given through a tube, and the mouth was washed twice a day with listerin. The wires were removed the fortieth day, the union being perfect. Patient talked and chewed fairly well, but the range of jaw motion was naturally lessened and there was loss of smell and taste.

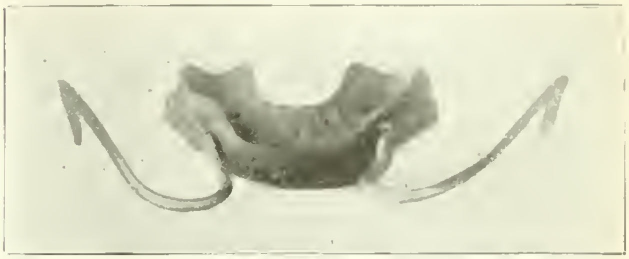


Fig. 2.—Anterior View and Upper Jaw Surface. Marshall Splint.

To the cases already reported I wish to add one recent one which came under my care during the past year. It is as follows:

On Sept. 14, 1899, A. B., aged 71 years, a man of strong physique, good health and habits, received a fall of 25 feet while examining a building. He was standing on a ladder which gave way and went to the ground under him. The patient fell forward, striking his face on one of the rounds of the ladder, nearly transversely at the level of the end of the nose, and also sustaining numerous bruises about the neck and shoulders and a sprain of the left wrist. He walked unaided into a house near by, and though considerably shocked was at no time unconscious. The immediate hemorrhage was very profuse from nose and mouth and continued about one hour. Dr. F. Keefer, who examined the face before much swelling had occurred, and Dr. Bertha E. Bush, of Chicago, found the upper alveolar margin and teeth freely movable en masse up and down as if upon a plate, though the mucous membrane of the mouth was intact except at the upper lip. The nasal and malar bones seemed uninjured and there was no orbital hemorrhage. The vomer, palate and inferior turbinated bones were comminuted, crepitus about the alæ and septum of the nose resembling the "crackling feel of a broken eggshell." During the copious antiseptic irrigations of the nose and mouth, which were repeated every three or four hours in the first few days, the solution could be made to flow with some difficulty from either nostril into the mouth, but clots of blood and mucus, together with the extreme degrees of swelling which promptly ensued, effectually prevented nasal respiration. Deglutition and speech were difficult at first, but never quite impossible. The patient rallied somewhat slowly from the shock, and during the reaction developed a temperature of 101 F., which, however, subsided in less than a week. For twelve days after the accident no retentive appliance was adjusted, the treatment being directed solely to sustaining the patient's strength, relieving pain and keeping the injured parts as clean as possible by sprays, douches and gargles of antiseptic solutions and by wet compresses, principally borolyptol compounds and boracic acid. By this time, swelling had much diminished, there was only slight oozing of blood into the nose and pharynx, and a degree of hardening was perceptible about the floor and walls of the nares and the roof of the mouth. The soft parts were in good condition and no necrosis of bone had occurred. The mouth was habitually open for respiration, although the patient could at times breathe through his left nostril with effort. The face was markedly lengthened in the region of the injury, that is, the nose appeared longer than normal and a little flattened, and the distance from the angles of the mouth to the eyes greater than before. The upper lip was longer (vertically), especially when the mouth was closed. The upper incisors dropped behind the lower on closing the jaws, a condition not usual to the patient previously.

---

*Presented to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Possessing a medical and dental qualification.

[2] Staples, A. F.: Railway Surgeon, Chicago, 1898-9, pp. 133-135.

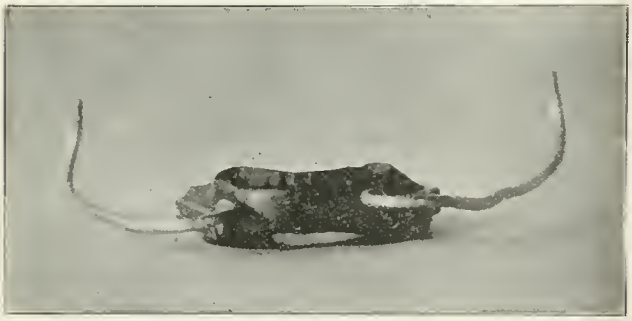


Fig. 3.—Marshall Splint. Anterior View. Slides for Wires.

None of the teeth had been loosened within the alveoli, but the entire row of upper teeth with the anterior portions of the superior maxilla moved freely up and down more than a quarter of an inch, a little lateral movement being also apparent. Pressure on either side of the nose beneath the orbits during the vertical and lateral movements of the upper jaw showed motion of the bony parts at those points, proving that the fracture of the superior maxilla had been far above the alveolar border; that separation from some of their upper articulations was probable. Ten days after the receipt of the injury the patient was brought, by my advice, to Chicago, a distance of 100 miles. He was seen, in consultation with us, by Dr. John S. Marshall, who directed the further treatment. It appeared certain that bony union of the fractured maxilla could not take place unless the fragments were held continuously in position, the anterior separation being fully a quarter of an inch when the mouth was open. Support was not to be derived from any splint or bandage under the lower jaw, owing to the obstructed respiration when the mouth was closed. It was therefore determined to retain the loosened fragment in position by an interdental splint supported from the vertex, after the method described by Dr. J. S. Marshall, in his work on "Injuries and Surgical Diseases of the Face, Mouth and Jaws." On Sept. 24, 1899, the models were taken in modeling compound, and the following day a rubber plate was made to fit over the upper teeth, with spaces into which the lower teeth might close accurately. On each side of the plate a grooved piece of metal was imbedded and into each groove a wire spring was slid from before backward, the wire being bent on itself so that its shorter end occupied the groove in the plate and the longer end extended back four or five inches with its tips bent down. These two wires were easily slipped into place, after the plate was adjusted in the mouth, the wires passing out of the mouth opposite the cuspid teeth. A cap of netting and leather was made, with properly placed loops and buckles for adjusting the straps fastened to the wire springs. (See Figs. 1 and 3.) The apparatus was applied September 26, on the twelfth day after the accident and was worn day and night for three weeks, after which it was removed at night and worn in the day time for another week—Fig. 4. On removal of the support, union was found to be firm with only slight deformity, viz., a lengthening of the middle portion of the face. The patient could eat solid food, breathe with the mouth closed and complained of no pain except a numbness of the roof of his mouth and slight impairment of the senses of smell and taste—which is still present, eight months later. He gained in weight and strength and was able to work.

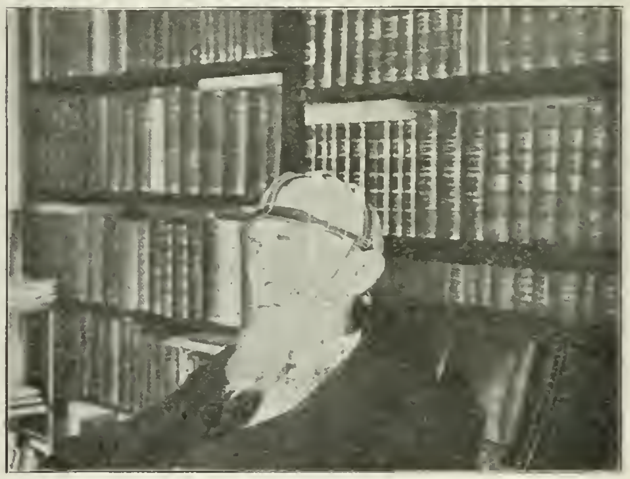


Fig. 4.—Fracture of Superior Maxilla and Vomer Bone, etc. Marshall Splint.

There are certain points in this case which are of interest to the general as well as to the dental surgeon:

1. The disadvantage of trying to use bandages, occipitofrontal and occipitomental, and the discomfort of a chin bandage.

2. The difficulty of respiration and danger of malocclusion, which latter must never be lost sight of and every effort made to secure perfect or as nearly perfect occlusion as possible.

3. The lack of perfect support to the jaw if wired only, and the need in many instances of an anesthetic for the same.

4. The guide which the interdental splint gives to

the mandible for correct occlusion, and hence chance to note any dropping or displacement of the splint.

5. The disadvantages of the plate are so few that they may be easily remedied, on account of its adaptability, and they differ with the patient's disposition: 1, the feeling of tightness around the head, which may give headache if not adjusted; 2, the slipping of the side tapes until the balancing point was found, can be remedied by making a downward curve (Fig. 5), bend or points in the wire, as seen in the diagrams.

6. The cap must be a good and accurate fit, the vertex leather not coming too low down to the ears.

7. The advantages of lightness, air through the mesh over the hair, use of non-corroding metal for the bars and sockets, or nickel-plating, the ease with which the plate may be slipped out and cleaned while the douching and irrigation is being done.

8. The advantage of drilling several holes in the sides and through the alveolar part of the plate so that syringing with water and antiseptics can be done, when the plate is put in, to get rid of particles of food.

9. The greater variety of solid food that the patient can eat, as it can be crushed by the tongue against the plate.

10. The bilateral, almost symmetric injury, giving no point of support within the oral cavity, yet resulting in very slight alteration of the face after recovery.

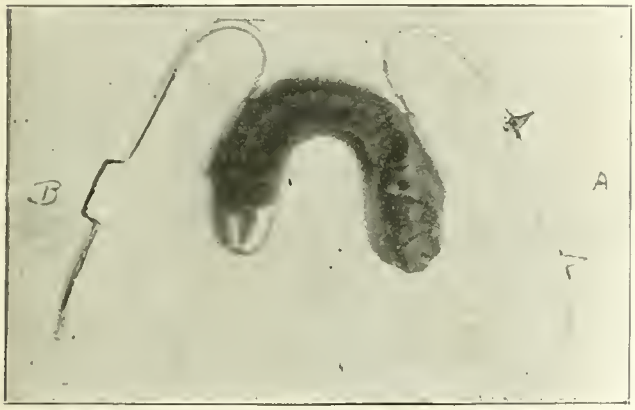


Fig. 5.—A.—Diagram of Points to Prevent Tapes Slipping. B.—Diagram of Bend.

11. This form of splint, a modification of Kingsley's, has this advantage over others, it can be vulcanized in an ordinary flask and the metal bars slipped in after the plate is polished.

12. Lastly the age of the man, being the oldest recorded case of recovery in the literature at my command.

BIBLIOGRAPHY.

Marshall, J. S.: Injuries and Surgical Diseases of the Mouth and Jaws, 1897.

Angle: System of Regulation, etc.: Fracture of the Maxilla. These two works are of much value on this subject.

Whittles, J. D.: Notes on Fractures of Maxilla and Mandible. Jour. British Dental Association, 1896, vol. xvii, 199.

Kingsley's Oral Deformities.

Dennis' System of Surgery.

Garretson's Oral Surgery.

Dental Cosmos.

Trans. Odontological Society, London, 1889.

Trans. Odontological Society, New York (Weisse), 1897-1898

Mason's Surgery of the Face.

Heath's Injuries of the Jaws.

Papin, P.: Des Fractures du Maxillaire Supérieur et Traitement. Archives Méd., Argers, 1897, Pp. 435, 441, 497, 502.

Edmonds, N. D.: New Splint for Fractured Jaws, Dental Practitioner, Buffalo, 1897.

CASES REPORTED.

1. Blake, A. E.: Pacific Medical and Dental Gazette, 1898, vol. vi, pp. 454-6.

2. Staples, A. F.: Railway Surgeon, Chicago, 1898-9, pp. 133-135.

3. Choux: Arch. de Méd. et Pharm., 1898, vol. xxxii, pp. 269-273.

4. Kennedy, W. N.: St. Louis Medical Era, 1898, vol. viii, p. 52.

5. Riva, U.: Glor. Med. d.v. Escrito, Roma, 1898, vol xlvi, pp. 1269-1288.

6. Blafield, O.: Duodecim Helsinki, 1898, vol. xiv, pp. 389-392.

7. Geyer, J. L.: Railway Surgeon, 1895-96, vol. xi, p. 295.

8. Haight, P. L.: Am. Jour. Dental Science, 94-95, p. 551.

9. Hopkins, G. H.: Lancet, London, 1895, vol. xi, p. 1106.

10. Mason, W. D.: Texas Dental Jour., Dallas, 1895, vol. xiii, p. 94.

11. Roughton, E. W.: British Jour. Dental Science, London, 1895, p. 781.

12. Ewbank and Ackery: Trans. Odontological Society, London, 1889.

13. Ackery and Paterson: Trans. Odontological Society, vol. xxii, n. s., p. 65.

14. Bingham, G. A.: Canadian Practitioner, Toronto, 1898, vol. xxiii, p. 175.

THE PHYSIOLOGIC TRAINING OF THE FEEBLE-MINDED.*

SAMUEL J. FORT, M.D.
ELLICOTT CITY, MD.

American institutions for the care and training of the feeble-minded are the results of a little more than a half-century of the work begun abroad by various observers in a semi-scientific manner, it being reserved for the elder Seguin, a student of Itard and Esquirol—the French pioneer workers—to formulate a system from dilettantism. The year 1848 saw the beginning in this country of Seguin's enthusiastic, brilliant work, inspiring American workers—a beginning that places Wilbur, Brown, Knight, Kerlin and Richards almost side by side with Seguin; that saw two institutions in as many states multiplied in 1900 to 19 state and 10 private institutions, caring for a total of nearly 8000 feeble-minded persons. It is true that Seguin's methods of training the feeble-minded are yet considered the best, being founded on the only true method of all teaching—the physiologic—the only system that takes cognizance of the individual and the only system that prevents both student and teacher from becoming mere machines. Seguin died before he saw more than the beginning, in this land of his adoption, of a work for which he practically gave his life, but he left behind him a valuable legacy in the hands of brainy men, quite as enthusiastic as himself, and while the so-called physiologic system of training the feeble-minded still stands an enduring monument to a talented man.American talent has widened and extended the scope of the system far beyond the anticipations of its inventor.

Primarily, observers of the mentally deficient worked purely from philanthropic motives; later, from the standpoint that many such individuals were simply isolated from normal men by deprivation of proper training, and still later Seguin defined idiocy and apparently recognized somewhat indistinctly several types that differed from actual idiocy. types now definitely classified—thus:

1. Imbecile.. . . .	Mentally deficient Mentally and morally deficient . .	High grade Middle grade.. Low grade . .	Educable.
2. Idio-imbecile . .			Non-educable.
3. Idiot .			

It is unfortunate that we have not yet as a people recognized the anatomic deficiencies of our feeble-minded charges as being of paramount importance in prognosis. Fostered by ignorant persons, interested only in securing large fees for impossible though promised results, advertised by yellow journalism, the idea of *cure* is yet prominent, notwithstanding the absolute fact that we have in all cases an inherent deficiency, beyond the reach of surgery or medicine to restore. Whatever share of active nerve-center is present may perhaps be acted on, but if a normal standard is a whole, no fractional part can ever be equal to the whole. This to-day stands like a wall barring the progress of our work as a factor in the system of public education.

---

*Presented to the Section on Diseases of Children, in a Symposium on The Feeble-Minded and Nervous Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Even the marvelous attainments of individuals like Blind Tom are urged as reasons why imbeciles may be trained so that may eventually become members of the body politic, forgetting that while one or more protrusive talents have raised the individual not only above his more ordinary brothers and sisters in affliction, or even above the average normal man or woman, there still remains the heritage of physical weakness and mental inertia in all save the one development, rendering them incapable of taking their place in the active busy world, handicapping them too heavily in the race for existence, making them useless outside of the fostering care of an institution.

The mere thought of restriction is so repugnant to many that the value of environment is lost to sight. Yet to the defective child of whatever grade of mentality, whether well-to-do, rich or poor, the home environment is as a rule bad. Whether *ego*, in so many cases rampant, is stimulated to an unhealthy growth by too much care, or on the other hand if the child's little meed of mind is crushed out by deprivation of its poor little wants, the results are the same, retrogression and mental apathy. No class of children responds more quickly to the community interests of the institution than the feeble-minded. Many may at first be homesick, but the orderly life, companionship of similar mental attainments, oversight by judicious foster-mothers, the music, the flowers, soon overcome the nostalgia and the warped and twisted human plant soon begins to grow and become more like the standard set by its trainers.

The physiologic system as formulated by Seguin contemplates the use of the hand, the eye and the ear as the avenues of entrance into the undeveloped mind, and demands an early recognition of the condition for its best results. The feeble-minded child as a rule is a creature of habit, and these habits are distorted from the normal by reason of the deficient or defective co-ordinate powers. Experience has proved the difficulty of overcoming the automatic or mechanical habits even in the young and of short standing, hence the advantage of placing the erring centers and muscles under regular systematic training at an early period in life.

The kindergarten has proved of great importance not only in the training of the young subnormal, but in the diagnosis of the youthful defective. The trained kindergartener can hardly fail in recognizing both moral and mental deficiencies in her classes from the very nature of the methods employed.

Nature studies and object-lessons follow in natural sequence, then sloyd and manual training, all aiding in mental stimulus and muscular activity. The underlying principle of our present system is to develop, by every available method, the ability to think and to do. If the state is to assume life-care of its feeble-minded population, it must endeavor to develop as many earners as possible. The asylum will contain the drones, those incompetents who will always be in debt for their existence; the training-school and the colony must return to the state as much of their cost as possible, and this can be done only by systematic application of intelligent exercises, devised to stimulate a desire to do something that may be of use to others. This carries the boy or girl through the kindergarten and the class-room into the shops; those unable to keep along with others, reaching their limit of attainment, may still find room for employment in the more simple work of the farm, the garden or other duties needing a minimum of mental exertion, but still giving enough muscular work to prevent retrogression.

The ever widening horizon of this physiologic training has each year taken in every modern development of educational facilities. Of these, manual training as now seen in our numerous polytechnic institutions is one of the most important systems yet devised, and while yet in its infancy as an adjunct to our institutions for the feeble-minded, is each year assuming greater proportions. In its application to normal children, it proves an important agent in detecting mental and physical defects; in its application to the subnormal child, it is equally important in counteracting these defects. A writer has said: "What orthopedic surgery is to the body, such, I believe, manual training in childhood is to the mind." Twenty years of work among the feeble-minded leads me to think we have only seen the beginning of what the future will see of the results from manual training in our institutions.

It is even now a question of serious importance whether we have not paid too much attention to mere school training. If we are to assume the life-care of the feeble-minded, the question of an individual ability to earn all or a part of his or her support must be carefully considered and in this relation mental cramming can not be considered a factor in the ability to earn. Certainly there are at least those of one class, the moral imbeciles, even if their environment is to be permanently restrictive, that should not be too highly educated in the sense of knowledge imparted. Many of this class stand on the border-line of insanity and I am certain that to some might be said that which was said to St. Paul: "Much learning hath made thee mad."

It is not intended to make persons afflicted mentally prisoners for life at hard labor. Such are taught to work because it is wrong to be idle, and in the colony of defectives, free from the ever-present problem of whence their daily bread shall come, the grim specter of the self-dependent workman, they can labor through work hours, and be in position to enjoy the recreations and amusements provided under the same schedule that calls them to work.

Now, if this system of physiologic training is correct, and there seems to be no reason to doubt its efficiency, what can be urged for the future, judging by the results of the past?

1. The state owes its mental defectives proper care and training, and a proper consideration of the normal and subnormal demands life-guardianship of those unable to support themselves in the outside world and a bond on the part of the well-to-do that provision shall be made for the support of their feeble-minded progeny.

2. The enormous increase in the number of this class of incompetents urges a closer attention to the proper enumeration of all such defectives in each state, their registration on the files of state boards of health, and penalizing both parties to a marriage contract, in which one is known to be feeble-minded.

The question of asexualizing both sexes of the feeble-minded has been considered, but the proposition that contemplates such surgical procedure where no pathologic condition exists beyond the mental deficiency is too extreme to be practical. Granting that the female is the only sex to be considered, the radical obliteration of her ability to procreate other imbeciles seems to me to argue our inability to properly care for her. And if we produce such a condition, simply to relieve ourselves of the protection she deserves, we are licensing an evil condition, and if her condition was known, throwing a veritable firebrand into the community. Procreation is not the worst evil that can obtain from the contact of sexes where one is weak, the other an unmitigated scoundrel.

3. Experience has proved the value of early recognition of mental deficiency, and application of proper training, hence the value of expert examination of school children, especially the so-called "incorrigibles," "truants," "juvenile delinquents," et al, and their grouping either in state institutions for the feeble-minded or in special classes under special instructors.

4. Our normal schools should make the study of training backward and mentally deficient children a compulsory and thorough course, that our public school teachers may be better able to co-operate with the medical examiner in detecting signs of mental deficiencies, and thus aid in weeding out the defectives from the ordinary schools.

5. The system of manual training as pursued in our polytechnic schools is one that is advantageously used in our institutions for the feeble-minded, and at least one-third the schedule time of school work might be passed in properly equipped shops with advantage.

6. Purely abstract education should be limited to the highest grades, and where these show signs of moral obliquity, every effort should be made to advance the physical rather than the mental development.

KERATOLYSIS OR "SKIN-SHEDDING."

R. M. STONE, M.D.

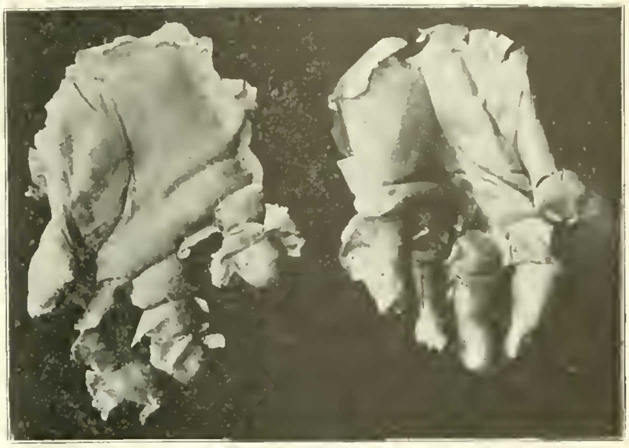
OMAHA, NEB.

I had the good fortune recently to see one of the rare cases of "skin-shedders." This was a man of 50, strong, hearty, quite intelligent and entertaining in his description of his peculiar condition.

Family History.—He comes of a long-lived race, two of his grandparents having reached over 100 and his father being alive at about 90. He has six living brothers and sisters. No one of his family has ever been known to shed his skin.

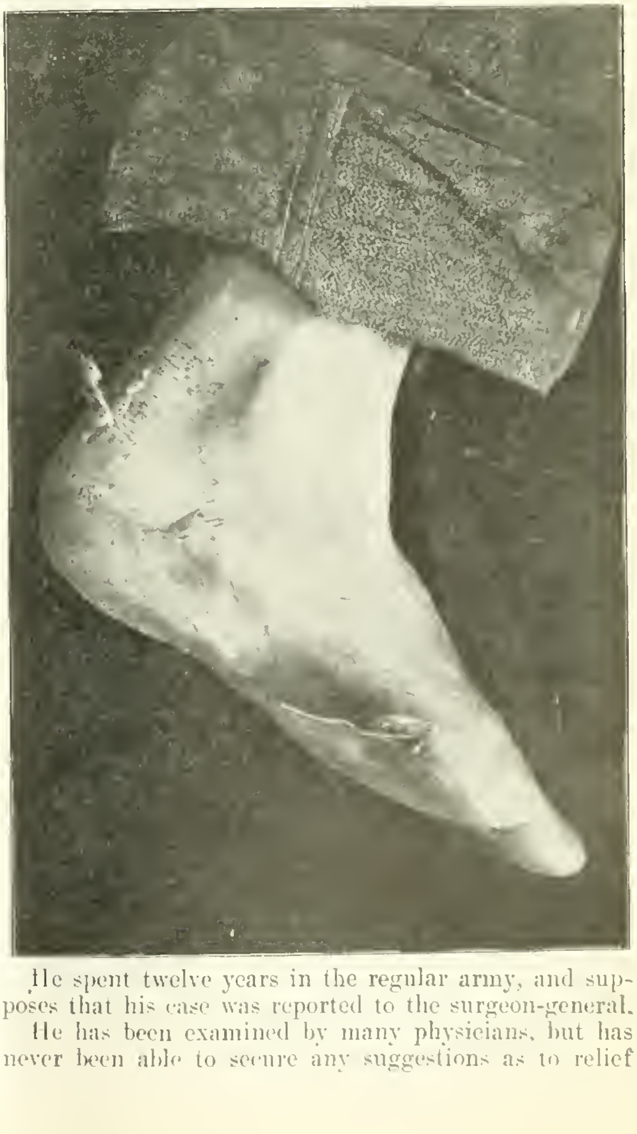
Personal History.—His parents told him that he was born in May, 1849, and that he shed all his skin in the July following, and every year of his childhood. Since he has reached years of ability to remember, he states that he has shed all the skin of his body every summer and, in the years 1893, 1894, 1899 and 1900, has shed it the second time about a month later than the first shedding.

The period of shedding is ushered in by a feeling of malaise and chilliness, followed by fever, which has risen as high as 103 F. The skin of the body generally scales off, while that of the palms, elbows, buttocks, penis and scrotum, the knee-caps and feet comes off in mass. The hair of the head, the eyebrows and his moustache all are lost. He is not rendered bald each year by the loss of hair, but it comes out little by little as it does after typhoid fever. A few times only has there been a shedding of masses of the skin of the legs. The nails of the hands and feet participate in the shedding. The new nail is, as would be expected, more sensitive than any other part of the body, and somewhat slower in renewal. In general, the body is not very sensitive, for he is able to work right through it if he wishes. Forty-eight hours after he has shed he can take a full cold bath without discomfort or danger.



He sometimes wears gloves for a day or two after the shedding.

When the skin begins to shed, the perspiration ceases to pass through to the outside and raises up the epidermis, which dries and becomes somewhat hard before it is cast off. When this is struck with a pencil it gives off a sound as of striking a piece of celluloid.



He spent twelve years in the regular army, and supposes that his case was reported to the surgeon-general.

He has been examined by many physicians, but has never been able to secure any suggestions as to relief from the annoyance. He has never taken any medicine other than a little quinine for the fever present during the process.

To-day he has nearly completed the shedding; this year he has gone through two periods, and has three coats of skin on his body at places. The heels are just about to lose a very heavy layer, and beneath it can be seen a layer less heavy which is peeling, and yet beneath it is a new skin entirely normal.

The case is one of keratolysis, and is described and illustrated best in "Anomalies and Curiosities of Medicine," by Gould and Pyle.

IMPERFECT DEVELOPMENT.

REPORT OF A CASE OF LACK OF DEVELOPMENT OF THE RIGHT SIDE OF HEAD WITH CONGENITAL MICROPHTHALMUS, COLOBOMA IRIDIS, LACK OF EXTERNAL AUDITORY CANAL AND IMPERFECT FORMATION OF AURICLE.

GEO. F. KEIPER, A.M., M.D.
EYE AND EAR SURGEON TO ST. ELIZABETH HOSPITAL, ETC.
LA FAYETTE, IND.

Dr. George K. Throckmorton, of this city, kindly called my attention to the above case about eighteen months ago. At my earliest convenience thereafter the patient was visited and inspected. It is a matter of great regret that no photographs accompany this description. Before the arrangements could be completed for taking the child's photographs it died.

At the time of the visit to Mr. G.'s house we found a seventeen-months child. The right side of the head was about two-thirds that of the left side, the latter being perfectly developed. The right eye was microphthalmic with coloboma of the iris downward. The coloboma was quite large. The eye was apparently blind.

No vestige of the right bony auditory canal could be detected. There was only a slight depression in the temporal bone, and that was covered with skin. Of the auricle, the lobe, tragus, antitragus and inferior portions of the helix and antihelix were wanting. The child had a mouth like a catfish. Both maxillary bones showed a fairly perfect development on the left side, but imperfect on the right side. What teeth the child had were imperfect and had not appeared in the usual order.

The right side of the body showed a lack of development, the arm and leg being markedly smaller than those on the left side. Otherwise the development was normal. The condition as noted in the child is very rare, and on this account is reported.

Concerning absence of the lobule, with absence of the external auditory canal, a case has been reported by Szenes.[1]

American Medical Association Meeting.—There was a notable lack of such experiences as have caused some members to vow that they never would attend a meeting of the Association, if held in a city of less than 200,000 inhabitants, and those who staid away this year on account of such a vow should be told about it. The fact is that the number of permanent inhabitants in a city has very little connection with the extent of its hotel accommodations, and gives very little indication of its capacity for handling a convention. This suggests the question: Is the nominating committee, as at present constituted, the best possible body for investigating the suitableness of a place for a meeting of The American Medical Association? Its members are chosen one day, meet the next, and often complete their labors at a single sitting. They have so many other things to do, that in the absence of better reasons the "I've helped you, now you help me" argument has too much weight. Lacking time to study and think about the question, lected to urge the claims of their respective cities that a wise the committee is so largely at the mercy of the orators se- judgment must be almost impossible. This can all be said this year without seeming invidious, for although other places talked about it, St. Paul was the only city that had nerve enough to come into the committee with a formal invitation for the meeting, and to urge its acceptance. It would at least be wise to expect henceforth, that a city aspiring to this honor should, through The Journal, extend its formal invitation, and explain its abilities to do well what it wished to undertake, as Denver did, several weeks prior to the meeting of The Association. And in the putting forward of its claims, the situation and capacity of its hotels should be given prominent mention, rather than the number of its inhabitants. It is interesting to note that in the table of membership, submitted by the trustees in their annual report, Colorado has 327 members, a number exceeded by only seven other states, while only Pennsylvania, Illinois and Ohio have over 500 members each. Unquestionably, for her population, or for the number of her physicians, Colorado furnishes a larger number of members to The Association or any of its sections, and but one member of one committee was from Colorado. There seems to be no reason for this except excessive modesty on the part of the Colorado members, and indifference to the way in which the affairs of The Association are conducted. For instance, when the time came at which, according to the program, "Delegates from the various states meet in the places designated, for the purpose of electing one member from each state on the nominating committee," one solitary member from Colorado sat in the place designated, and listened to the pushing, and caucusing and vociferating of the delegations from other states around him. Then, when the allotted time had expired, not knowing who else from Colorado was in attendance, this solitary delegate sought the secretary and—at great strain to the modesty above mentioned—handed in his own name, that the state might not go wholly unrepresented. There is no reason either in lack of ability or in the attitude of delegates from other sections toward Colorado members why they should not take their fair share of the official life and honors of The Association. A wholly impromptu and unsupported attempt came within one vote of capturing for the state the Oration in Medicine, an opportunity which rightly used would be worth much to Colorado and more still to the profession and the people of other sections of the country. The mere medical politician may be the bane of our professional organization, but his opportunity lies wholly in the neglect of the better members of the profession to give sufficient time and attention to the essential details of organization.—*Denver Medical Times (August).*

Hematolysis Test of Molecular Concentration of Blood.—Changes in the molecular concentration of the blood and in its osmotic pressure can be tested by the hematolysis which occurs in solutions of sodium chlorid or nitrate in varying concentrations. It is a more sensitive test than determination of the freezing-point, and requires only a minute quantity of blood. Teissier derived important conclusions from it for his address on "Edema of the Lung" at the International Congress. He compared the hematolysis in blood drawn before and during experimental edema and thus estimated the decrease in the resistance of the corpuscles and the increase in the total molecular concentration of the blood under the influence of the pathogenetic intoxication. Defibrinated blood, 1 c.c., was added to 20 c.c. of one of the solutions in each of the ten test-tubes. The fluid was stained by the hemoglobin diffused by "*laquage*" in case of hematolysis. It first appeared in the 45 per cent. chlorid and 65 per cent. nitrate solution. As the edema progressed, hematolysis was apparent even in the 60 per cent. chlorid and the 75 per cent. nitrate solution.

---

[1] Archiv f. Ohrenheilkunde, Vol. xxiv, p. 185; Dench: Burnett's System of Dis. of Ear, Nose and Throat, Vol. i.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, SEPTEMBER 1, 1900.

ANALGESIA FROM COCAINIZATION OF THE SPINAL CORD.

One of the outcomes of the International Medical Congress at Paris is the widespread popular interest in what the newspapers and to some extent the medical profession apparently accept as a new and epoch-making discovery in anesthesia. Professor Tuffier, of Paris, is announced as having made the discovery in March last that injections of a 2 per cent. solution of cocain into the spinal canal in the lumbar region is a safe and speedy way of producing what may be called a generalized local anesthesia, involving the lower limbs and to a greater or less extent the trunk, so that capital operations can be performed painlessly, but with full consciousness on the part of the patient. This removes from their places ether and chloroform as the indispensable anesthetics for the majority of surgical procedures, together with all their inconveniences and dangers. Not only surgery but obstetrics will be debtor to this discovery and it is announced as opening up a new epoch in medicine.

It is almost a pity to spoil a sensational announcement like this with bare facts that show that the new discovery is not by any means a new one, and that Professor Tuffier is not only not the discoverer but even not the first, merely the second, adapter and utilizer of the method. It is common enough that when some great fact is announced, some one will claim to have known it before, but in most cases with only such imperfect appreciation of its importance as not to detract from the last discoverer's merit. The knee-jerk had been a plaything of children from time immemorial until at last Westphal first pointed out its pathologic significance. Many Portuguese traders had probably traveled Central Africa, but they never gave their knowledge to the world, and Livingstone's and Stanley's renown was none the less well earned. The case is different, however, when a scientific man publishes in a scientific publication a fact that passes unnoticed until some late worker takes it up and popularizes it, so to speak; it is then our duty to recognize the service performed by the original investigator and not let the credit be misappropriated by one who, while he may have independently discovered the fact, has not real claim to priority.

The present instance is in point; neither Tuffier nor his predecessor, Bier, can rightly claim the origination of the method, which we owe to our fellow countryman, Dr. Leonard Corning, who, in his papers in the *New York Medical Journal* in 1885 and 1888, and his work on "Pain" published in 1894, left little to be developed of the method and technique of spinal analgesia. Not being a surgeon, he did not apply it directly to surgical procedures, but this does not impair his credit as the original discoverer. Its surgical application is a natural corollary to his pain-obtunding utilization of the method, and he has shown that it has a wider usefulness than merely a surgical one. Tuffier has simply extended Bier's application of Corning's discovery and neither of them can rightly claim to be its originator.

These facts have been published before. They were noted by Matas in his review of the surgery of the half century in the semi-centennial issue of The Journal published last year, as well as editorially in the *Medical Record* of August 5, 1899, and in The Journal of August 26, 1899. There has been no lack of opportunity for Bier or Tuffier to know these facts; they were not given out in obscure publications, but in leading journals and in a widely noticed work. It is perhaps only an instance of the truth recently noted by Virchow, of the superficial knowledge of many modern investigators in his and other countries as regards research to what others, especialy Americans, have done.

Whether this method, as adapted from Corning by Bier and Tuffier, is to work out the promised revolution in surgery and make a new epoch, time alone can decide; it is yet too new for positive predictions. It may be a question whether it will displace the time-honored anesthetics as fully as some may expect. But it does seem to promise at present a large addition to our surgical resources, and if further experience reveals no drawbacks to its use, no immediate or remote dangers of spinal cocainization, we can hardly overestimate its value. In this connection we refer to Dr. Murphy's communication in another column[1] showing in detail its latest developments in the hands of Professor Tuffier, and in which Dr. Murphy also gives his own experience.

THE REGISTRATION OF TUBERCULOSIS.

Concerning the dependence of tuberculosis on the tubercle bacillus, and the transmissibility of the disease, there is no longer any serious difference of opinion. The quibble as to whether we shall employ the qualification "infectious" or "contagious," as applied to tuberculosis, may now be relegated into obscurity. An infectious disease is one that is dependent on a specific cause that is capable of indefinite multiplication and through which it is susceptible of unlimited reproduction. Such a disease is necessarily transmissible or communicable by direct contact, through the intermediation of air, water, food, or other fomites, or a third person not necessarily suffering from the disease, but like the inanimate intermediaries acting only as a carrier of the infective material. In the category of such diseases belongs, among others, tuberculosis. Now, the especial danger of tuberculosis lies in the fact that the infective agents on which the morbid process depends are given off with the expectoration in cases in which the lungs are the seat of the disease; and, through only such carelessness, indifference or ignorance, as it can not be hoped the ordinary human being will ever be wholly freed from, the opportunities for diffusion will always be quite considerable, unless special restrictive measures are made operative.

---

[1] P. 572.

Being communicable, tuberculosis is to a certain extent preventable. All that would be necessary to bring this about would be the destruction of the causative agents or the cutting off of the channels through which they are conveyed. In both of these directions some progress has been made. The most practical means at our command looking to the fulfilment of these objects consists in isolation of the sick and disinfection of their discharges. In order to accomplish these purposes, however, it is obviously necessary to have cognizance of the cases, as well as the house, in which the disease exists. The methods to be pursued as an outcome of the knowledge thus acquired must have nothing of an inquisitorial or persecutory character, and there can be no thought of ruthlessly separating from their families unwilling tuberculous patients. Opportunity for isolation should, however, be afforded, but it must be made as attractive as possible for those who see the wisdom of it, not alone for the sake of those by whom they are surrounded, but also from the larger hope of improvement and recovery under the most favorable conditions for treatment. With regard to others, there should be some assurance that they shall not continue a menace to their neighbors or to the community in general. They should be taught, in however homely and simple a manner, the principles and the methods of prophylaxis, and they should be urged to practice them.

One step in the direction of these reforms would be the registration with boards of health of cases of tuberculosis that come to the knowledge of physicians. This has been undertaken in some cities. It would be well if it could be known where are the foci of disease, and, with this knowledge, enforce, humanely of course, the two main principles of preventive medicine, namely isolation and disinfection. For this purpose it would be necessary that cases be reported to some central authority, such as a board of health, and that proper steps be taken by such body in accordance with modern hygienic requirements.

THE FAUCIAL TONSILS AS POINTS OF ENTRANCE OF TUBERCULOSIS IN YOUNG CHILDREN.

The tonsils have been receiving a great deal of attention of late, because they are regarded as a possible and a probably rather frequent place of entrance of infections of various kinds. Diphtheria, scarlet fever, acute rheumatism, pyemia, and numerous other infectious diseases, all stand in more or less close relation to the tonsils. It has long been thought that tuberculosis—the most widespread of all infections—may gain entrance through the tonsils, especially in the young, in whom tuberculosis of the cervical glands is so common. Much has been written about this question, and its various phases have been quite fully discussed. Still, the subject can hardly be regarded as exhausted. Systematic studies on a large scale are best calculated to place the facts in regard to questions like this in their true light. Friedmann[1] reports the results of an extensive investigation covering the tonsils of 91 children examined after death, and of 54 living children whose tonsils were removed by tonsillectomy. It is necessary to exclude hematogenous and lymphogenous tuberculosis of the tonsils before a tonsillar tuberculosis may be interpreted as the result of a primary infection from without. This is easily done, because there is as yet no instance in which tuberculosis of the tonsils has been demonstrated to originate from the blood or lymph—Friedmann.

Infection from without may be primary and introduced by the food, and possibly under exceptional circumstances by way of inspired air; or it may be secondary and result from contact with bacillary sputum. Friedmann has several cases in which tuberculosis of the tonsils very likely developed from tuberculous food and milk. There is one case especially noteworthy: a marked tuberculosis of the tonsils without any other foci in the body. Friedmann regards it as quite certain that in childhood tonsillar tuberculosis is as frequently the primary result of infectious food as secondary from bacillary sputum. Tubercle bacilli lodged upon the surface or in the lacunæ of the tonsils are carried into their interior in the same way as solid pigment particles have been shown to be imported into the substance of the tonsils. From tuberculous tonsils an extensive invasion of the cervical or thoracic lymph-glands may develop. This Friedmann showed both in the living and the dead. In cases of cervical lymphatic tuberculosis, scars are often present in the tonsils, and these scars probably represent a healed tuberculosis. It is not likely that the tonsils constitute the entrance-point of infection without themselves becoming tuberculous, because Friedmann failed to find bacilli in non-tuberculous tissue. This corroborates Baumgarten's law that wherever bacilli enter, tuberculous changes result.

The general conclusions to be drawn from Friedmann's study are: In young children tuberculous invasion of the tonsils is of considerable importance, especially as to cervical glandular tuberculosis; and the infection is introduced in the food. In the end, we again are brought up before the fact that prevention is more important than efforts at cure.

The next International Medical Congress will be held at Madrid in 1903. Professor Calleja was elected president, and Dr. F. Caro, inspector-general of the Spanish navy, secretary-general.

---

[1] Ziegler's Beiträge, 1900, xxviii, 66-133.

HYSTERICAL PYREXIA.

Good definitions are wanting for both inflammation and fever. Each represents a morbid process of which the manifestations are, in general, well known. The one would appear to be the result of the local reaction of the tissues to certain irritants, while the other would seem to be the result of the entrance into the circulation of chemical substances capable of causing derangement of physiologic equilibrium. Perhaps the most distinctive feature of the febrile process is elevation of temperature. The two have, in fact, even been considered synonymous, but from the view-point of precision, it were better to distinguish the latter as pyrexia. Bearing this distinction in mind, the question may be fairly raised whether fever is ever unattended with elevation of temperature, and the evidence would suggest an affirmative answer; for there are on record isolated observations in which febrile diseases, such as typhoid and scarlet fevers, have pursued their course with slight, and even with no, pyrexia. It may, therefore, be inferred that the manifestations of fever are due to reactions excited by the products of abnormal metabolism, and that the presence or absence of any of those manifestations, such as elevation of temperature, will be governed by the presence or absence of certain definite chemical principles generated within the body, or even introduced from without. The individual susceptibility, in this connection, must obviously be quite variable. Thus, it is known that children, by reason of the greater instability of their nervous system, readily exhibit elevation of temperature on slight provocation; and the same is true, within limits, of emotional and mobile adults. It is, therefore, not surprising that the possibility of hysterical fever has been suggested, meaning more specially, hysterical pyrexia, and observations pointing in this direction have been placed on record.

After discussing some of the phases of this subject and citing a few cases from recent literature, Kobler[1] reports two illustrative instances under his own observation. The one occurred in a baker, 21 years old, who was seized repeatedly with hysterical convulsions and exhibited elevation of temperature between 102.6 and 107.6, without acceleration of pulse. Improvement in all of the symptoms followed a threat to place the patient in a bath of ice-water. The second case occurred in a girl, 11 years old, who presented attacks of screaming, with pain referred to the ileocecal region, motor aphasia, and elevation of temperature, ranging between 103.8 and 105.4, the symptoms setting in suddenly and subsiding with equal suddenness. After varied treatment, improvement followed only the threat of surgical intervention. The evidence thus seems to indicate that elevation of temperature may be of hysterical origin; but care must, of course, be taken to see that the registration of the thermometer be not induced by artificial means, and also that all other possible causes of pyrexia be excluded, or at least guarded against.

"OLD AGE WITHOUT DOCTORS."

Recently a lady died in Chicago who had attained the distinction of having lived over a hundred years. As is usual in such cases, the lay press proceeded to give the reasons why she had lived so long. Among these, the one given most prominence was the alleged fact that she had taken no medicine nor consulted a physician since she was 18 years old. This was twisted and enlarged on by other journals until it has appeared in a majority of the newspapers of the country, and has made a text for many an editorial against the doctors. An investigation, however, spoils the whole story, for it shows that the old lady had been under the care of the same physician for twenty-seven years, that for the past fifteen he had attended her for illness at least every three months, and all this time her life had been regulated by his advice. Verily, the evolutions of the inner consciousness of the average reporter evolve strange things, and his imagination beholdeth many things that are not!

THE EQUIPMENT OF THE MODERN PHYSICIAN.

The requirements of the scientific physician are yearly growing more exacting. Precision in observation and intelligence in treatment have become essentials in the modern practice of the art of medicine. The trend of current opinion in this connection is well indicated in an admirable and scholarly address delivered recently before the Ontario Medical Association by Dr. Lewellyn F. Barker,[1] late associate professor of pathology in the Johns Hopkins University, and now professor of anatomy in Rush Medical College, who states that were a medical student, suited by heredity and environment, to look forward to the higher things in medicine, to ask the question, "How can I best fit myself to make real advances in knowledge in medicine and therapy during the next twenty-five years?" he should say, "In addition to a thorough medical course, arm yourself with sufficient mathematics and gain a thorough theoretical and practical training in the methods of physics and chemistry, and especially in the principles and methods of what is called physical chemistry. After this, turn your attention to the solution of medical problems."

THE INCIDENCE OF PHTHISIS.

On another page of this issue is given an abstract from the *British Medical Journal* of a paper by Sir H. R. Beevor that is suggestive and noteworthy. Assuming that the death-rate is the most reliable index of the incidence of phthisis, he takes the little rural districts as affording the most stable conditions of population and environment and shows a uniformity in the statistics of phthisis that seem to him the "most cogent evidence of the insignificance of case-to-case infection; the rates are far too regular for so variable a factor to be the determining factor." He quotes Andvord, who from a careful inquiry into the tuberculous deaths in five Swedish towns for sixteen years came to the same conclusion. It seems from the studies of both of these observers that other contributing causes, and more especially predispositions, are the ruling factors in the phthisis mortality. Contagion, of course, must be admitted as possible, but it cuts no figure in the general statistics, according to these authorities. The figures and diagrams of Dr. Beevor are most encouraging in that they show an almost uniform decrease in this mortality for each of the three decades between 1860 and 1890, due, it seems, to better modes of living and diet and corresponding increase of physical stamina. Infection alone is significant enough, he says, as a pathologic factor, but it is other contributory causes that really determine when the disease shall manifest itself.

---

[1] Wiener Med. Woch., June 23, 1900, p. 1265.

[1] Johns Hopkins Hospital Bulletin, July-August, 1900.

SPONTANEOUS GANGRENE.

The disease known as spontaneous gangrene develops in the young and in strong adults. Usually there is no history of any special, preceding illness. Preceded by the rheumatoid pains and circulatory disturbances in first one and then the other lower extremity, and by a tendency to exhaustion on slight exertion, evidences of gangrene appear in some peripheral part of the extremity most affected. Occasionally the disease may affect the upper limbs. All therapeutic measures are fruitless, and amputation must be resorted to either on account of the extent of the gangrene or on account of the pain. The amputation must be made high above the limit of the gangrene, because the arteries are more or less completely occluded far above the diseased territory. Microscopically the vessels, especially the arteries, are narrowed or occluded by connective-tissue growth on part of the intima—a productive, obliterative endarteritis. The media often appears thickened. Evidences of calcification and degeneration are usually but little marked. The explanations advanced in regard to the endarteritis of spontaneous gangrene have not been satisfactory, hence their number has rapidly multiplied. The cases have occurred mostly in certain parts of Russia and Austria. Sternberg[1] reviews the whole subject of endarterial connective-tissue growth and reaches the conclusion that for the present the endarteritis of spontaneous gangrene is best explained according to Thoma's general law that whenever a vessel, owing to dilatation or other causes, becomes too large for the territory it supplies, a compensatory narrowing produced by intimal thickening results. Owing to congenital weakness, or to the great strain to which the arteries of the lower extremities are exposed, dilatation followed by endarteritis results. So far this explanation is plausible. But it does not make it clear why the endarteritis, a compensatory and regulative process, proceeds to complete occlusion of the vessels and thus causes gangrene, a condition far worse than the one it is assumed to relieve in the earlier stages of its development. The pain characteristic of spontaneous gangrene is ascribed by some to irritation of cutaneous sense-organs by the circulatory disturbances, by others its origin is referred to the Pacinian corpuscles in the adventitia of blood-vessels.

SEPTICOPYEMIA, SIMULATING BUBONIC PEST, AND CAUSED BY AN ANAEROBIC BACILLUS.

There are but few anaërobic pathogenic organisms as far as we know, but it is very likely that instances of such infections escape recognition often because not examined systematically with the proper methods. One of the most interesting and important anaërobic bacilli, gifted with high pathogenic powers, is the gas bacillus of Welch. Since the attention was directed to the bacillus of Welch, the number of morbid conditions found to be caused by it have multiplied rapidly. This shows what may be the case in other forms of anaërobic infections. Courmont and Cade[1] recently describe with great fulness of detail an exceedingly interesting example of an acute, fatal infection with an anaërobic bacillus that seems to be a new pathogenic organism. Clinically there was much that reminded one of the bubonic pest: violent general symptoms, ill-defined signs of pulmonary involvement with blood-tinged expectoration, subclavicular phlegmonous swellings. Pest was easily excluded, however, by finding in the pus an anaërobic bacillus, non-pathogenic for mice. Post-mortem there were found multiple abscesses of the lungs, a subclavicular suppuration, and the changes peculiar to septicemia of infection in the viscera. The pus contained great numbers of small bacilli, often arranged in chains, but also in various other groupings. Cultures from the lungs and the abscess, made anaërobically, gave pure growths of a bacillus, mostly in chains, which destained by Gram's method but stained readily with the usual other stains, often showing an unstained spot in the center. The bacillus is a strict anaërobe, and the anaërobic cultures from the other organs remained sterile. It grows best in peptonized bouillon, forming flocculi at the bottom, the supernatant fluid remaining clear. On solid media but slight growth is produced, non-gasogenic. It is pathogenic and pyogenic for rabbits, guinea-pigs, and dogs. After intravenous injections of rabbits large abscesses of the liver frequently result. In proposing for this bacillus the name "strepto-bacillus pyogenes floccosus" the authors violate one of the canons of botanic nomenclature, in so far as a trinominal name is suggested. We have here a good illustration of the value of systematic and complete bacteriologic examination in cases that simulate such dreaded diseases as bubonic plague.

THE QUESTION OF CRUELTY IN THERAPEUTIC OBSERVATIONS.

It is thought by some persons that members of the medical profession become hardened to suffering and death by reason of their more or less constant association with both of these conditions; but investigation will disclose that there is no body of men more thoughtful and considerate for the comfort and welfare of those that come under their care. Occasionally in the pursuit of his duties, the medical man may be compelled to resort to measures that to the layman may seem unnecessarily harsh and severe. The cold bath, for instance, has been considered such a measure. Again, many patients do not consider milk a food, and complain bitterly of being starved if given no other nourishment. It is, therefore, incumbent on the physician to be especially careful in experimental observations, as well as guarded in his manner of description, in order that both his motives and his methods be not exposed to hostile and unjust criticism. Several years ago a great hue and cry was aroused because of the administration of thyroid extract to a number of cases of dementia in the course of a perfectly legitimate and well-intended therapeutic experiment. As a further illustration of the distorted and exaggerated interpretation that is every now and then placed on medical reports, an account of a recent experience is an interesting example. There was published in the *Archiv für Klinische Medicin,*[1] by an assistant of the medical clinic at Jena, a description of the methods pursued in a case of diabetes insipidus, in which the amount of water permitted for drinking-purposes was greatly restricted, so that the patient, as a result, suffered greatly from thirst, and secretly obtained water and other fluids. The report goes on to say that he was accordingly locked in a room, and, to relieve his thirst, drank dirty water, as well as his own urine. With the appearance of untoward symptoms the treatment was discontinued. As might be expected, this report gave rise to considerable acrid criticism, not alone of this particular case, but of the medical profession generally. In defense of the course pursued, it is pointed out by the chief of the clinic where the observations were made that the treatment was instituted purely for curative purposes, that the patient had been informed of the inconveniences to which he might be subjected, that he nevertheless consented to be treated in this way, that he was at liberty to leave the hospital whenever he chose, but that he remained for two months and afterward returned of his own accord, and that, although the events described occurred three years previously, the patient had been up to the time of his death, two years later, always grateful to the physicians of the clinic for the consideration shown him.

---

[1] Virchow's Archiv, 1900, clx, 199-252.

[1] Arch. d. Méd. Exp. d. Anat. Path., 1900, xii, 393-418.

Medical News.

Prof. K. Gegenbauer, professor of anatomy at Heidelberg, has resigned his chair on account of ill-health.

Sir Michael Foster, professor of chemistry at the University of Cambridge, England, is in San Francisco and will give a series of lectures on the science of physiology, at Cooper Medical College.

Prof. A. von Rothmund retired from the chair of ophthalmology at Munich on his seventieth birthday, August 1, after an incumbency of forty years, at which time his friends, pupils, and representatives of the municipality and local societies, etc., assembled to do honor to his farewell address.

The City of Moscow founded a prize in 1897 in honor of the International Medical Congress, to be awarded triennially to the author "whose works have contributed most to the progress of medical science." The Thirteenth Congress bestowed this prize of $1000 on the Spanish scientist, Professor Ramon y Cajal, of Madrid.

Lung diseases are increasing in the Royal navy, says Captain Rason. Since 1883 respiratory diseases in that service have increased 60 per cent. despite the abolition of masts and sails and the lessened exposure to cold and wet. Captain Rason suggests as possible causes for this increase, that the men live in hot, unlined steel ships and crowded together.

Tuberculosis has been decided by the Secretary of the Treasury and the Commissioner of Immigration, to be a contagious disease, and aliens ill with the disease will not be allowed to land in the United States. The first sufferer under this decision was a Japanese clergyman, who was not allowed to land at San Francisco. He appealed and the decision cited above is the result.

Hospitals are to be established for United States soldiers at Nagasaki, Japan, with a capacity of 500 beds, and at some point in China with double that capacity. The material for fitting up these hospitals is being collected and forwarded as rapidly as possible. Majors E. T. Comegys, and P. F. Harvey of the army medical department started on August 20 and will assume charge as medical-supply officer, and surgeon-in-charge of the base hospital at that point.

Roma Salubris, should be the name of the Italian capital, according to the statement of Dr. Irving C. Rosse, of Washington, D. C. He discredits the mosquito-borne theory of malaria and gives the city a very good name for salubrity. He says that malaria is now seldom observed excepting among the lower classes, notwithstanding the fact that the mosquito is not a respecter of persons. He further says that Rome—with the exception of London—is the best watered, the best drained, and the healthiest capital in Europe, and a European or native of New England runs greater risk of contracting malarial fever in Washington.

Russia's Stupendous Anti-Alcohol Campaign.—It is now five years since the Russian government assumed exclusive control of the manufacture and sale of alcoholic liquors. In nearly all the provinces the saloon has been supplanted by the government shops, in which a guaranteed pure article is sold in a limited quantity to each customer. None is sold to those already intoxicated. These shops are located quite a distance apart and no one is allowed to drink liquor on the premises where sold. The system is supplemented by officially appointed local committees in each large town, which are supplied with funds to establish attractive temperance restaurants, reading-rooms, and people's palaces. They are expected to maintain a general crusade against the use of alcohol. A portion of the enormous profits of the liquor monopoly is devoted to this purpose.

CALIFORNIA.

Dr. Henry B. Bessac, Forbestown, has returned from Cape Nome, decreased in weight, but improved in health.

SAN FRANCISCO PLAGUE REPORTS.

Case No. 14.—William Murphy, aged 34 years, male, Caucasian. Occupation, clerk. Born in California. Residence, 427 Dupont street, between Bush and Pine, this within a few blocks of the Chinese quarter. The patient rode out to the hospital in a car and was admitted to Ward C. The following history of the case was taken from the records of the City and County Hospital. He has smoked opium and used morphin hypodermically for the last nine years. Chills and fever seven or eight years ago and was also treated in this hospital for pain in the side and discharged cured in three or four days. No venereal history, constipated for the last nine years. On Tuesday afternoon August 7, he noticed a pain and slight swelling in the right groin. That evening he began to feel sick and sore all over, had some headache and vomited a small amount of a bitter greenish substance. Heart slightly enlarged to the right. Lungs dull in axilla and diminished resonance over both apices, anterior and posterior. Sibilant and sonorous râles over both lungs. Abdomen, reflexes and sensation normal. Urine, specific gravity, 1020, albumin 1-30 per cent., no sugar. Microscopic examination, phosphatic crystals and some pus cells. The temperature chart shows the range of temperature to have been from normal to 100. Pulse 100. A painful bubo was present in the right femoral region. The patient died August 11 at 8:20 a. m. Duration of illness five days. Autopsy performed August 11 by Prof. Taylor of the medical department of the University of California. "Body of a well nourished man apparently 30 years old. The face, neck and extremities are livid. The entire surfaces of the arms are covered with small scars. Rigor mortis moderate in degree. On section the tissues are bloody; panniculus adiposus exceptionally thick. Peritoneum covering intestines is injected; intestines present several dark patches suggestive of hemorrhages. No serous effusions. Thoracic muscles deep red in color. Diaphragm on right side extends to fifth rib, on left side to fourth. Both pleural cavities, numerous adhesions. No exudate. Pericardium contains an excess of clear fluid. Heart and great vessels filled with heavy postmortem clots. Weight of heart, 410 grams. Walls one-half thicker than normal. Muscle, deep red. Aortic valve soft, elastic and competent. Aorta, few patches of atheroma. Aortic orifice, enlarged, admitting three fingers. Mitral valve, slightly sclerotic. Right lung, crepitant throughout; exudes frothy serum on section and pressure. The bronchi contain pus. Up to the third ramification of the bronchial tubes they contain no hemorrhages and no free blood. Bronchial glands not enlarged. Left lung, deeply congested in lower lobe and presents a gelatinous feel and appearance suggestive of disseminated tuberculosis; otherwise like the right. Mesentery, has a mottled appearance; glands not enlarged. Common bile duct pervious. Stomach, a tremendous injection and submucous hemorrhage; not dilated, mucous membrane smooth, no ulcers. Spleen, weight 615 grams, deeply congested, very friable. Duodenum is slightly injected, no free blood in stomach. Extensive hemorrhages into the tissues about the pancreas and behind the lesser peritoneum. Extensive hemorrhages into the substance of the pancreas. No fatty necrosis. Liver is bound down by posterior adhesions; weight 2330 grams. Extends below the umbilicus. Increased in anteroposterior diameter. On section, pale, somewhat resistant to knife, and of fibrous appearance. Gall-bladder is not enlarged; contains one ounce of dark-colored bile and two gall-stones. No obstruction in common duct. Intestines show mucous membrane congested; numerous submucous hemorrhages; no ulcers. In right groin are two enlarged lymph-glands, hemorrhagic but not purulent. An enlargement of the glands in the right femoral region." Dr. Taylor left intact the bubo in the right femoral region for the bacteriologic examination. The next day, Dr. Kellogg, in the company of Drs. Kinyoun, Ryfkogel, and Pillsbury, removed the glands from the bubo and found them necrotic, full of hemorrhages, and larger than in any previous case. Microscopic examination of the glandular tissue and spleen showed the plague bacilli, typical in form, and in much larger numbers than usual. Guinea-pigs were inoculated and died of typical plague infection. Other guinea-pigs have been inoculated with pure cultures obtained from the glands and spleen. Case No. 15.—Ham Tam, Chinese, male, residence 900 Dupont street, died August 15. He had been treated by a white physician who has a large practice among the Chinese and who reported that the death was due to phlegmonous erysipelas and septic pneumonia. Dr. Kellogg saw the case August 16, and found an enlargement of the submaxillary glands on the left side, which were removed and found to contain the plague bacillus in large numbers. Guinea-pigs were inoculated with emulsion made from the gland and died with typical lesions of plague. Pure cultures have also been obtained from the gland. An autopsy of the Chinaman showed nothing aside from what could be expected in cases of plague. The heart was soft and flabby and valves normal. Decomposition was well advanced and all the cavities were distended with gas. The lungs were much congested but no consolidation. Vessels of the mesentery injected. Spleen enlarged, very dark and soft. No enlargement of the lymph nodes.

---

[1] The Journal, July 28, p. 247.

CONNECTICUT.

Dr. Joel Butler, Meriden, has been appointed junior house-surgeon of the New Haven Hospital.

The July examination, held by the examining board of the State Medical Society, was taken by twenty-five, sixteen of whom, including one woman, passed. The examining committee consisted of Dr. H. S. Fuller, Hartford; Dr. Max Maithouse, New Haven; Dr. J. F. Calef, Middletown; Dr. J. W. Wright, Bridgeport, and Dr. W. L. Barber, Waterbury.

The mortality of Connecticut for July, as shown by the report of Dr. C. A. Lindsley, Secretary of the State Board of Health and superintendent of vital statistics, was greater by 214 than the corresponding month of 1899. During the month 1583 deaths were reported. This mortality was exceeded in March and April, in which respectively 1691 and 1678 deaths occurred. The highest mortality was, of course, from diarrheal diseases and among infants. The death-rate per 1000 for the state was 20.8; for the large towns, 21.7, and for the small towns, 18.7.

GEORGIA.

Drs. William S. Goldsmith and Walter B. Emery, Atlanta, have gone to New York for post-graduate work.

More than 3000 insane are now inmates of the state asylum at Milledgeville, which is greatly overcrowded, and more than 200 are now being held in county jails waiting for vacancies in the state institution. New buildings and increased space are urgently needed.

ILLINOIS.

Dr. Ralph Graham has located in Seaton for the practice of medicine.

Chicago.

A lawn party was given August 22, with a musical and literary program, for the benefit of the Norwegian (Tabitha) Hospital.

An emergency hospital is to be established in the stockyards district. At present those injured in the stockyards must be transported several miles to the County Hospital for treatment.

Dr. Charles H. Beard has returned from Paris, where he served for two months as a member of the international jury of awards in the department of medicine and surgery at the exposition. He accords high praise to the exposition, and says that every courtesy was shown to the American members of the jury.

The committee on lodging-houses of the State Board of Health, and its Chicago inspector, will ask the board to draft a law for the government of lodging-houses more in accordance with the law now in operation in New York. More rigid sanitary regulations will be included in this law, which, if enacted and enforced, should take away Chicago's reproach in this regard.

La Rabida Sanatorium, in Jackson Park, has been a godsend to the sick babies of the South and Southwest sides of the city during the heated season. Dr. Emma M. Mora is the physician-in-charge and the medical board is composed of Dr. M. P. Hatfield, president; Dr. W. C. Williams, vice-president; Dr. Henry F. Lewis, secretary, and Drs. Rosa Engelmann and J. C. Cook, consultants.

HEALTH DEPARTMENT.

From time to time during the last ten years, and more frequently since 1895, the department has claimed that Chicago had a lower death-rate than any other large city in the world—including among "large cities" all those having populations of more than 500,000. With the uncertainty as to our population it was not possible to demonstrate the correctness of this claim and elsewhere it was set down as a wild western bluff. One high statistical authority commenting on the figures for 1893, asserted that a death-rate of less than 18 per 1000 for a city of a million was incredible and added that, "If Chicago's figures are correct, municipal hygiene is a municipal farce; if they are correct there can be no use for a health department." More recently, one of Chicago's self-constituted censors who finds no good in his own city, publicly stated, with much apparent satisfaction, that the Berlin authorities —from which city he had just returned—paid no attention to Chicago's statistics—"they threw them in the waste basket."

Announcement last week of the Federal census figures of population not only sustains the claim of lowest death-rate for Chicago but also shows that the department estimate of population was nearer that of the Federal census than were those of any other of the large cities yet announced. Greater New York had an estimated population of 3,654,594; the census figures were 3,437,202, a difference of 6.32 per cent.; St. Louis an estimated population of 623,000, reduced census figures to 575,238 a reduction of 8.30 per cent.; Philadelphia claimed 1,266,832, but the census-takers found only 1,203,697, a reduction of 5.24 per cent; while the estimate of the Chicago department of health—1,750,000—was only 51,425, or 3.03 per cent. above the census findings. The claims of Chicago are confirmed by the statistics of deaths tabulated in the current number of the "Sanitary." From this table it appears that Chicago leads the cities of the world as regards death-rate for the first quarter of the year, 16.56 per mille. Next in order comes Brussels, 16.8; St. Louis, 19.2; Hamburg, 19.4 Berlin, 20; Amsterdam, 20.8: Vienna, 22.1; London, 23.1; Naples, 23.2; Greater New York, 23.27; Philadelphia, 23.65; Paris, 23.8; Birmingham, 25.9; Manchester, 26.5; Glasgow, 27.4; St. Petersburg, 29.5; Liverpool, 31.4; Budapest, 32.6; Cairo, 32.8, and Moscow, 36.9. In the half decade 1890-1894, there were 126,804 deaths in Chicago, a yearly average of 23,361; in the half decade, 1895-1899, 117,331 deaths occurred, a yearly average of 23.516. This marked a decrease of 7.27 per cent. in mortality as compared with the first period, while the population in the same period had increased according to census figures 37.33 per cent. This is a most interesting and instructive demonstration of the improving public health of Chicago. From this time on the department will base its figures on the population as found by the census authorities, 1,698,575. The mortality for the week ended August 25, was at the rate of 14.42 per thousand, which compares favorably with 15.40, the figures of the corresponding week of 1899. The total deaths were 466; 262 males and 204 females; 140 under 1 year, 65 between 1 and 5 years and 65 over 60 years of age. The principal causes of death were: acute intestinal diseases, 109; consumption, 42; heart diseases, 39; violence, 33; nervous diseases, 26; cancer, 25; Bright's disease, 18; pneumonia, 17; convulsions, 11; typhoid fever, 11; diphtheria, 10; sunstroke, 7; and suicide, 3.

INDIANA.

Dr. A. J. Boswell has moved from Fort Wayne to Elkhart.

Dr. A. B. Darby, Waterloo, has been nominated for state senator on the republican ticket.

Dr. Fred C. Sarver, Scottsburg, will soon leave for China as acting assistant-surgeon in the army.

In a fight over the way in which Dr. N. G. Masters of Stilesville handled an alleged mind-reader, he seriously wounded the manager of the show.

Dr. Charles R. Shouse, house physician of the Wabash Hospital, Peru, has been transferred to the Wabash Hospital at Ashley, succeeding Dr. P. S. Kaadt.

Muncie is promised a $100,000 hospital by the woman's lodges and various societies of the city. They agree not only to build and equip the hospital, but to assume its management, and all this without "begging one cent."

The State Medical Board report, just issued, shows that the medical profession of the state has approved the medical laws recently enacted and that their enforcement has rid the state of many undesirable practitioners. The board considers that all the medical colleges of the state are operating within the requirements of the law. It is suggested that the laws of the state be so amended as to require graduates from colleges in other states to pass an examination by the state board before being granted license to practice. It is also suggested that the law be so amended as to require each county clerk to file in his office all cetificates of qualification presented by applicants for license to practice.

KANSAS.

A partnership has been formed by Drs. W. Scott Harvey and James R. Crawford, Salina.

Morton County, when asked by the State Board of Health to send in a list of its physicians and surgeons, reported that it had none. On investigation the state board is said to have learned that there had not been a case of serious illness in the county for two years. This locality is earnestly commended to the attention of the pathogenic microbe.

KENTUCKY.

Speers Hospital, Dayton, will probably not be closed. On August 17 the medical staff met at Newport, discussed the troubles of the institution, decided on the abatement of certain abuses and determined to use its utmost efforts to continue the work of the hospital.

LOUISIANA.

Dr. Otto Joachim, of New Orleans, is spending his vacation in Quebec, Canada.

New Orleans is boasting of her health record. Her death-rate for the week ended August 11 was only 13.11 per 1000 per annum for whites; and for the following week, 13.87 per 1000 per annum. The death-rate for the colored population is not given. Out of 56 deaths for the week, 4 were from accident, 1 of which was from sunstroke.

MARYLAND.

Dr. John D. Brooks, Brookland, left for San Francisco August 17 to receive orders as acting assistant-surgeon in the army. He expects to go to the Philippines.

Baltimore.

Dr. William T. Howard is at Narragansett Pier.

Professor John C. Hemmeter, of this city, read a paper before the International Medical Congress in Paris August 3. During his stay in the Parisian capital Dr. Hemmeter is the guest of Professor Mathieu.

In a card in the papers, Dr. Brush, of Sheppard and Enoch Pratt Asylum, states that there are no cells, "either padded or otherwise," at his institution. Padded rooms are quite common in many English hospitals for the insane.

Dr. Calvin De Ford Snyder, who for eighteen months past has been resident gynecologist at the Maryland University Hospital, and Dr. Howard D. Lewis, who has been connected with the hospital dispensary for some time, have been appointed assistant-surgeons in the U. S. Army, with the rank of first lieutenants, and have left Baltimore for San Francisco.

The Board of Awards has let the contract for supplying horses to the health department for the next year for $500. This includes the use and keep of two horses and wagons. The horses are needed for the pauper dead service and for carrying sick persons to hospitals. Should extra horses be needed they are to be furnished at the rate of $250 each per annum.

By the will of Mrs. Margaret J. Bennett, of this city, widow of a wealthy auctioneer, the following bequests are left to charity: Hospital for the Women of Maryland, $25,000; Nursery and Child's Hospital, $2,000: Asylum and Training School for Feeble-Minded of Maryland at Owing's Mills, Baltimore County, $1,000; Home for Incurables, $1,000; for establishing a home for homeless, needy and deserving female persons, $150,000. Altogether $316,000 of her million were left to charity.

MASSACHUSETTS.

Dysentery is reported to be epidemic in Millbury, and the local health authorities are looking into its causation.

State medical inspectors are recommended by Dr. Henry P. Walcott, chairman of the State Board of Health, whose duties shall be to make frequent inspections of nuisances with immediate reports to the local and state boards. He proposes that the present district examiners be appointed, as they are "the most reputable men the state employs" and who "know something about law and could go into the courts if necessary."

Anti-vaccinationists of Rockland have passed resolutions asking the local board of health to refrain from further enforcement of the state law that requires all children to be vaccinated before entering the public schools. Dr. Gilman Osgood, of the board, in a communication to the local press, defends vaccination in strong terms and stated that parents who failed to have their children vaccinated were guilty of wilfully neglecting their welfare.

MICHIGAN.

Dr. Willett J. Herrington, of Bad Axe, has returned recently from his European trip.

Drs. W. E. Jewett, Sr., and W. E. Jewett, Jr., have been appointed surgeons of the S. & M. S. Ry. at Adrian, vice Dr. C. Kirkpatrick, resigned.

Dr. Harry S. Kiskadden, Detroit, has been appointed by the governor a member of the State Board of Health to succeed Dr. B. H. Lawson, resigned.

MINNESOTA.

Dr. John Snell Holbrook, Mankato, and Miss Mary Emaline Whiting, Northfield, were married August 16.

Dr. G. R. Clayton, Winona, has been appointed acting assistant-surgeon in the army and is in San Francisco awaiting orders.

The incorporation is announced of the Swedish Hospital and Nurses' Institute, at Minneapolis, with a capital stock of $30,000. The incorporators are Dr. C. A. Smith, A. B. Darelius, E. G. Dahl, and N. O. Warner.

The citizens of Minneapolis have been asked to contribute $30,000 for the building of a quarantine hospital. The city treasurer is to act as treasurer of the fund. This appeal has been made because the city treasury is empty and no money will be available from municipal sources until next year.

MISSOURI.

Dr. A. M. Conway, of Fayette, has removed to Glasgow.

Three murders were committed on August 20 by Dr. Sturley P. Harrington, Farley, Platte County, while crazed from drink. He first drove his wife from the house, killed his uncle, mother-in-law and the sheriff of the county, and was in turn shot dead by the sheriff's son.

NEW JERSEY.

Dr. Edwin Field, Red Bank, sued the Board of Chosen Freeholders of Monmouth County for $90, for performing three autopsies. The board, which had an arbitrary rule, refused to pay him more than $15 per autopsy. The court, however, held that he was entitled to the amount claimed.

NEW YORK.

Dr. Smith Ely Jelliffe assumes charge of the *Medical News* September 1.

NORTH DAKOTA.

Dr. George F. Erskine, Hamilton, has been appointed vice-president of the State Board of Health to succeed Dr. Musgrove, deceased.

Diphtheria at Valley City and smallpox among the Indians on the Turtle Mountain reservation are engaging the time and attention of the state health officer, Dr. Quarry, Grand Forks.

OHIO.

Dr. A. O. Ervin, South Salon, has located at Washington Court House.

Dr. Scuyler O. Giffin, Columbus, has been elected secretary of the Franklin Park commissioners.

Dr. August Ravogli, for sixteen years Italian consul in Cincinnati, has been obliged by the demands of his practice to resign his diplomatic position.

Dr. Robert E. Ruedy, of the house staff of the State Hospital, Columbus, has resigned and will open an office in Cleveland. He will be succeeded by Dr. George T. Harding, of Marion.

Ohio Medical College, Cincinnati, will open a physiological laboratory with the opening of the autumn session, which will be fully equipped and will be under the charge of Dr. William Muhlberg, an alumnus of the institution.

The Board of Health, Portsmouth, has arrested three prominent physicians. They are charged with failing to report cases of contagious disease to the Board of Health within twelve hours, as required by the state law.

The care of the city poor of Columbus was awarded August 15, supposedly to the lowest bidder. The bids varied from $84 to $294 per ward for the year. The aggregate amount of all bids for the entire city for the year was $3,379. Whether the sick poor or the doctor would be likely to derive any benefit from the service thus rendered is a matter of grave doubt.

The first examination under the Love medical law will be held in Columbus by the State Board of Medical Examination and Registration, Seeptember 11, 12 and 13. Applications must be filed with the secretary of the board at least ten days before the date of examination. The requirements are that the applicant must have had a four years' course in some recognized college of medicine and in addition, pass the required examination.

PENNSYLVANIA.

Dr. Erwin F. Benner has decided to locate in Richlandtown.

Dr. H. C. Brunner, Treverton, was seriously injured by being thrown from his carriage on a mountain road, August 13.

Dr. Frank L. Moyer, Williamsport, has removed to Loganton, where he will be associated with Dr. Goodman.

Two resident physicians, Drs. Samuel Blose, McKeesport, and Howard P. Repman, Wampum, have entered on their duties at the McKeesport hospital.

Dr. Lucas C. Kennedy, a graduate of the University of Pennsylvania, for two years interne at the Moses Taylor Hospital, has returned from a study trip in Europe, and has opened an office in Scranton.

Several days ago a man living near Ephrata went in bathing in an adjoining creek and at night suffered severely from earache. Toward morning the pain grew worse. Medical attendance was called and two leeches were removed from the ear, giving relief of the symptoms.

The Association of Hospital Superintendents met in the Hotel Schenley at Pittsburg on August 21, there being 50 members present from New York, Philadelphia, Cleveland, Chicago, Buffalo, Detroit and other places. A paper on "Three Years' Growth and Development of Hospitals" was read by Dr. D. T. Sutton of Detroit.

Some physicians of Washington and Green counties are said to have been swindled by the old "signature" confidence game. A smooth stranger requested their signatures to a petition for the repeal of a law obnoxious to the profession. They signed the petition. Soon thereafter checks or notes were presented at banks, signed by these confiding physicians, who have been mulcted in sums varying from $20 to $50 by this means.

During the past week an unusual number of mad dogs have been reported in different parts of Pennsylvania and the disease seems to be increasing. On August 24 a white fox terrier afflicted with rabies entered Norristown, and before it was killed bit over a dozen children and probably as many dogs. The dog was subsequently killed. On the same date a shepherd dog in the Monongahela Valley near Pittsburg was found to have bitten 18 people.

Dr. McCuaig, of the new insane asylum at Wilkesbarre, went to Danville on August 24 and removed 83 insane patients to the asylum at Wilkesbarre. This list about completes the number who had been placed there some time ago owing to the overcrowding. Altogether 180 patients have been removed from Danville, 26 from Wernersville, and 21 from the Hillside Asylum near Scranton.

Philadelphia.

Dr. Charles P. Noble is expected to return from his European trip September 3.

Dr. Ellwood R. Kirby has been appointed a member of the Board of Charities and Corrections.

W. B. Saunders & Company, medical book publishers, are striking out for new fields, having established a branch in London.

Dr. Elizabeth Reifsnyder, a graduate of the Woman's Medical College of this city, and who for several years past has been practicing medicine in Shanghai, China, is now visiting in this city. Dr. Reifsnyder is assisted in the hospital work by Dr. Emily Gardner, also a graduate of the Woman's Medical College.

Dr. Samuel J. J. Kelly has sailed for Europe, where he will do post-graduate work.

Dr. Simon Flexner is spending the summer at Ty'n-y-Coed, Campobello Island, New Brunswick.

By a trolley accident, Dr. Thomas A. Downs had his foot badly crushed August 14, so that it was necessary to remove him to the Presbyterian Hospital.

Through the bequest of Michael Corr the sum of $5000 has been given to each of the following named hospitals for the endowment of a free bed: the St. Joseph's Hospital, St. Agnes Hospital and St. Mary's Hospital.

The twenty-sixth annual reeport of the Jewish Maternity Association states that during the year 129 persons have been cared for in the hospital and 33 operations performed. At present there are 650 contributors. During the past year the total amount of money contributed was $4853.23.

By the will of Sallie M. Waln, the sum of $3000 has been given the St. Christopher's Hospital for Children for the endowment of a free bed; to the Pennsylvania Training School for Feeble-Minded Children at Elwyn, $5000; and to the Children's Hospital $3000.

The number of deaths which occurred in this city for the week ending August 25 was 372, as compared with 550 deaths for the week preceding and 406 for the corresponding period of last year. The principal causes of death were: Nephritis, 33; cholera infantum, 26; tuberculosis, 37; apoplexy, 9; diabetes, 2; heart disease, 20; inanition, 23; pneumonia, 15; appendicitis, 2; surgical shock, 3; cancer, 7; sunstroke, 5; suicide, 4; tetanus, 2.

Owing to the spread of cases of conjunctivitis an investigation has been ordered by the board of health. The latest theory in regard to the prevalence of the disease is that it is due to the public bath-houses. It is stated that at the St. Christopher's Hospital for Children during the past three or four weeks upward of 200 cases have been treated, while the Pennsylvania Hospital has treated nearly as many. At the Jefferson Hospital and Polyclinic an increase has been noted. Some of the patients admitted that they had been patrons of the bath-houses. Dr. J. H. Taylor is quoted as saying that the rules at the bath-houses were very strict, and further after an investigation he could find no cause for infection in these places. Chief Good also did not believe the prevalence of the disease could be traced to this cause since each pool was scrubbed out twice a week, while running water is allowed to flow through these places constantly. Officers of the board of health still attribute the disease to colds resulting from trolley rides.

RHODE ISLAND.

Dr. John G. O'Meara, Providence, who has been resident physician at St. Mary's Hospital, Philadelphia, for a year, has sailed for Europe, where he expects to do post-graduate work, particularly in the line of physical diagnosis.

SOUTH DAKOTA.

Dr. Willis E. White, late of Tiffin, O., has located in Centerville.

TENNESSEE.

Dr. Eaton K. McNeil, Jackson, has sailed for Europe to do post-graduate work in Paris, Vienna and Berlin.

Dr. Alfred S. Horsley, Knoxville, will soon leave for Ecuador, South America, where he will be surgeon for a firm of railroad contractors.

St. Thomas Hospital, Nashville, is to receive an addition costing $100,000. The cornerstone of this annex was laid on the afternoon of August 15 with appropriate ceremonies.

Dr. G. M. Magruder, U. S. M. H. service, who has been for the past nine months in London, where he was detailed as special government officer to watch for the appearance of the bubonic plague in England, has returned to Memphis and resumed charge of the United States Marine Hospital in that city.

Dr. J. L. Andrews, chief sanitary officer of the city of Memphis, has resigned his position, with a view to pushing his interests as a candidate for the office of physician-in-charge of the County Poor and Insane Asylum.

Dr. J. A. Griffin, of Friendship, was recently nominated for representative in the General Assembly from Crockett County.

TEXAS.

The Medical Board of the Thirty-third Judicial District met at Mason, August 14, for permanent organization and examination of applicants.

VIRGINIA.

The Norfolk sanitary inspectors' report shows that there were in that city 593 cases of contagious disease with 80 deaths. The pest-house was kept open and 268 persons were there cared for at an expense of $3026.30. During the year 218 houses, containing 693 persons were quarantined.

WISCONSIN.

Dr. Egbert E. Loomis, Janesville, has returned from an extended tour in the East.

Dr. Arick Sutherland has located at Brodhead and will practice in partnership with his son.

Passavant Hospital, Milwaukee, now has six wards with 90 beds, beside 26 rooms for private patients. During the last year 663 in-patients, including 85 children, were cared for.

CANADA.

British Columbia.

LODGE PRACTICE.

The correspondence in the lay press of Victoria in regard to lodge practice in that western city is interesting. When the lodges of Victoria found that they could not engage any of the physicians of that city to do this work for them, they advertised for practitioners to come to Victoria, promising at the same time that they would receive all the lodge as well as all the family practice of the adherents of the fraternal societies. It is most gratifying to learn that there was not one response to this appeal from any single practitioner either in British Columbia or the entire Dominion of Canada. About the first of last December an agreement was drawn up and signed by every physician in Victoria agreeing to stop all lodge work, and the resignations of all doing this work were sent in. No sooner were these resignations handed in than it is asserted on the part of one of the most respected and influential practitioners in Victoria, that two of their number began to do the combined lodge work in the city, which is said to affect about two thousand persons. The members who remained true to their agreement then refused to consult with the two practitioners cited. One was expelled from the Victoria Medical Society; but otherwise, they are accorded their hospital privileges as formerly. The controversy between the physicians and the lodges is exciting a great amount of attention in Victoria, and every meeting of the fraternals is crowded with members. Altogether there are twenty-one lodges in the city; and the societies were paying the doctors about $4000 a year for looking after the health of something like 2000 members. The struggle is said to have been precipitated by the fact that all the lodge work was being done by a few practitioners. From present conditions it appears that the doctors are getting the best of the fight, as the lodges cannot import any outsiders, because none have applied, and because the medical act of the province requires that any one going to practice in British Columbia must take the examinations of the Medical Council of that province.

Ontario.

CIRCULAR RE TUBERCULOSIS.

The provincial board of health of Ontario has just issued a circular to physicians and local boards of health on the prevention of tuberculosis at the instance of the committee on epidemics of the provincial board. It states that all inmates of provincial institutions who are affected with this disease should be isolated in wards set apart for such patients, and not be permitted to associate generally with other inmates; that all rooms and wards occupied by consumptives when they become vacant, shall be immediately disinfected. That all individuals affected with tuberculosis and living in private families should be isolated as much as possible from the other members, and that especial care be taken to destroy their expectoration. The circular further urges that local boards of health establish rules for the notification of cases of tuberculosis to the local medical health officer. The medical health officer of any municipality should have a knowledge of the number of cases of tuberculosis therein. On notification of a case the local medical health officer will supply the physician with printed rules for the benefit of the other members of the household for their protection, and thus a campaign of education will be instituted in the province, which if followed up diligently by the local boards of health, will result in much advantage in the way of prevention. The circular also contains a copy of the act passed at the last session of the local legislature, respecting the establishment of municipal sanatoria for consumptives.

LONDON LETTER.

The British Medical Association.

(Continued from p. 511.)

SANATORIA FOR CONSUMPTIVES.

Dr. Nathan Raw, medical superintendent, Mill Road Infirmary, Liverpool, before the Section of State Medicine, said that the whole civilized world is now aroused to the fact that tuberculosis may be stamped out by proper precautions and treatment. Whatever is done, however, must be on a sensible and comprehensive scale, as a disease which kills 60,000 people a year in Great Britain alone can not be lightly considered. As we now know tuberculosis to be a parasitic disease, we have the power to eradicate it. As a communicable diseasee, it is transmitted chiefly through the sputum of consumptive persons, by tuberculous meat and by milk from tuberculous cows. The two latter causes are being rigorously dealt with by health officers and should soon be removed. The first cause, however, is the most difficult of all to deal with. Patients attacked by tuberculosis are looked on as hopelessly ill and are nursed and pampered, carefully cared for in rooms with poor ventilation, and consequently provided with the best conditions for the growth and multiplication of the tubercle bacilli. When these delusions regarding consumption are dispelled, the more fortunate classes will certainly co-operate with the health authorities in any measure they may adopt for eradicating tuberculosis, but the working masses of the population will have to be not only educated but forced to take the necessary measures, and this will have to be done at the expense of the public. The Local Government Board of Liverpool, upon Dr. Raw's suggestion, have provided a most excellent site for a sanatorium 650 feet above the sea level on the banks of the river Dee, easily accessible from Liverpool. This sanatorium will be reserved for the early cases of tuberculosis and no patient will be admitted without a careful medical examination and certificate. The advanced cases have been carefully removed from the general wards of the infirmaries and segregated in consumptive wards, and careful precautions instituted against infection. The working non-pauper class of the community should be provided for by the municipalities, which should erect a sanatorium in a suitable district for these patients. Private enterprise, charity and philanthropy will continue to provide treatment for a few, but tuberculosis must be dealt with in a general way by the corporations which have the custody of the public health in their keeping. The health authorities must do everything possible to prevent the disease among the working classes, but they should also have the means of cure, and the only cure known at present is fresh air and sunlight in a proper sanatorium. In a few years it will be difficult, if not impossible, for a consumptive person to find employment, as public opinion will then have been so awakened to the possibilities of danger from infection that those employed in factories, workshops and offices will object to the presence of consumptives in the same room. When this happens, some provision must be made for their cure, and the proper authorities to deal with this problem are the county councils and municipalities, as the question is too large and general to be left to chance philanthropy and charitable institutions.

STERILIZED HUMANIZED MILK FOR INFANTS.

Dr. F. Drew Harris, medical officer of health, St. Helens, read a paper before the same section on "The Supply of Sterilized Humanized Milk for the Use of Infants in St. Helens." He first considered the prevention of diarrhea, which, in his opinion, occupied a very prominent position among the diseases of early infant life. Diarrheal diseases are especially prevalent among bottle-fed children. During the past five years in St. Helens 81 per cent. of the children under six months who have died were bottle-fed. The author, impressed with these facts, secured a small house and initiated there the municipal sterilization and distribution of milk. The depot was opened on August 8, 1899, and in a short time over eighty children were on the books. At present more than 140 are being fed. The mothers are each given a basket containing nine bottles with the requisite amount of milk according to the age of the child, and are requested to bring the babies once a week to be inspected and weighed. The results are difficult to state with accuracy, owing to the short time the method has been in use, but it may be said that the death-rate among those who have used the sterilized milk was 103 per 1000, as compared with 157 per 1000, taking the borough as a whole. Judged on an average of the past eight years, over sixty infant lives have been saved by this means in St. Helens alone.

DOES SEWAGE TREATMENT DESTROY PATHOGENIC GERMS?

Dr. A. C. Houston opened the discussion on this subject and confined his remarks wholly to bacterial filters. In nearly all cases the size of the particles in bacterial beds is such as to preclude the possibility of the mere mechanical separation of the germs. When sufficiently fine material for this object is used, the filters usually, and almost invariably become choked and useless. In general terms it may be stated that the mechanical separation of the micro-organisms in sewage by the use of bacterial beds is virtually impossible. From the epidemiological standpoint, sewage which has been treated in sewage works is almost if not quite as dangerous as when it left its original objectionable source. He thinks that the possibilities of isolating the typhoid bacillus from ordinary sewage are so remote as to be almost infinitesimal. Nevertheless two microbes indistinguishable from the bacillus typhosus were isolated from the fresh sewage of the Homerton Fever Hospital. In February 1898, when the author commenced his bacteriologic investigations of crude sewage and sewage effluents, for the London County Council, he was impressed with the importance of selecting one or more micro-organisms in the crude sewage and then tracing the fate of these microbes during the biological treatment of the sewage at Barking and Crossness. Bacillus coli and bacillus enteritidis sporogenes were selected for this purpose and the result was that there was no material or constant reduction in the number of spores of this pathogenic anaerobe in the effluent as compared with the raw sewage. The author has also carried out some preliminary experiments on the vitality of the cholera vibrio and staphylococcus pyogenes aureus in unsterilized sewage and considers that the death of these microbes is certainly a question of days and probably of some weeks. The lesson to be learned from these experiments is, that the element of time or delay is an all-important factor, and that it is doubtful if any bacterial process in practical operation at the present time treats or detains the sewage for a sufficiently long period to allow of the complete destruction of all pathogenic germs by bacterial agencies.

PREVENTION OF TUBERCULOUS DISEASE.

Dr. Henry Kenwood, assistant professor of public health, University College, London, opened the discussion on "The Action which Can be Taken by Local Authorities for the Prevention of Tuberculous Disease, Apart from the Control of Milk and Meat Supplies." He first reviewed briefly the various measures available which do not necessarily entail a scheme of voluntary or compulsory notification. The first measure was improved sanitation and he considers that the energies of the profession should be directed toward the prevention of over-crowding, securing healthy homes for the lower classes, and improved general scavenging. To these ends oft repeated and systematic sanitary inspection of the tenemented or lodging houses is imperative. It is noteworthy that in the London sanitary areas the more over-crowded groups have higher death-rates at each age period than the less over-crowded, showing what a close relationship exists between phthisis and the housing of the poorer classes. He then discussed educational measures. The dissemination of knowledge must be accomplished largely through individual initiative. A handbill left at the door of the poor man's house is not sufficient for this purpose. He ascribes the very rapid and fairly general diffusion of the education of the masses, which doubtless now exists, to the newspapers. The annual meetings of the British Medical Association, the Sanitary Institute, the Royal Institute of Public Health, the National Health Society, the National Association for the Prevention of Consumption, and the Church Sanitary Association, are all doing much to educate the public on matters of public health, but the greatest means of education lies in the schools, which should instruct the future generation in the elements of hygiene, healthy infant-rearing, and of infection and its prevention. Every means of educating the population must be brought into use by sanitary authority, and this education must be direct, convincing and practical. The registrar of deaths should advise the medical officer of health of all deaths from phthisis as soon as possible after registration, so that the proper disinfection may be made and advice given. Medical men and nurses should be asked to co-operate in advising and directing the necessary preventive measures in infected households. The employment of consumptives in the cooking or selling of food should be prohibited so far as possible. Isolation hospitals and sanatoria should be provided for those already attacked by the disease and notification of infected houses should be made without fail to the local boards of health. The intelligent section of the public realize the enormous benefits which would accrue to the community from a reduction in the prevalence of phthisis to the lowest attainable limit, and the past two years have witnessed an almost invariable recognition of the infectious nature of the complaint, and a readiness to adopt the necessary measures of precaution. The public is prepared to receive the advice and help of the medical profession and the measures which they adopt will not only operate against consumption which is so dreaded, but will at the same time raise the standard of general health, so that the crusade against consumption will be indeed a crusade against the disease.

RURAL PHTHISIS.

Sir H. B. Beevor, M.D., physician to King's College Hospital, London, delivered an address on "Rural Phthisis and the Insignificance of Case-to-Case Infection." The death-rate is the best and most reliable index of the incidence of phthisis and a primary indication of epidemic or infectious agencies in any disease is afforded in the irregularity of incidence in that disease. In the County of Norfolk there is a remarkable family likeness in local constancy. The death-rate from 54 series of statistics is alike in each decade, but varies in different decades. This seems to be cogent evidence of the insignificance of case-to-case infection. The author sums up by an adaptation of the remarks of Dr. Andvord, of Sweden, in this regard by saying, "In like places the special constancy of lung tuberculosis does not point to any place among infectious illnesses."

COTTAGES IN RURAL DISTRICTS.

Dr. J. S. Tew, medical officer of health for the West Kent Combined Sanitary District, introduced the discussion on "The Provision of Cottages in Rural Districts, and its Bearing Upon Public Health," in which he called especial attention to the urgent necessity for better cottage accommodations in many rural districts, to the desirability of rural district councils undertaking the building of cottages, and to insufficient air-space in crowded cottages which, in his opinion, contributed largely toward lowering the vitality of the occupiers and toward the high death-rate among the working classes from measles, whooping-cough, phthisis, etc., which are usually nursed at home.

DIET IN RELATION TO CANCER.

Dr. Josiah Oldfield, of London, stated that cancer is not a disease which is caused by flesh-eating *per se*, since it has not been found to be largely prevalent among the early hunting tribes who lived almost wholly upon the products of the chase; the disease was increasingly prevalent in England among the aristocracy, despite the fact that the aristocracy of to-day ate less meat than in the time of Queen Elizabeth. The contention of Sir W. Banks that the cause of cancer was the nitrogenous element could not be upheld. Cancer, however, was found more prevalent among the classes who indulge in generous living than among those who live more hardy. Again, the topographical distribution of cancer in temperate climates is along the beds of sluggish rivers. The theory propounded "suggests that under certain circumstances there is present in the cell envelope, and closely connected but not actually transformed by a complete metabolism into cell substance, food matter partly broken down and ready to still further break down, and thus to form a fit pabulum for low organisms. The position of the food, mingled up, as it is, with the cell substance throughout the body, or certain parts of the body, renders it possible only to be utilized by organisms which can invade the cell itself, and which, by the position of their progress in search for their food, must be necessarily pathogenic, and must possess the essential type of invading cell from cell and of penetrating cells throughout and permeating them and passing through them, leaving behind those parts of each cell which were essentially vital, and destroying far ahead those parts of the cells which consisted of that food matter described. The presence of food half assimilated, and thus spread throughout the cells, and the search for and the feeding upon this food by low organisms that would thus necessarily invade, half destroy, and rapidly spread on to other cells without actually destroying all the cell life as they progressed, gives us a picture very like what a malignant growth is in its characteristic features."

CANCER IN EAST ESSEX.

Dr. George Melmoth Scott, Witham, made a report on the mortality from cancer in Chelmsford and Maldon, East Essex. About 1000 deaths from cancer occurred in these two unions between 1871 and 1898. The number of deaths by decades was increased from 6.36 in the first to 7.73 in the second and 8.41 in the third decade. In the first decade 100 women died from cancer, to 51 men; in the second the proportion was 100 to 61, and in the third 100 to 83. Although there has been some actual increase in the number of deaths, the author's impression is that the cause of the apparent increase may lie to some extent in more careful diagnosis. In the author's inquiry he endeavored to test the truth of Dr. Haviland's theory, which postulates that: In the counties having a high mortality from cancer, the tributaries of the large rivers rise from soft marshes or easily disintegrated rocks; that these rivers invariably flood their adjacent districts during the rainy season; and that the districts characterized by the tertiary and more recent clays and other retentive soil have a very high mortality from cancer. The author concludes that the cause of cancer must be looked for in some other direction than in an alluvial and clayey soil subject to floods, because the disease is less common in the county of Essex with its clay soil and numerous estuaries than it is in England as a whole; that, although the unions of Chelmsford and Maldon contain an excessive proportion of marshy land and estuary, their death-rate is below that of the county of Essex; that those parts of the two unions which include the greatest extent of muddy foreshore, creek and saltings have a mortality below that of the two unions taken together, and that the disease is not especially prevalent in those places situated on the banks of the fresh-water rivers.

PRESERVATIVES IN FOOD.

Dr. Albert S. Grünbaum, Assistant Lecturer in Physiology, Thompson-Yates Laboratories, University College, Liverpool, presented a paper on "Food Preservatives and Coloring Matter in Food, with Reference to Foreign Laws and Conditions."

The enormous extent to which food preservatives are now used, the abuses to which they are put, and the injuries which they may cause, make stringent and definite legislation on the subject necessary. The law is at present too vague and narrow and the magistrates too ignorant for much progress in this direction. Laws requiring any trade to have consideration for public good may reduce but will not destroy profit. He then takes up the subject of milk and wines and beers and details the objection to preservatives and to coloring matters. The public is chiefly to blame for the use of coloring matters, as if brightly-colored foods could nowhere be obtained, the uncolored foods would be bought. The use of preservatives in milk, cream, etc., rests chiefly with railway companies and ice-vendors, and is due to the scanty use of ice in England. He considers railway companies the chief offenders and suggests that injustice may be done by legislating too hardly for the purveyors of perishable foods, unless at the same time rational treatment of the foods themselves is required of their carriers.

HYGIENIC ASPECT OF THE USE OF WATER GAS.

Dr. James Charles McWalter, of Dublin, considered the increasing use of water gas by the gas companies to be a source of distinct danger to the consumers. The dangers were very considerable for more than one reason. The leaking of the mains, the leakages from the house fittings, and the occasional omission to turn off the taps were sources of great danger. Carbon monoxid, together with the other gases leaked through the leaden and composite pipes by osmosis, and water gas might get through at a greater rate than the other constituents. The introduction of considerable admixture of water gas with coal gas in towns had been followed by an "immediate, enormous, and proportionate increase in the number of deaths ascribed to carbon monoxid poisoning." The saturation of the ground air, in towns supplied with water gas with carbon monoxid, was one of the causes of the endemicity of such diseases as enteric and epidemic cerebrospinal meningitis. The official gas testers should return the proportion of carbon monoxid in the gas, and legislative measures should be adopted to prevent the gas companies mixing without warning any proportion of water gas with the coal gas which they supplied. Some more convenient and accurate means should be devised to ascertain the degree of minute proportions of the gas, than the method by absorbing it with cuprous chlorid.

BACILLUS DIPHTHERIÆ IN MILK.

Dr. J. W. Eyre made a report "On the Presence of Members of the Diphtheria Group of Bacilli Other Than the Klebs-Loeffler Bacillus in Milk," based upon the observations at the Bacteriological Laboratory of Charing Cross Hospital, London, from which he concludes that several groups of bacilli, exhibiting segmentation, metachromatism and clubbed involution forms are occasionally present in milk; that the bacilli of these groups agree in resembling the bacillus diphtheriæ to some extent, but are capable of being differentiated from it and from each other; that these bacilli arrange themselves according to their color production into three well-defined groups, which are characterized by the coloration of the colonies themselves without the nutrient medium being affected, and by the infiltration of the medium by a pinkish color, the colonies themselves being only slightly chromogenic; that the members of these three groups are non-pathogenic, and that it is practically impossible to diagnose the presence of the true bacillus diphtheriæ in a sample of milk by microscopical tests alone, but that the identity of the bacillus can be established only by careful consideration of its biological and pathogenic characters.

Correspondence.

Tetanus Neonatorum and Hot Moist Climates.

Key West, Fla., Aug. 22, 1900.

To the Editor:—In reply to your query as to the correctness of report of four cases of tetanus neonatorum and one case of tetanus (adult), the result is perfectly correct. I can assign no reason for the high percentage of tetanus, unless it be that tetanus is far more prevalent in warm and moist climates than in cool and dry ones. This I read when I was a student about forty years ago, and my residence here for over thirty-five years confirms it. A very significant fact, lending aid to this explanation, is that although by far the large majority of the cases of tetanus in the adult are traumatic—the adult case reported was from traumatism, a splinter under the finger-nail—yet quite a large number of cases are idiopathic.

While the old women and the midwives attribute tetanus neonatorum generally to some supposed traumatism of the umbilical cord, yet from my experience, I believe that a far greater number of these cases are idiopathic. Recently in my practice a child was born with stiff jaws, and unable to take the breast. This developed into tetanus neonatorum, with tetanic convulsions, opisthotonos, etc. The delivery was an eutocia, the mother a multipara. Had the delivery been a dystocia, the mother a primipara, or the child abnormally large, there might have been a presumption of trauma from pressure or strain on the spinal cord, or from some other traumatic cause; but the origin in this case was either prenatal, congenital, or, at least, synchronous with birth. The mother could recall no prenatal injury to herself. I therefore confidently believe the cause to have been idiopathic. The child died nineteen days after birth. I should like to emphasize some facts, which I am afraid are not as well known as they should be; that tetanus is a self-limited disease; that its natural run is about three weeks, and that there is an element of hebdomadality about it. I have attended hundreds of cases of tetanus neonatorum, and have had only seven recoveries. I do not claim them as cures.

With reference to tetanus traumatiens, of course, the previous history points to trauma of some character.

Now, as to your last enquiry, "Why has Key West, Florida, such a high percentage?" The high percentage obtains not only in Key West, but also in Cuba and the entire West Indies, and I believe universally in the semi-tropics and tropics, not only of the Western, but the Eastern Hemisphere as well, owing to the action of the moist atmospheres, with sudden and great alternations of temperature. We have seven months of continuous hot weather, with the remaining five nearly as hot. Except during the prevalence of a "norther" I have known it here as hot in December or January as in July or August. In the temperate zones you have three very hot months (hotter than any of ours), six pleasant months, and three very cold months (colder than any of ours). Our climate is always moist and enervating, yours for nine months bracing, and dry nearly the whole year. You have better digestions and better foods, especially. Your bodies are well nourished. Your *vis medicatrix* functionates well. Your vitality and resisting powers are great, ours are small. Your faces and red and round, ours pale and thin. Stand on the principal streets of Chicago or on Broadway, New York and then come and stand on Duval street, Key West, or on Calle Obispo (the Broadway of) Havana, Cuba, and compare the difference of the appearance of the people who pass, and I think you will readily conceive why the percentage is high, especially in this disease whose seat is in a portion of the nervous system. Very respectfully,

J. W. V. R. Plummer, M.D.,
City Health Officer, Key West, Florida.

[Under "Florida News," last week, p. 505, we published the showing made by Key West in their health report, which gave four deaths from tetanus neonatorum, equaling 14 per cent. We wrote the health officer for an explanation of the peculiar occurrence and received this reply. The doctor, in considering the cause of tetanus, evidently overlooks the fact that there is such a thing as a bacillus tetani. He lays considerable stress on heat and moisture as etiologic factors in the disease, of course these are the two essentials in the propagation of the bacilli.—Ed.]

Castor-Oil in Neuralgia.

Ogden, Ind., Aug. 25, 1900.

To the Editor:—I read with much interest Dr. Moyer's article on castor-oil in neuralgia, and also the article by Dr. Caldwell on the same subject. I have a patient under my care who has suffered for years with supraorbital neuralgia. She has been under the care of various physicians, who have prescribed cod-liver oil and other restoratives, and probably the entire list of anodynes and analgesics. The patient having a history of chronic constipation I began the use of Dorsey's solution, but the attacks returned with their usual severity and regularity. About two months ago I began the use of the following:

R. Olei ricini
Glycerini āā ....ʒiii
Tincturæ opii camphoratæ.............ʒiv
M. Sig. Teaspoonful at bedtime.

I have given the above every day since beginning the treatment.

The patient has had but one attack since, and that a very mild one. Her general appearance is much improved, and her chronic constipation is a thing of the past.

The question is whether the theory of Prof. Gussenbauer is tenable, or whether we do not have in castor-oil a restorative agent hitherto unrecognized.

Alva W. Knotts, M.D.

Alleged Army Medical Abuse.

Washington, D. C., August 21, 1900.

To the Editor:—We have been reading recently in the daily press and medical journals about the shortcomings of the British Army Medical Department in Southern Africa. During the active progress of the war we heard nothing but words of praise for the devotion to duty of the Medical Department and its foresight in providing all that was needful for the care of the wounded hundreds of miles from the base of supplies. General officers, themselves wounded, testified to the admirable management which brought their wounded men from the field and transported them in comfort to the base hospitals at Cape Town. Kipling has told the story of one hospital train on its way to the front and thence back to the general hospitals with its load of disabled men. His brilliant description of the return trip conveys a sense of the restfulness and comfort enjoyed by the men who had been gathered up from the battlefield. An air of solicitude for the comfort of the sufferers pervades every sentence of the story and everything which the most judicious provision would be likely to call for as being needful appears to have been at command. Eminent surgeons from civil life were sent out ostensibly to give the benefit of their wisdom and experience to their military confrères, but in reality as inspectors on the part of the British public; and their words have been words of commendation for the excellent work of an overworked department. All this we supposed to be fact and we were proud of the record which our British brethren had made under trying conditions; but a very estimable gentleman, having no experience of war and its methods, visited Cape Town and exposed the shortcomings of the medical department. The daily press spread his views before the public, and now an investigation is in order which will no doubt redound to the credit of the department, for we can not suppose that so many thousand sick and wounded men came back to England from South Africa during the past year without exposing the failure of the medical department to do its duty, if there were such a failure.

Our own Army Medical Department has now become the subject of adverse criticism, which was brought to my attention by some editorial remarks in the last issue of The Journal under the heading "Alleged Army Medical Abuse." From reading the official reports of medical officers in the Philippine Islands, I was under the impression that our troops serving there were very well cared for. On the close of active campaigning some months ago, the army was broken up and distributed for garrison duty in a large number of towns, seaport and inland. Good quarters were provided for them, with plenty of good food and purified water supplies. Under these favorable conditions the sick-rate became reduced to about 8 per cent. of the command. Each detachment or garrison has its local hospital for emergency or trivial cases. There are well-equipped base hospitals in each district for the care of cases of greater gravity, and for the relief of these there are hospitals in Manila with a capacity of about four thousand beds, including a convalescent hospital on Corregidor Island in the mouth of the bay. For the transportation of cases from seaport towns which have no railway connections, the hospital-ship *Relief* does excellent service. It was, therefore, with considerable surprise that I read the editorial in your last issue. On making inquiry, I found your remarks to be based apparently on press despatches from Washington, D. C., dated August 7, 1900, which state that within two days after her arrival in Manila a lady from New York discovered the impoverished condition of the medical department and promptly reported her discoveries to the Secretary of War and other prominent persons. Much stress appears to be laid on the want of sheets, for the lady is represented as having appealed for 500 sheets for immediate distribution. How the discovery of this want of sheets was made is not stated in any of the published articles I have seen. You are kind enough to say that: "In the matter of sheets, which seems to be one of the special points of criticism, there might readily be an apparent defectiveness and yet no very serious hardship to anyone, certainly not to a seasoned soldier, convalescent." You will be pleased, therefore, to know that even this hardship was not necessarily entailed upon any of our sick soldiers in Manila. If this lady had inspected the medical supply depot in that city she would have found a plentiful stock of sheets, as compared with the 500 for which she appealed. From January 1, 1900, till the present time, there have been sent to Manila for hospital use 79,500 sheets, and on August 9, 1900, there were on hand for issue no less than 23,940.

I need say no more about the "alleged army medical abuse."

Respectfully, Charles Smart, M.D.,
Lieut.-Col., Deputy Surg.-Gen'l, U. S. A.

Rambling Notes of a Roving Doctor.

Paris, August, 1900.

PARIS EXPOSITION.

To the Editor:—I have a clipping from an American newspaper regarding the Paris Exposition, in which the writer claims that in the great art gallery, where the different nations have their pictures on exhibition, the United States eclipses them all. Before I read this I had visited and studied with some care this collection, and I had put the United States in about the ninth place, as compared with the works of other countries. We have, it is true, a few good pictures, especially good portraits, but the collection as a whole does not do us credit as a nation possessing a high order of artistic skill. While, I believe, it was understood that France was to have 45 per cent. of the space alloted to exhibitors, she has managed the matter so much to her advantage that she has appropriated at least three-quarters of all the desirable space.

"LA VILLE DE PARIS."

"The Ville de Paris" contains, in my opinion, the most valuable and instructive collection of any one building on the grounds. Here, under one roof, all the best things that Paris has produced may be seen. The engineer can see specimens of nearly every style of work that he will ever be called upon to perform. Systems to drain cities and supply them with pure water, that before its filtration was reeking with germs, are illustrated. Miniature streets are shown, in which different kinds of pavement are exhibited, and their cost and durability are given. The chemist can look into a laboratory where are produced many of the articles that belong to his profession, and can see the appliances used in their production. The physician can see here a hospital bed such as was in use at Hôtel Dieu at the end of the eighteenth century, where four men occupied one small couch, two of them having their heads in opposite directions. In the next room is a modern hospital cot, occupied by a single patient, whose surroundings are so airy and comfortable that it would seem a luxury to take his place and play the rôle of a sick man.

One entire room is occupied by appliances for the study of germ life, their cultivation in different media, and their microscopic examination. The veterinarian can see the morbid changes that take place in the organs of the cow, the sheep and the horse. There, too, is the incubator where eggs are hatched, and the incubator in which prematurely born children are kept alive and made to grow. The policeman and detective will be interested to see how Alphonse Bertillon photographs a criminal so that no disguise that he may afterward assume is able to obliterate his identity.

HYGIENIC BUILDING.

In this building I expected to find much that would interest me, but in this I was a good deal disappointed, for though much of what I saw was very fine indeed, the whole building was full of things that were designed only to grace the residences of the very rich. There were marble basins, marble closets, marble bath-tubs, all placed in beautifully furnished rooms, where the drainage was faultless, but nothing in the way of an improved method of health appliance for the houses in the small towns or villages. Gracing one of the entrances of this building is a statue of Pasteur. Below and around this is a large circular glass case that contains the chemical and bacteriological appliances that he used to demonstrate his first discoveries in these branches of science. There are the flasks in which he illustrated the fact that acid fermentation was caused by the development of living germs, and by which he disproved the long-held doctrine of spontaneous generation of bacterial life. The side walls of the entire entrance are covered with test-tubes still having in them the cultures that he himself made. All these appliances are of interest only because of their association with their great master, but are all sadly out of date as compared with those used at the present time.

PASTEUR INSTITUTE.

One of the most richly endowed of the modern institutions in Paris is the Pasteur Institute. A quarter of a century ago, when I saw the first of this great Frenchman and his work, the quarters that he occupied were most humble and unpretentious. To-day it occupies both sides of a wide street, and the buildings seem to have been erected with a sentiment that was blind to the expenditure of money. On one of those tropical mornings that have followed each other with unprecedented regularity in Paris this summer, I visited this institution to witness again some of its work. At 10 o'clock the great crowds that are being treated with antirabic serum began to gather in the large hall set apart for their reception. These patients were as mixed specimens of humanity as one could well imagine. People from every part of France, soldiers and civilians from all parts of Asia, made up a motley crowd, attracted to this spot by a common impulse, which was to have arrested in its progress one of the most terrible diseases that affects the human race. New patients are always examined before the regular treatment of the older cases is begun. On the morning of my visit there were 15 new cases, but as madness of the dog was proved in only three of these, the balance were sent away and kept under observation. Two women had been bitten by men, and in one of these cases at least the man was drunk and not mad. One hundred patients were given 150 injections by one man in just 45 minutes. In spite of the Pasteur Institute and its antirabic treatment, two men have died in Paris during the first 20 days of July of hydrophobia. In Austria and Germany the smallest dog is not allowed on the street unmuzzled, but in Paris they run at large unmuzzled, and bite scores of human beings every day. After the patients were all treated I took a stroll through the institute, having for my guide T. B. Tupille, who was the first patient treated by M. Pasteur for hydrophobia. This accident has immortalized him, and he is probably prouder of his fame than Pasteur ever was of his own. In front of the main building stands a bronze monument that represents a terrible encounter between a boy and a mad dog. The boy was unarmed, but, slipping a wooden shoe from his foot, he dealt the beast a blow that caused his death. Tupille shows with pride the scars upon his hand that he received in the terrible encounter. It is the time of the summer vacation, and the instructors are away at the seaside enjoying their holiday rest. I saw only half a dozen men at work in the different laboratories, and four of these were from Boston, and whose enthusiasm even a temperature of 90 in the shade could not obliterate. The great library, adorned with busts of Pasteur, Rothschild and Baron Hirsch, was occupied by a single man, who seemed so occupied in his efforts to keep cool that books had little attraction for him. It was the wish of Pasteur that his body should not be interred with the immortals at the Pantheon, but in a crypt beneath the building where he had finished his life work. And there it rests, beneath a monument of exquisite beauty, and though less grand and gaudy than the one a little way off at the Invalides, where rest the ashes of the great Napoleon, each marks the spot where lies one of "the immortal few that were not born to die"; but while the immortality of the one was achieved by the sacrifice of millions of his kind, the other owes his undying fame to the fact that he was the benefactor of his race and the savior of many human lives. Outside of France the efficacy of the serum treatment of hydrophobia is generally recognized as one of the greatest achievements in medicine during the century just closed. While no one here now opposes the remedy with the vehemence of the late Professor Piter, yet I am convinced that the faith in this agent is far less universal in the land of its nativity than it is in foreign countries.

CLINICS AND OPERATING-ROOMS.

When I arrived in Paris this summer I went at once to the Broca to see Dr. Pozzi. He showed me all through his gynecological pavilions, which are perfect models of their kind, and invited me to be present at some operations that he was to do after a few days. I expected when I came to Paris to find the clinics and operating-rooms so full that one could see nothing. I have been here now two months and during that time Dr. Graham, of Chicago, and Dr. Brigham, of San Francisco, are the only American physicians I have seen in a Paris hospital. I find a good many South Americans, but the English-speaking races are not here. At the Exposition you find more Germans than any other class of foreigners, and though a good many Americans come here for a few days, they cut their stay short and go away to Switzerland and Germany, where they are not robbed as they are in the French capital.

INTERNATIONAL MEDICAL CONGRESS.

In many respects the meeting must have been a disappointment to the French profession. In numbers it was two or three thousand less than the Moscow Congress of 1897. Its social element was a sad disappointment to the visiting members. While this was partly due to the tragic death of the King of Italy, still had all the program been carried out it would not have come up to the expectations of those who were so magnificently received and so royally entertained in Moscow. The paper which was most warmly received was that of Dr. Abraham Jacobi. (See The Journal, August 18, page 445.) Although Americans were in the minority, still, in the surgical section, the mechanical aids were to a very large extent devised by American surgeons. W. S. Caldwell, M.D.

Medullary or Subarachnoid Cocain Anesthesia.

Chicago, Aug. 26, 1900.

To the Editor:—At your request I submit the following report on "medullary or subarachnoid cocain anesthesia:"

During the meeting of the International Medical Congress at different times, Prof. Tuffier invited members of the congress to witness his operations, particularly laparotomies under subarachnoidean cocain anesthesia; the details of the experiments and advancements in this method of anesthesia are best given in the words of Tuffier himself, which I take the privilege of quoting from a brochure—which he kindly gave me—of an article that appeared in the *Semaine Médicale*, May 16, 1900. In addition to the statements made in that article, he announced at his demonstration that he had used the anesthetic in 130 cases and did not have a fatality, complication or unpleasantness in any one of them. That the analgesia was complete admitted of no question, as we witnessed four major operations, three laparotomies, including an abdominal hysterectomy and a nephrectomy. The hysterectomy was made on a woman, I believe he said, 64 years old. All of the patients were perfectly conscious during the operation and none complained in the least of pain. There was some nausea and vomiting. Prof. Tuffier says:

After numerous experiments since November 9, 1899, I have made use of surgical anesthesia induced by the injection of solutions of cocaine in the lumbar subarachnoid space. In a previous communication I mentioned the works of Franck, Bier, Sicard and Sedlovitch, and I also published the results of my experiments. In these communications I also showed the facility and innocuousness of this method of anesthesia. The same was confirmed in a thesis by my interne, Mon. Cadol. I herewith give the precise technique which I have adopted. My operations have been on the lower extremities, perineum, rectum, abdomen, external and internal female genitalia and male genitalia. In all of the sixty-three cases I obtained absolute analgesia and the cure of my patients without early or late complications. The field has now increased and includes intestinal, gall-bladder and kidney operations, nephropexies and nephrectomies. (He has not performed any operations above the diaphragm.) I believe this method to be practical and I will insure success to whoever follows my method of procedure.

I use for these injections Pravaz' syringe, admitting of sterilization. (Hypodermic with asbestos piston.) The needle must be sufficiently long to penetrate easily the space between the skin and the subarachnoid space. This interval varies in length, according to the muscular development and obesity of the patient. The needle must be of platinum. It must be easily sterilized, and be 9 cm. long. External diameter must be 1.1 mm.; the internal diameter .8 mm. It must be solid, so as not to bend when it comes in contact with the vertebral column. Its end must have a short bevel.[3] I employ a 2 per cent. solution of cocaine. This solution must be sterile and recent; old solutions must be discarded. This is important.[4] The fluid injected must be carefully sterilized. I prepare my solution as follows: The solution is exposed to a temperature of 80 C. in a water-bath for fifteen minutes, then it is kept in a temperature of 38 C. for three hours; it is again brought to a temperature of 80 C., then allowed to cool to 38 C. This operation is repeated five or six times in succession. It assures a perfect sterilization; the anesthetic properties of the cocain are not altered. The operative technique is as follows[5]: The patient is in the sitting posture, both arms carried forward. The field of injection is thoroughly asepticized. Locate the iliac crests. An imaginary line connecting these two crests passes through the fourth lumbar vertebra. By injecting beneath that line you penetrate the medulla canal. As soon as you have located with the left index finger this spinous process, tell the patient to bend forward so as to make a big bag. This bending forward causes a separation of 1.5 cm. between the vertebra on which you have your index finger and the subjacent vertebræ. Then it is always wise to tell the patient, "I am going to stick you with a needle; you will feel some pain, but do not move."[6] Make the injection with the right hand. I insert the needle to the right of the vertebral column, about[7] 1 cm. from the line of the spinous process. The needle goes through the skin, through the subcutaneous cellular tissue, through the lumbar aponeurosis, through the muscles of the sacrolumbar region, and penetrates into the lamellar space, and at last penetrates into the spinal canal. As soon as the needle is in the subarachnoid space it meets no resistance, and from it escapes a clear, yellow fluid. This fluid is the cerebrospinal fluid, and escapes drop by drop. The surgeon must never inject a solution of cocain before he has seen the cerebrospinal fluid escape through the needle. After the surgeon has seen this fluid escape through the needle he attaches to the needle a syringe containing 1 c.c. of a 2 per cent. solution of cocain. The injection is made slowly; it should be completed in one minute. The dose injected should not exceed 15 milligrams of cocain.[8] I always employ a 2 per cent. solution. The injection terminated, I rapidly remove the needle and close the needle-puncture with sterilized collodion. Note the precise minute at which the injection is terminated, and then wait. The patient can be questioned as to the subjective sensation which he experiences. After a certain lapse of time, which in our observations varied according to the subjects from about four to eight or ten minutes, the patient would complain of a tingling sensation and numbness of the feet. This numbness extends to the legs. You can now begin to operate. Gradually a sensation to pain and heat disappears. Contact sensation persists. Toward the last the motor system may be affected. From four to ten minutes after the injection analgesia is usually complete. Most often it extends to the thorax; occasionally to the axilla. It is not an approximate analgesia; it is complete; it is absolute, so much so that in a thigh amputation we asked the patient to elevate his stump so that we could better secure the vessels. In the course of the operation the patients, when questioned, would say that they felt only a sensation of contact. One of my patients could hear me saw his femur, and told my assistant that he could not tell whether I was sawing his femur or sawing the table. While doing a vaginal hysterectomy one of my patients felt that something was giving away, when the uterus was being removed, but she experienced no pain. In the course of a lumbar nephrectomy the patient, at the close of the operation, asked us if we were not going to soon begin the operation. The duration of analgesia is from one to one and a half hours. It has always allowed me sufficient time to complete the most laborious intervention.

The position which the patient is made to assume during the course of the operation does not at all modify the analgesia. I have thus always been able to employ that posture best suited to the operative procedure. Like under general anesthesia, I have operated in the inclined posture and in the left lateral posture.

The following incident may happen in the course of the puncture: In subjects whose spinal column is deviated, as in scoliosis, the line of the spinous process can only be found with difficulty, and owing to the fact that the vertebral laminæ have lost their normal relations, the puncture may be difficult. This obstacle, however, can be overcome by patience on the part of the operator. If the needle strikes against a vertebral lamina, change the direction of its point either upward or downward, but do not pull it back and forth. This pulling back and forth along the blunt needle may succeed in breaking it. The better thing to do is to remove the needle. Make another puncture higher up or lower down. The solution must be injected in the subarachnoid space. There is only one sign which permits us to affirm that the needle is in the cavity. I mentioned that sign before; it is the escape of cephalorachidian fluid. If blood escapes through the needle it may be fluid blood or it may be blood with an admixture of cerebrospinal fluid. As to the nature of the blood, you can not decide by simple inspection. We repeat the puncture, and we will not inject until we have seen two or three drops of pure cephalorachidian fluid escape.

Can this method of anesthesia be productive of any accidents? I do not know, but basing my opinion upon my personal observations, I can affirm that I have never seen a serious accident. Usually the patients complain of epigastric weight, the feeling of epigastric coldness; they are anxious; they are nauseated; emesis is frequent. These accidents may occur during the operation, a few minutes after the puncture, but they usually occur in the few hours that follow the puncture. These accidents are very frequent. I have noticed emesis 50 times in 63 operations; the vomit is mucous or bilious; it is not abundant; it yields readily to the ingestion of ice. Headache occurs more frequently than emesis. In two-thirds of the cases it is light headache, a simple heaviness. It disappears in a day following the operation. It can, however, be a very severe headache, provoking insomnia, and disappearing only at the end of forty-eight hours. I have noticed profuse sweats, some

---

Note 3—The ordinary needles with very oblique bevel possess one disadvantage. This disadvantage is that the orifice of the needle may only be partially in the subarachnoid space, while the other portion of the needle may be without the sheath, so that the injection may flow partially into the subarachnoid space and partly into the surrounding tissues, so that this needle with a short bevel is what he prefers.

Note 4—In a few of my trials I failed to obtain a complete and perfect analgesia. This failure was due to the fact that I employed an old solution of cocain. The solution was not absolutely limpid. In these cases, by following the unsuccessful injection with a fresh solution the desired result was obtained.

Note 5—In my first case, to make the injection, I used to place the patient in the left lateral position, the thighs flexed on the abdomen and the body bent forward. It has seemed to me that in this position the spinal column is subject to deviations, is subject to flexures, which make lumbar puncture difficult.

Note 6—The patient being forewarned, when the needle penetrates the tissues he does not jerk, and by not jerking he does not deviate the needle from its proper course.

Note 7—When the same posture is used the needle must be inserted perpendicularly from backward forward.

Note 8—If this dose be exceeded, epigastric anxiety is more marked, vomiting is more frequent, but nevertheless even with a large dose I have never observed any alarming symptoms.

dilatation of the pupils, some shaking of the limbs, some rapidity of the pulse; all these accidents have disappeared twenty-four hours after the operation. In 15 cases I noticed an evening elevation of temperature on the day of the operation. This elevation occurred in the absence of any operative complication. On the next day the temperature was normal. In 40 patients I noticed a chill after from ten to fifteen minutes.

Among my patients there were 39 males and 24 females. They varied in age from 12 to 69 years. Sex and age seem to have no influence on this method of anesthesia. I would consider children and hysterical individuals as being poor subjects for this method of anesthesia. I consider it well to put a simple compress over the patient's eyes. Some of my patients objected to being blindfolded.

In closing this I may say that if from one cause or another analgesia was not obtained, this injection of cocain in no wise contraindicates the immediate administration of a general anesthetic, ether for instance. In my first experiments, before I had mastered the technique, it has often happened that I had to etherize the patients after the injection of the cocain. It has seemed to me that it facilitated and made less disagreeable ether anesthesia.

Since my return from Paris, on August 19, I have used this method of anesthesia in three cases, with the following results:

Case 1.—Miss B., Cook County Hospital, aged 22 years; left pyosalpinx, with history of rupture into the intestine. Injection of 15 minims of 2 per cent. solution of hydrochlorate of cocain in the subarachnoid space in the lumbar region on a level with the iliac crests. The needle was easily inserted, the cerebral fluid escaped and about forty seconds were consumed in injecting the fluid after the syringe was connected. The opening, when the needle was withdrawn, was sealed with collodion. The operation was commenced 8 minutes after the injection. Median incision was made; the adhesions were very extensive and firm. It was difficult to separate the tube from the bowel. The wall of the latter was enormously thickened, and I feared that a sinus was present. Careful examination did not reveal one, the tube was removed, the pus sponged out and the omentum drawn over the intestine and pressed down into the pelvis, as the sigmoid was fixed and could not be turned down to protect the abraded surface. The operation was completed by closing the abdomen with figure-8 sutures; no drain. The patient was conscious of the fact that she was being handled, but there was not the slightest pain. She was nauseated and vomited some 6 minutes after the operation began. This retarded the work a couple of minutes. Her pulse at no time exceeded 75, and ranged from that to 60. She did not vomit after the operation. Her temperature that evening reached 102; since then it was normal; no unpleasant symptom has since occurred.

Case 2.—Male, aged 50 years, Cook County Hospital. Varicose veins of the leg; Schede operation. Thirteen minims of cocain. A 2 per cent. solution was used for injection. Anesthesia was complete in 7 minutes. There was some nausea and vomiting during the operation. There was perfect analgesia. The pulse was not accelerated and was strong at all times.

Case 3.—Male, aged 46, Cook County Hospital; sensitive ulcerated stump following amputation for diabetic gangrene. In this case 15 minims of eucain solution were injected. A little difficulty was experienced in getting in between the laminæ. Some nausea and vomiting occurred as with cocain. It was 12 minutes before the analgesia was complete, and there was some return of sensation 10 minutes after the operation was commenced. On the whole it was not as satisfactory as cocain.

I hope that the nausea may be controlled by the addition of atropia to the cocain, and I will try it in my next case. That cocain anesthesia will displace chloroform or ether anesthesia for operations in the abdomen and lower extremities is a question that will take a long period of time to decide. That it will have its special field of usefulness, the same as ether and chloroform, can scarcely be doubted, even though our experience is now so limited.

I beg to submit this report, and will follow it with others as the range of experience increases, and appreciate the compliment paid me in the request for it. Respectfully,

J. B. Murphy, M.D.

Deaths and Obituaries.

Ernst Schmidt, M.D., died at his residence in Chicago, August 26, aged 70 years. He was one of the most prominent medical men of Chicago, had been for thirty years chief of the consulting staff of the Alexian Brothers' Hospital and for many years consulting surgeon to Michael Reese Hospital. He was graduated from the University of Würzburg in 1852, but was obliged to leave Germany on account of his prominence in revolutionary matters. He settled in Chicago in 1857 and soon established himself in active practice. He was always earnest for reform, as was shown by his revolt against established government in Germany, his prominence in the "underground railway," his defense of the "anarchists" in 1886, etc. He had a large practice, but on account of long-standing kidney disease had virtually been retired for three or four years.

Franklin Booth, M.D., an old and much esteemed physician of Elmhurst, Long Island, N. Y., was run over by an electric car August 18. He was taken to St. John's Hospital, Long Island City, where it was found necessary to amputate the right leg below the knee and afterward to amputate the left leg at the knee-joint. He refused to take an anesthetic and bore the operation with great fortitude, but he did not rally and died on the following evening. He was born in 1[illegible] and was graduated from Bellevue Hospital Medical College in 1864. He served in the Civil War as surgeon and had been a member of the Newtown Board of Health and was medical inspector of the board of health in the borough of Queens.

Asa W. Griggs, M.D., West Point, Ga., died August 16, at the age of 73 years. He was graduated in 1855 from the medical department of the University of Nashville, Tenn., and began practice in West Point in 1857. He was an honored member of the Georgia State Medical Association, and was at times its orator and president. He was also for several years professor of principles and practice of medicine in Atlanta Medical College; and many years before, filled the chair of surgery in Oglethorpe Medical College, Savannah.

Moses Warren Kidder, M.D., Lincoln, Mass., died at the Waltham Hospital, from appendicitis, August 15, aged 72 years. He attended Harvard and Berkshire medical schools and was graduated from the latter in 1852. He then went into practice with his father in Lowell, where he remained until 1870. During this time he served as city physician and as a member of the school board. On leaving Lowell he went to Lincoln and there resided until his last illness.

Nelson W. Bates, M.D., Central Square, N. Y., died August 11, aged 72 years. He was born in Lewis County, graduated from the University Medical College, New York, in 1864, served as assistant-surgeon in the One Hundred and Tenth New York Volunteer Infantry in the Civil War and was stationed for two years at Fort Jefferson, Dry Tortugas. He had been a resident of Central Square for nearly fifty years.

Adam Lindeman, M.D., Pittsburg, Pa., died at Mercy Hospital in that city, August 20, after an illness of five weeks, from appendicitis and complications following operation for this condition. He was graduated from Jefferson Medical College in 1884, and had practiced for more than fifteen years in Homewood, a suburb of Pittsburg.

H. P. Hugus, M.D., died July 30 at Kealia, Kauai, Hawaiian Islands, at the age of 60 years. He was a graduate of Jefferson Medical College and practiced at Delmont, Pa., and Orrville, Ohio. Later he went to Los Angeles, Cal., and in 1890 removed to Hawaii, where he has since resided.

E. W. Oliver,, M.D., died of cancer of the stomach at Mulberry Grove, Ill., August 15, at the age of 57 years. He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1874, and had practiced since that time in Mulberry Grove and vicinity.

Carl M. Kelley, M.D., Matamoras, Pa., coroner of Pike County, died August 11, from heart disease at the age of 38 years. He was a native of Scranton and was graduated from the College of Physicians and Surgeons, Baltimore, in 1883.

John H. W. Chestnut, M.D., Philadelphia, died from cancer of the stomach at Dutch Harbor, Alaska, August 5. He was graduated in 1871 from the department of medicine in the University of Pennsylvania.

A. S. Lee, M.D., Oakland, Cal., died from appendicitis while en route from Hamburg to New York, and was buried at sea. He was a graduate of the medical department of the State University.

Samuel A. Kennedy, M.D., died at Shelbyville, Ind., August 22, aged 65 years. He was a graduate of the medical department of the University of Cincinnati, in 1857.

F. W. Sawyer, M.D., died at Evansville, Ind., August 13, at the age of 90 years. He had practiced medicine in Evansville since 1851.

E. T. Cody, M.D., a graduate of Rush Medical College in the class of 1889, died August 11, at Jerome, Arizona.

D. W. Gregory, M.D., Benton, Tenn., was shot and instantly killed in a quarrel, August 13.

Societies.

Coming Meetings.

American Academy of Railway Surgeons, St. Paul, Minn., Sept. 5-6.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 2-5.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 9-11.

Vermont State Medical Society, Rutland, Oct. 11-12.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The American Public Health Association will meet at Indianapolis, October 22 to 26, instead of the first week of the month as originally arranged.

The Saline County (Mo.) Medical Association convened at the county court room August 13. The paper of the day was by Dr. Mills T. Chastain, Marshall, on "Dysentery."

The Baltimore County (Md.) Medical Society held its regular meeting at the Maryland Yacht Club Fishing Shore, Middle River, on August 16. The subject for discussion was "Surgery in Country Practice," which was participated in by Drs. Robert W. Johnston, Thomas H. Emory, B. F. Bussey and others.

The Las Animas County (Col.) Medical Society at a meeting August 6, discussed the subject of public legislation against tubercular infection. A committee was appointed to draft a memorial to the state legislature, urging the enactment of a law regulating the public care and government of tuberculosis in Colorado.

The Winnebago County (Ill.) Medical Society held a meeting at Rockford, August 14, at which Dr. T. H. Culhane read a paper on "Surgical Treatment of Appendicitis;" Dr. Albert Green, on "Cholera Infantum;" Dr. Stoddard L. Anderson, on "Etiology and Diagnosis of Typhoid Fever," and Dr. E. H. Ochsner, Chicago, on "Surgical Treatment of Perforation in Typhoid Fever."

The Grand River (Mich.) Medical Association held its second annual picnic at Spring Lake, August 16. Dr. O. E. Yates, Holland, was chosen toastmaster; Dr. C. P. Brown, Spring Lake, welcomed the association to Spring Lake; Dr. B. B. Godfrey, Holland, responded to the toast "Bald Heads," and the proceedings were concluded with an address by Dr. J. W. Vanderberg, Holland, the retiring president.

The Lake Keuka (N. Y.) Medical and Surgical Association at its annual meeting at Grove Springs, August 14 and 15, elected Dr. Henry Flood, Elmira, president; Dr. W. A. Macy, Willard, vice-president, and Dr. W. W. Smith, Avoca, secretary. About seventy were in attendance. The next meeting will be held the second Tuesday and Wednesday in August, 1901.

The Lehigh Valley (Pa.) Medical Association at its twentieth annual session, August 14, elected the following officers: Dr. Albert A. Seem, Bangor, president; Drs. C. P. Knapp, Wyoming, W. H. Hartzell, Lehigh, A. H. Halberstadt, Pottsville, and O. H. Sproul, Flemington, vice-presidents; Dr. Charles McIntyre, Easton, secretary; Dr. W. P. Walker, South Bethlehem, assistant secretary, and Dr. Abraham Stout, Bethlehem, treasurer.

The Wells County (Ind.) Medical Society held its midsummer meeting at Poneto, August 14. Papers were presented by Dr. Frederic R. Charlton, Indianapolis, on "Management of Non Surgical Kidney Cases;" Dr. Albert E. Bulson, Fort Wayne, on "Some Eye Lesions Indicative of Constitutional Diseases;" Dr. Alois B. Graham, Indianapolis, on "Intestinal Diseases in Children;" Dr. G. W. McCaskey, Fort Wayne, on "Some of the Problems and Achievements of Preventive Medicine," and Dr. John N. Hurty, Indianapolis, on "Contagious and Infectious Diseases in Indiana."

The British Columbia Medical Association opened its first annual conference at Vancouver, August 9 and 10. The first day was devoted to perfecting the details of organization, drafting of constitution and by-laws, election of officers, appointment of committees, etc. Dr. R. E. McKechnie, Nanaimo, was elected president; Dr. R. E. Walker, New Westminster, vice-president; Dr. J. M. Pierson, Vancouver, secretary; Dr. J. D. Helmcken, Victoria, treasurer. The scientific proceedings opened with a discussion on "Appendicitis," by Dr. John C. Davie, Victoria; David La Bau, Nelson, and Thomas W. Lambert, Kamloops. Drs. Simon J. Tunstall, Vancouver, A. P. Proctor, Kamloops, Jakes Midway, and J. H. Duncan, Victoria, then read papers on "Preliminary Tuberculosis, its Prevention and Treatment." A discussion on "Injuries to the Parturient Canal" followed, conducted by Drs. O. M. Jones, Victoria; George E. Drew, New Westminster, and Osborne Morris, Vernon.

The Southern Kansas Medical Society will hold its quarterly meeting at Parsons, September 4. The program includes papers by J. T. Davis, Independence, on "Piles;" A. L. Fulton, Kansas City, on "Inflammation;" J. L. Lehew, Pawnee, O. T., on "Gastric Catarrh;" L. S. Wilson, Monmouth, on "Entero-Colitis;" J. W. Porter, Midway, on "Medical Examinations for Fraternal Insurance Companies;" I. E. Stryker, Baxter Springs, on "Hip Joint Disease;" Wm. Frick, Kansas City, on "Significance of Purpuric Eruptions;" C. P. Lee, Pleasanton, on "Neurasthenia;" W. J. Gillett, Parsons, on "Endometritis;" H. H. Bogle, Pittsburg, on "Hydrophobia;" Thomas Barnett, Fort Scott, on "Tertiary Syphilis;" George S. Liggett, Oswego, on "The Microscope."

The Detroit Medical Society.—A new society has been organized in Detroit, which will be known as the Detroit Medical Society. It already has 228 members. It is intended to admit to membership all regular physicians of Detroit and vicinity, those residing outside of Wayne County being regarded as non-resident members with half-dues. Efforts, heretofore unsuccessful, have been made for some time to unite the two leading societies of Detroit. The new society has been organized by the younger men, and it is the hope of the organizers that it will finally take the place of the two other societies and thus remove the trouble that has so long existed.

The first meeting will take place on September 5, at which time Dr. L. S. McMurtry, of Louisville, will read a paper. The officers of the society are: president, Charles T. McClintock; vice-president, H. W. Yates; secretary, L. J. Goux; treasurer, J. E. Davis.

The American Academy of Railway Surgeons will hold its seventh annual meeting at St. Paul, Minn., September 5 and 6. Papers will be read by Dr. Haldor Sneve, St. Paul, Minn., on "How to Treat the Muscular and Joint Sprains of Railway Employees;" C. O. Hunter, Columbus, Ohio, "Remedies;" Dr. W. W. Grant, Denver, Col., "Fractures of the Elbow-Joint;" Dr. D. S. Fairchild, Clinton, Iowa, "Some Additional Observations on Effects of Injury to Peripheral Nerves;" Dr. W. L. Estes, South Bethlehem, Pa., "Hospital Cars on Railways;" Dr. W. U. Cole, Columbus, "Keloid Growths following Traumatisms;" Dr. F. J. Hodges, Ashland, Wis., "Traumatic Separation of the Sacro-Iliac Synchondrosis;" Dr. Wm. H. German, Morgan Park, Ill., Surgical Shock:" Dr. Edward Boeckmann, St. Paul, Minn., "Silver-Catgut Once More;" Dr. J. D. Griffith, Kansas City, Mo., "Effect of Mauser Pistol Bullets;" Dr. C. A. Wheaton, St. Paul, Minn., president's address, "Some of the Needs of the Academy;" Dr. J. T. Eskridge, Denver, Col., "Some Points in the Study of the Medico-Legal Relations of Neurasthenia, and a Short Study of the Plantar Reflexes;" Judge E. A. Jaggard, St. Paul, Minn., "Some Aspects of Medical Testimony:" Dr. James H. Dunn, Minneapolis, Minn., "The Diagnosis and Treatment of Injuries of the Head;" Dr. M. Cavana, Sylvan Beach, N. Y., "Railway Injuries Resulting from Personal Negligence;" Dr. Wm. C. Bane, Denver, Col., "Chip of Iron in Eye—Examination with Fluoroscope, Negative, and with Sideroscope, Positive—Eye Enucleated—Sympathetic Ophthalmitis Sixteen Days Later—Recovery—Exhibition of Sideroscope;" Judge J. T. Durham, Oneida, N. Y., "The Railway Surgeon, a Valuable Aid in the Settlement of Claims for Damages;" Dr. R. H. Cowan, Radford, Va., "Cocain Analgesia;" Dr. J. F. Pritchard, Manitowoc, Wis., "Non-Constriction Dressings in the Treatment of Fractures;" Dr. J. A. Quinn, St. Paul, Minn., "Remarks on Delayed Union and Non-Union of Fractures."

California Academy of Medicine.

San Francisco, Cal., July 24.

Dr. D. W. Montgomery in the chair.

SYPHILIS.

Dr. Tait exhibited a patient, male, 72 years of age, who, seven weeks previously, had contracted syphilis. The chancre on his penis was nearly healed, but considerable induration remained. He had had a typical syphilitic eruption, and a great deal of cephalalgia, all of which had yielded to mercurial treatment.

FRACTURE OF OLECRANON.

Dr. Caglieri presented a successful case of fracture of the olecranon, treated by the closed method, in contrast with the case of fracture of the patella treated by the open method, which he presented at the last meeting. The patient, about six years ago, fell from his bicycle on his right elbow, fracturing his olecranon at its junction with the shaft of the bone. It was treated by a long anterior splint a week, was in plaster a week, then massage was employed until recovery. The result was perfect. The fragments were held together by means of an adhesive strip above the fragments and another in front of the wrist below, both strengthened by adhesive strips around the arm. Through these loops a rubber catheter was passed and tied under slight traction. The question is asked frequently whether all cases of fracture of the olecranon or patella should be treated by the open method or the closed method; his answer is here as in other questions of surgical importance, that the physician should use his own judgment in the particular case. If he has any doubt of the patient having a useful joint, and is sure of his technique, he should use the open method; if not, he should resort to the closed method.

Dr. Henry Barbat said that the results by this, or any method of treating fractures of the olecranon, are not to be compared with those obtained by wiring the fragments. He admitted that this method was superior to other ordinary methods, because in this way one gets an elastic pull, holding together the fragments. Good results were not to be obtained, however, in cases of fracture of the patella by such a method, because in such fractures one has an entirely different kind of joint to deal with, and there is usually considerable blood-clot in the joint.

Dr. E. E. Kelly thought that it was more difficult to get union in fractures of the patella than in those of the olecranon, because, it being a sesamoid bone, and not having the same blood-supply, there was not the same tendency for the fragments to unite. It also takes great pressure to bring fragments of the patella together. In a case he had had some time before, in which a woman had fallen and injured her knee, the doctor who saw her immediately made a diagnosis of broken patella, and had dressed it by means of adhesive straps. He was called in subsequently, and discovered that the quadriceps extensor tendon was ruptured, the patella being uninjured, and that the straps were pulling the bone away from the tendon.

Dr. Dudley Tait thought that the action and importance of the quadriceps extensor tendon had been made altogether too prominent in the treatment of patellar injuries. It does not have as much action as is usually supposed in the separation of the fragments. Not enough importance is given the peripatellar soft tissues, as a causative factor in the separation of the fragments. Separation is very frequently due also to distension of the joint by blood-clot from behind. It is much better to encircle the fragments of the bone with a suture than to wire them.

GALL-STONES.

Dr. J. Henry Barbat presented a case illustrating the difficulty of detecting the presence of gall-stones, even when present in large numbers. The patient, a woman aged 36 years, began suffering twenty months previously with pains in the epigastric region which did not come after every meal, and were not influenced by the kind of food. There was neither nausea, vomiting, nor icterus. The case was diagnosed as gastralgia and all the remedies in the category were given without avail. Finally lavage was resorted to with immediate relief of the pain as soon as the washings came away clear. The patient improved for a few months but she then began to lose flesh as she was unable to keep down sufficient food, it having become necessary to wash out the stomach after every meal. About this time she noticed more severe pain on the right side and considerable tenderness over the right hypochondriac and lumbar regions. Her physicians also discovered a mass in this locality which proved to be a movable kidney: there was no evidence of trouble with the gall-bladder during all this time. When he first saw her he advised nephrorrhaphy. He stitched the kidney with chromicized catgut, and the patient had no severe pains while in bed, but after her return home they returned, and after three months were almost as bad as ever. During one of her paroxysms he found that the point of greatest tenderness was over the gall-bladder, and after an unusually severe attack detected dulness extending from the region of the gall-bladder toward the umbilicus, but could make out no tumor. The dulness gradually subsided and slight icterus appeared. He then diagnosed obstruction of the cystic duct and advised operation. When the abdomen was opened the gall-bladder was normal in size and position and appeared to be filled with bile. Palpation revealed a large calculus at the apex of the viscus, which blocked the cystic duct. The manipulation loosened the stone and allowed the bile to escape, leaving the gall-bladder a little smaller than when normally distended. It was filled with stones and its walls much thickened.

The stones were removed through an incision in the fundus, the edges of the incision stitched to the abdominal wound, and a rubber drainage-tube inserted. Bile flowed freely from the wound for several days and five stones which could not be easily removed at the time of operation passed out through the drainage tube. The gall-bladder was irrigated every day; after ten days, as no more stones appeared, the drainage-tube was removed and the wound allowed to close.

Three weeks from the day of operation the wound was completely closed and the patient able to be around. She has had no recurrence of pain, and has gained considerable weight. The stones removed numbered 284, and while the majority were not much larger than a grain of wheat, several were fully 2 cm. in diameter.

In all cases of gall-stones the possibility of the subsequent formation of more stones must be considered; if in spite of cholagogues and appropriate diet recurrence takes place the proper operation would be a cholecystenterostomy.

The second case is interesting on account of the large size of one of the calculi, and the length of time the patient suffered before the operation. The patient, a nullipara, aged 42 years, had had sharp attacks of pain in the region of the gall-bladder for ten years, but had never noticed jaundice; a diagnosis of possible gall-stones had been made and the patient given salines, olive-oil, and other popular remedies, but her attacks became more frequent, and more exhausting.

He saw her during one of her seizures, determined a slight fullness below the margin of the ninth rib, and a peculiar fremitus, and advised operation.

The incision was made at the right border of the rectus muscle. The gall-bladder was not very large, and required considerable coaxing to bring it into the wound. The fundus was incised and a number of small stones which lay between the wall and a large calculus which filled the lower three-fourths of the gall bladder were removed. A gush of bile followed the removal of the large stone. A large number of smaller stones passed at the same time; a medium-sized stone was found in the neck, and beyond this more small stones which occluded the duct. Two retention sutures were inserted, and the abdominal cavity closed off by sewing the peritoneum to the gall-bladder. A rubber drainage-tube was introduced for six inches, and a strip of oiled gauze placed between the abdominal wall and the gall-bladder to prevent too great adhesion, thereby allowing that viscus to be returned to the abdominal cavity after it had been sufficiently drained. Only one more stone was discharged, and after eight days the tube was removed and the wound allowed to close.

Dr. Kelly said that one objection to cholecystenterostomy is the liability to ascending infection from the intestine involving the liver by way of the cystic duct. He had had a case of this kind, in which he had used a Murphy button for anastomosis, but as the button became plugged, he had to make a second operation three weeks later to remove it. At this operation he saw that the gall-bladder had shrunken and was not larger than a duct.

Dr. Tait said that the operation done by Dr. Kelly has been practically abandoned by the men who first used it. In all these cases there is infection of the gall-bladder, which demands drainage. He favored stitching the gall-bladder to the abdominal wound, and thus draining it. He believed cholecystectomy unsurgical.

Dr. Barbat, in closing the discussion, said that an ideal operation can not always be done. In some cases it was impossible to bring the gall-bladder to the surface and cholecystenterostomy is the operation indicated. The authorities who recommend delay in operations for gall-stones, are not correct. Operation is justifiable where we have strong suspicion of the existence of gall-stones. In performing a cholecystenterostomy he always uses the Murphy button.

ILEO-COLIC INTUSSUSCEPTION.

Dr. Caglieri presented a specimen removed from an infant four months old who died a few hours after the operation. It was impossible to reduce the obstruction, so about three feet of bowel were resected. This child had been ill for four days before the speaker saw it; the condition had been diagnosed as "bowel trouble."

Dr. Barrat thought that early operation should be done in all abdominal cases. He attributed his success in the treatment of such cases to be due entirely to early diagnosis and early operation.

Dr. W. I. Terry thought that high injections, when used early are of decided value, and probably would have been so in this case. Had the operator made an artificial anus it might have been better than the method he pursued.

Colorado State Medical Society.

Thirteenth Annual Convention, Denver, June 19-21, 1900.

(Concluded from p. 514.)

SYPHILITIC MANIFESTATION IN THE EAR.

Dr. P. F. Gilden said that characteristic mucous patches in the middle ear have been noticed, that gummata have been found, and that these yielded to specific treatment in the same way as in other parts of the body. Inflation of the ear does not increase the hearing, neither does it stop other uncomfortable symptoms. He advocates a thorough trial of specific treatment in obscure ear troubles.

SYPHILIS OF THE THROAT.

Dr. T. J. Gallaher discussed the subject of syphilis of the fauces, pharynx and larynx. He said that chancre may simultaneously appear on the tongue and tonsil. The earliest symptom is painful deglutition, which persists regardless of treatment. The mucous patch is similar in structure to the initial lesion. He has seen a gumma of the soft palate which occurred 4½ months after the appearance of the chancre.

BONE AND JOINT SYPHILIS.

Dr. W. W. Grant said that many cases of hip-joint and Potts' disease in children are caused by hereditary syphilis. In syphilis there is no tendency to pus formation and to necrosis, and operative interference is seldom demanded. Night pains are characteristic of bone syphilis.

INHERITED SYPHILIS.

Dr. Sol G. Kahn said that hereditary syphilis differs from the acquired disease in being constitutional from the first. There is no primary stage. The child may be born healthy and vigorous, or puny and delicate. The typically syphilitic child is at birth a wasted, wizened, snuffling, feeble creature, with a weak, hoarse cry, the integument being thrown into folds, giving it the appearance of old age. The nostrils, lips and angles of the mouth are scarred by fissure; the submaxillary glands are hard and swollen; the skin is dry or waxy in appearance. Vesicles are most frequently found on the soles, palms or nates. The crescentic notch or Hutchinson's teeth is of great diagnostic value; the incisors are pointed and narrow at their edges, and furrowed with a crescentic notch.

IS SYPHILIS EVER ACTUALLY CURED?

Dr. Frank Finney said that even if the syphilitic poison loses its power of infection, it may remain latent until by some external cause it is stimulated to new growth. From the present imperfect knowledge of the pathology of this disease, it is evident that we have not yet arrived at a point where we can apply a treatment which is curative.

PROPHYLAXIS OF SYPHILIS.

Dr. E. Stuver said that legal restrictions and medical examination of prostitutes not only fail to prevent the spread of venereal diseases, but enormously increase the number of clandestine prostitutes. He advocates a single standard of morals for both sexes, and in conclusion reiterated the conclusions of Dr. Ferd. C. Valentine. (The Journal, xxxiv, 9, 532.)

SYPHILIS AND TRAUMA.

Dr. Leonard Freeman said that there is little doubt that under favorable circumstances most injuries heal as rapidly and as thoroughly in syphilitic patients as in others. Primary sores respond unfavorably to irritation arising from cauterization or other causes, and a mixed infection may thus be inaugurated resulting in a suppurating bubo.

Secondary syphilis is less closely related to traumatism than either the primary or the tertiary forms. Eruptions of various kinds can be increased in severity by irritation of the skin, such as excessive perspiration, uncleanliness and rubbing of light clothing. The bad effect of tobacco upon the mucous patches within the mouth is familiar to all. There is no doubt that the severity of a syphilitic iritis can be increased by excessive use of the diseased eye. In tertiary syphilis the effects of traumatism are quite noticeable, although they have been grossly exaggerated. Fractures are sometimes directly produced by gummata. He encountered such a condition in the tibia and had to resort to an amputation. Whether rheumatism is regarded as a major or minor factor in specific manifestations, the fact remains that it is slight injuries that are most productive of results. The restorative process following severe lesions are perhaps too active to permit growth of syphilitic germs, this being analogous to what has been demonstrated by experiments in connection with tuberculosis and osteomyelitis.

SYPHILIS IN ARMIES.

Lieutenant-Colonel Henry Lippincott said that in the United States Army we have not had the support of the civil law as have the military and naval authorities in England, but our commanders and surgeons have done their utmost to prevent a large sick list from syphilis. In the United States Army, the methods are chiefly advisory. In the home station the unfortunate soldiers are segregated. The admissions on account of venereal diseases during 1898 were equivalent to 84.59 cases in every 1000 of the strength present; the average duration of cases was 36.46 days. During the calendar year 1898, 71,250 men were examined for the regular army of the United States; of these, 66,237 were white and 5,013 colored; the total number accepted was 54,896. Of every 1000 examined, 9.71 were rejected on account of venereal diseases. The range of variation in the different armies of the world is interesting. In 1000 healthy men, the number of cases of syphilis in one year in the English Army was 105; Austrian, 9; Prussian, 8; Italian, 7.

TREATMENT OF SYPHILIS.

Dr. W. P. Munn said that an indurated chancre that has not been present more than twenty-four hours on a long prepuce is probably the best situated for complete and free removal, circumcision being the preferable operation. Five years ago he removed a sore which had been pronounced to have all the microscopic characteristics of a ture chancre, and the patient remained free from constitutional symptoms. He uses europhen or acetanilid as a dusting powder. The strong 40 per cent. solution of formaldehyde is the liquid application *par excellence* if the surgeon desires to use one. Constitutional treatment should be deferred until secondary manifestations are apparent. This delay is justified because it renders the liability to error in diagnosis less; the regularity of the disease is not interfered with; the patient himself, then more firmly convinced of the nature of his trouble and the necessity for continuous surveillance thereafter; and as a rule constitutional treatment is not curative before the disease itself has become constitutional. The maximum dose of potassium iodid that he employs is 960 grains daily for a period of over a month. The index of a sufficient dose is the beginning of clinical improvement. He has never discovered that the medication used in health resorts differs from that familiar to all physicians, but patients should be sent to a resort when they will not or can not take proper care of themselves.

STATE MEDICINE.

Dr. W. P. Munn, in the address on this subject, said that problems that lie in the borderland of medical science and statecraft constitute the material for the study of state medicine. Among the triumphs of preventive medicine he enumerated the arrest of Asiatic cholera; the decrease of diphtheria and of typhoid fever; the education of the people concerning tuberculosis; the holding in check of the plague; the discovery of its cause and the preventive measures now employed, and malaria, its cause and means of propagation. Preventive medicine justifies state control of practice of medicine, for every community is at the mercy of the practitioner of medicine when it comes to the recognition of the various contagious disease, and their accurate diagnosis is essential to public health and the concealment of it a crime. He gave a short historical sketch of the model medical license law which was introduced and passed by the legislature of the state of Colorado and which was vetoed by the Governor. He premised the whole discussion by a brief consideration of the underlying principle, and said in part: Among the subjects of legislative control which have long received the sanction of all legislative bodies and the continued recognition of courts of all nations as lawful, a legal requirement qualification of the members of certain trades and professions stands among the first. In no branch of modern acquirements is the need of control by law more obviously recognized, or enforced with such great strictness as in the interpretation of law and the struggle for administration of justice. No man is permitted to pass judicially upon the problems that affect personal rights, property interests or loss of liberty unless he is "learned in the law." And the moment this man "learned in the law" is elevated by the fortune of politics, the favor of the executive or the confidence of the people to the judicial bench, he is invested with a certain assumption of greater integrity, a temporary infallibility, most pleasing to himself and to those who belong to the same profession. But before anyone can hope to attain this infallibility, he must be a member of the bar, that is, he must have passed an examination before a board of members of his own profession who thereupon decide whether his learning is sufficient in amount and his personality of such character as to make him a desirable associate. If they approve of him, he is by the action of the court "admitted to the bar." Still further and greater formalities are necessary before he can practice in the appellate courts or the Supreme Court of the United States. Learning and good reputation are in each instance the requirements of permission. Thus it will be seen that not every one can go to court and take the time of the court in presentation of cases, not every one is permitted to take upon himself the responsibility of defending property rights, of drawing up legal papers, etc. It is universally adopted that such functions are quasi-public ones and must be exercised only by those who have undergone a proper preparatory course of study.

Stationary steam-engineers are required to pass an examination before an examining board. This is done with a view to minimize the danger arising from the explosion of boilers. In order that the health of the family may not be injured through defective plumbing, the state and the city have assumed the power of examining plumbers. The blacksmith who shoes horses is required by law in the State of Colorado to have a certificate of capacity from an examining board. Now, what the medical profession of the State asked was this: "That the integrity and usefulness of our profession be guaranteed to society, and that standards be established for our members for the observance of which sanction should be given." This and more the state long ago gave to the legal and the dental professions, this and more has been given to many of the trades, but to medicine, and to medicine alone, the veto has denied the right or power to establish standards for our membership.

GASTRIC ULCER.

Dr. W. T. Little discussed "The Symptoms, Prognosis and Treatment of Gastric Ulcer." He gave the history of a woman 22 years of age, who had several recurrent attacks of gastralgia and hemorrhage, extending over a period of four years. When she came under his observation, she had almost daily attacks of gastralgia for several weeks, that culminated in a severe hemorrhage, during which she lost from three to four pints of blood. On the second day of the hemorrhage, she complained of severe epigastric pain and tenderness, which rapidly spread up under the ribs into the sides and down over the abdomen. She lay with thighs flexed, and was delirious, but did not vomit. At the end of twenty-four hours she began to improve rapidly.

BULLET IN SPINAL CORD.

Dr. H. T. Pershing read a paper entitled "Localization of a Bullet-Wound of the Spinal Cord: Removal of the Bullet from the Spinal Canal," in which he reported the following case: Mrs. A., aged 42 years, received two bullet-wounds. One bullet was easily extracted; the other entered the back about the level of the eleventh rib and six inches to the left of the median line. Immediately after the shots, she fell, and experienced a numb sensation from the waist downward, and could not move either of the lower limbs. There was severe pain in both buttocks and thighs, and the control of the bladder and the rectum was lost. The muscles above the waist were under normal control. Faradic irritability was entirely lost in the paralyzed muscles, except a perceptible contraction of the right peroneal group. Plantar, Achilles and knee reflexes were absent: but anal and perineal reflexes lively. The lesion was diagnosed to be located mainly opposite the twelfth dorsal vertebra, extending both upward and downward, but not so far as the upper border of the eleventh dorsal or the lower border of the lumbar vertebra. Skiagraph of the lower spine gave a faint indication of a foreign body between the twelfth dorsal and first lumbar vertebra. Dr. Craig removed the spine and lamina of the twelfth dorsal vertebra, but nothing abnormal was found. The spine and lamina of the eleventh vertebra were then removed, and a foreign body was found in the spinal canal, a little to the right of the median line. This was easily removed; the wound was dressed, and the patient was relieved to a great extent, but there was no restoration of function. The pains returned with former severity, and death, due to exhaustion, occurred thirty-five days after the injury was received. No autopsy was allowed.

FRACTURES OF THE PATELLA.

Dr. F. H. McNaught reported five cases of fracture of patella, in which operative treatment was used. In summarizing, he said that the indications for arthrotomy are: When the fractured parts can not be returned to their normal condition by manipulation; when the fracture is of such a nature that serious primary defect is to be expected; when any suspicion of infection follows the fracture; if the patient is in the best possible condition; if the surroundings are favorable—an aseptic operating-room; if the remote possibility of infection is explained to the patient before the operation.

IMMUNIZATION FOR TYPHOID FEVER.

Dr. H. W. McLauthlin reviewed the literature on this subject, beginning with the experiments of Brieger, Kitasato and Wassermann in 1872, and the work of Dr. A. E. Wright of the English Army, in 1897. He said that the consensus of opinion seems to be that the inoculations with Wright's serum are harmless, and that some degree of immunization against typhoid fever is conferred by them. He expressed a hope that the reports of the inoculations in South Africa would show another stride forward in the praiseworthy efforts to control this great scourge.

HEALTH BOARDS AND DIPHTHERIA.

Dr. G. E. Tyler read a paper entitled "The Relation of State and Local Boards of Health to Outbreaks of Diphtheria," in which he described the methods to be used by health officers in their battle with this disease. He said that bacteriologic facilities should be offered free of charge to every citizen. In small communities it is quite out of the question to maintain a bacteriologic laboratory, and it then becomes the duty of the State Board of Health to supplement the work of the local board by furnishing the necessary facilities. The State Board of Health must have a competent bacteriologist, not appointed for political reasons. The culture outfits should be as compact as possible in order that the cost of sending them may be reduced to the minimum. Through the efforts of the Colorado State Board of Health the regulations of the postoffice were so modified that a smaller outfit can now be sent and a gain of twelve hours in time was made in the receipt of specimens. In every positive case immediate report will be made by telegraph, and the State Board of Health of Colorado will have depots established in every county on or before Sept. 1, 1900.

The antitoxin should be provided for all infected individuals who can not afford to buy it. The record made by the health authorities should show the exact location of the patient, the number and the names of the rest of the family, and all others known to have been exposed. The milk, water and ice supply should be noted, and the school or Sunday-school visited by the children. The house should be placarded, and quarantine should be maintained until the bacteriologist reports the throat free from diphtheria bacilli. In fatal cases, the funeral should be private and under the supervision of a health officer. The exposed should be given immunizing doses of antitoxin. The state or local board of health should have circulars for public distribution, and one of these should be placed in the hands of the head of the family where the disease appears. Toys with which the child played should be burned, and the room fumigated with sulphur, five pounds to each 1000 cubic feet of space.

DISEASES OF THE BRONCHIAL GLANDS.

Dr. J. N. Hall discussed this subject in his presidential address. He said that American medical literature is singularly barren on the subject of the diseases of the bronchial glands. The glands are enlarged in conjunction with involvement of the lymph-glands of the entire body in leukemia, pseudoleukemia, leprosy, syphilis, and general tuberculosis. Primary lymphosarcoma and lymphadenoma also occur, as well as cancer and fibroma. The largest glands are found in connection with disease of bone. Simple lymphadenitis arises from any acute or chronic process—bronchitis, pneumonia, bronchopneumonia, pleurisy, and subacute or chronic changes following measles and whooping-cough, typhoid fever and diphtheria. "Black glands," in Miner's phthisis are frequently seen. In tuberculosis, the bronchial glands become enlarged and granular, undergo cheesy degeneration and are deeply pigmented. In a case at the Arapahoe Hospital, a single gland near the bifurcation of the trachea was an inch in diameter and entirely caseous. Bacilli of tuberculosis are found in bronchial glands, especially in children. In cancer of the lungs or of the esophagus, the bronchial glands are not enlarged, and in gangrene of the lungs, they become gangrenous. The enlargement of the bronchial glands leads to pressure upon contiguous organs, and evidence of such pressure will be found interfering with respiration from compression of trachea or bronchi; hoarseness or aphonia from pressure upon the recurrent laryngeal nerves; dilated pupil from irritation of the sympathetic; contracted pupil from its paralysis; dysphagia from compression of esophagus; tachycardia from abolition of vagus influence; diaphragmatic neuralgia from pressure upon phrenic nerve; edema of the lungs from compression of pulmonary veins. The treatment of diseased bronchial glands in tuberculosis, bronchopneumonia, those following measles and whooping-cough should consist of cod-liver oil, iodid of iron and general tonics. Counterirritation is recommended. If the glands suppurate and pus is near the surface it should be evacuated. Sudden dyspnea, not otherwise accounted for, especially in a child, who from previous disease involving the respiratory tract, may be suspected of having broken-down bronchial glands, would call for the same vigorous measures as if a foreign body had been inhaled.

VALUE OF INSUFFLATION OF ESOPHAGUS, STOMACH AND COLON.

Dr C. D. Spivak presented a paper entitled "The Diagnosis and Therapeutic Value of Insufflation of the Esophagus, Stomach and Colon," in which he said that the diagnostic value derived from insufflation of the stomach is, 1, determining the capacity of the stomach by the insufflation of a measured quantity of air; 2, the size of the stomach by percussion over distended area; 3, the location of the stomach by inspection, palpation and percussion, the downward and vertical displacement of the viscus can therefore be diagnosed; 4, the patency of the gastric orifices by the rapidity with which the stomach fills up; 5, the shape of the stomach, which may show an intermediate constriction—an hour-glass stomach; 6, displacement, appearance or disappearance of tumors; 7, adhesions.

The diagnostic value of insufflation of the colon is that it aids in determining: 1, location; 2, stenosis; 3, dilatation, 4, tumors; 5, gastro-colic fistula, which may be recognized by the fact that when the colon is inflated the air will eventually distend also the stomach; 6, perforation of the bowel, as suggested by Sutton. (The Journal, xxxiii, 27.)

Insufflation of the esophagus will indicate the degree of obstruction, and will differentiate between stricture and spasm of the esophagus. It will fill up a diverticulum in the upper third of the esophagus and make it visible. Insufflation will also differentiate between diverticulum and dilatation; for in the latter the air will pass into the stomach, and in the former, the lumen of the esophagus will be obstructed.

The therapeutic value of insufflation of the colon has been recognized in invagination and volvulus. He advised the use of insufflation in chronic constipation, and said also that a foreign body in the esophagus can be pushed down with less danger by insufflation than with a bougie, and that it should be tried in esophagismus.

Therapeutics.

Cancer of the Stomach.

℞.	Bismuthi subnitratis	ʒiv	16	
	Acidi carbolici	m. xvi	1	
	Aquæ chloroformi, q. s. ad	℥iii	96	

M. Sig. One tablespoonful before eating. —*Thornton.*

Palatable Creosote Mixture.

℞.	Creosoti	ʒi	4	
	Tinct. gentianæ	ʒii	8	
	Spts. vini rect	℥ii	64	
	Vini xerici, q. s. ad	℥viii	256	

M. Sig. One dessertspoonful four or five times a day.
—*Medical Record.*

A Substitute for Alcohol.

In cases of chronic alcoholism, the following will be found a satisfactory substitute for the beverage:

℞.	Tinct. nucis vomicæ	℥ss	16	
	Tinct. cinchonæ comp	ʒiv	16	
	Tinct. capsici	℥i	32	
	Tinct. gentianæ comp., q. s. ad	℥vi	192	

M. Sig. One dessertspoonful four times a day well diluted.
—*Gould.*

Spray in Acute Colds.

℞.	Acidi carbolici	m. viiss		5
	Ichthyolici	ʒi	4	
	Spts. vini	ʒiiss	10	
	Aquæ destil., q. s. ad	℥iii	96	

M. Sig. As a nasal spray two or three times a day.
—*Exchange.*

Stomach Lavage.

℞.	Sodii biboratis	℥ii	64	
	Acidi salicylici	℥ss	16	
	Acidi borici, q. s. ad	℥iv	128	

M. Sig. Two teaspoonfuls to be added to a quart of warm water for washing out the stomach by means of the siphon tube.

For Gravel.

℞.	Sodii bicarbonatis	ʒiss	6	
	Acidi benzoici	ʒss	2	
	Sodii phosphati	ʒiiss	10	
	Aquæ (boiling)	ʒvi	24	

M. Dissolve, filter, and add distilled water ℥vi. Sig. Two tablespoonfuls three times a day in uric-acid gravel.
—*Jour. de Med.*

Anaphrodisiac in Gonorrhea.

℞.	Ext. ergotæ fluidi	m. xv	1	
	Tinct. gelsemii	m. v		33
	Potassii bromidi	gr. xx	1	33
	Tinct. hyoscyami	m. xxx	2	
	Syrupi aurantii, q. s. ad	℥ss	16	

M. Sig. Shake. One dose at bedtime. —*Lydston.*

Menorrhagia.

The following is recommended, in *Le Progrès Médical*, for treatment of menorrhagia:

℞.	Salipyrin			
	Potassii bromidi, āā	ʒiiss	10	
	Ext. viburni prunifolii fluidi	ʒv	20	
	Aquæ destil	ʒvi	24	
	Syrupi aurantii	℥iss	48	

M. Sig. A teaspoonful to be taken in the evening the fifth day before the expected period, the same quantity morning and evening on the fourth and third days, three teaspoonfuls on the second day, and four teaspoonfuls on the day before and on the day of the appearance of the menses. —*Med. Bull.*

Sweating of Feet.

℞.	Pulv. aluminis (burnt)	ʒv	20	
	Acidi salicylici	ʒiii	12	
	Amyli, q. s. ad	℥ii	64	

M. Sig. To be dusted in the shoes.

Or, when the perspiration is essentially offensive:

℞.	Acidi borici	ʒv	20	
	Tinct. benzoini	℥ss	16	
	Alcoholis	Oi	512	

M. Sig. Apply locally. —*Encyclopedia of Med.*

Rickets (Rachitis).

Kassowitz was the first to advocate the employment of phosphorus. He claimed that the disturbance in rickets was due to a chronic inflammatory process in the osseous tissue, and that phosphorus lessened the hyperemia by restricting the growth of the vessels.

℞.	Phosphori	gr. 1/6		01
	Solve in olei olivarum	ʒiiss	10	
	Pulv. gummi arabici	gr. lxxv	5	
	Syrupi simplicis	m. lxxv	5	
	Aquæ destil	℥iiss	80	

M. Sig. Shake. One teaspoonful daily.
James Stewart: Am. Text-book of Ther.

Or,

℞.	Phosphori	gr. ss		03
	Ol. amygdal. dulc	℥i	32	
	Pulv. acaciæ			
	Pulv. sacch. alb., āā	℥ss	16	
	Aquæ destil	℥iss	48	

M. Sig. Shake and give one teaspoonful three times a day.

A Stable Solution of Cocain.

℞.	Cocainæ hydrochloratis	gr. ii		12
	Aquæ destil	ʒiiss	10	
	Acidi salicylici	gr. 1/6		01

M. —*Jour. de Med de Paris.*

℞.	Tinct. aconiti			
	Tinct. belladonnæ, āā	ʒii	8	
	Tinct. opii	℥ss	16	
	Spts. chloroformi	℥i	32	
	Spts. camphoræ, q. s. ad	℥iv	128	

M. Sig. Apply locally in treatment of neuralgia, myalgia, and rheumatism. —*Gould and Pyle.*

Blackheads (Comedones).

℞.	Ichthyol			
	Bismuthi subnitratis			
	Hydrarg. ammoniati, āā	ʒi	4	
	Vaselini	ʒx	40	

M. Ft. unguentum. Sig. Apply at night.
—*Louisville Med. Month.*

Herpes Zoster.

℞.	Cocainæ hydrochloratis	gr. v		33
	Vaselini			
	Lanolini, āā	℥ss	16	

M. Ft. unguentum. Sig. Cover the diseased part with a thin layer of the ointment, then apply a suitable bandage.
—*Bleuler.*

Oxaluria.

℞.	Acidi nitrici dil	m. v		33
	Acidi hydrochlor. dil	m. v		33
	Infusi serpentariæ	℥i	32	

M. Sig. At one dose three times a day. —*Yeo.*

Hemiplegia After Apoplexy.

℞.	Zinci phosphidi	gr. iii		18
	Ext. nucis vomicæ	gr. x		66

M. Ft. pil. No. xxx. Sig. One pill three times a day.
—*Hammond.*

Lumbago.

℞.	Tinct. opii	ʒii	8	
	Liq. ammoniæ	ʒi	4	
	Tinct. cantharidis	ʒiii	12	
	Lin. saponis	ʒx	40	

M. Sig. Apply by rubbing in thoroughly.
—*Dr. H. Fuller.*

Vulvitis.

℞.	Liq. plumbi subacetatis	ʒi	4	
	Tinct. hyoscyami	ʒii	8	
	Aq. camphoræ, q. s. ad	℥viii	256	

M. Ft. lotio. Sig. Apply locally, tepid, with a saturated cloth. —*Med. Standard.*

Drink for Diabetics.

℞.	Acidi citrici		1	
	Glycerini			
	Spts. vini gallici, āā		50	
	Aquæ destil		500	

M. Sig. Use as a drink. —*Med. Record.*

Urticaria.

R.	Sodii phosphatis efferv.	℥iv	128	

Sig. One dessertspoonful in cold water one hour before breakfast, and increase the dose if necessary to produce laxative effect.

R.	Zinci oxidi	ʒiss	6	
	Acidi carbolici	m. xxx	2	
	Aquæ calcis	℥ii	64	
	Aquæ destil.	℥iii	96	

M. Sig. Apply locally. —*Wolff: Jour. de Med. de Paris.*

Baldness.

R.	Tinct. cantharidis	ʒiss	6	
	Tinct. capsici	gtt. xx	1	33
	Glycerin	ʒss	2	
	Aq. cologne	℥i	32	

M. Sig. Apply locally. —*Cycloped. Med. and Surg.*

Galactorrhea.

R.	Ung. belladonnæ			
	Lanolini, āā	℥iss	48	

M. Sig. Apply locally twice daily.

—*Cycloped. Med. and Surg.*

Chilblains.

R.	Spts. chloroformi	ʒii	8	
	Lin. belladonnæ	℥ss	16	
	Tinct. benzoini comp.	ʒii	8	
	Lin. saponis	℥iii	96	

M. Sig. To be applied on lint, but not to be rubbed in.—*Ex.*

Lithemia.

The following as a stomachic:

℞.	Sodii bicarbonatis	gr. xv	1	
	Spts. ammoniæ arom.	m. x		66
	Infusi gentianæ comp, q. s. ad	℥i	32	

M. Sig. At one dose, three times a day five minutes before meals.

Or the following as alterative and tonic:

℞.	Liquoris potassii arsenitis	m. iii		18
	Tinct. nucis vomicæ	m. v		33
	Ammonii carbonatis	gr. iv		25
	Spts. chloroformi	m. viii		5
	Infusi quassiæ, q. s. ad	℥i	32	

M. Sig. At one dose three times a day after each meal.

—*Bruce: Treat. in Pract. Med.*

Discharge from the Ear with Deafness.

℞.	Olei verbasci (mullein)	ʒi	4	
	Pulveris acidi borici	ʒi	4	
	Pilocarpinæ muriatis	gr. iv		25
	Glycerini	ʒi	4	

M. Sig. One drop in the ear three times a day. Syringe out the ear each morning.

—*Remley: Texas Med. News.*

Guaiacol.

A new preparation of guaiacol in treatment of tuberculosis, as used in the Policlinique of Lille, is as follows:

℞.	Guaiacol phosphati	ʒiiss	10	
	Extracti gentianæ, q. s.			

M. Ft. pilulæ No. 100. Sig. Two to six pills after each meal, each pill containing one decigram of guaiacol phosphate.

—*Pacif. Med. Jour.*

Ointment in Varicose Ulcers.

R.	Acidi carbolici	ʒss	2	
	Acidi borici	ʒiiss	10	
	Camphoræ	ʒii	8	
	Icthyolici	ʒv	20	
	Ol. amygdalæ dulcis	ʒiiss	10	
	Unguenti zinci oxidi	℥iiiss	112	

M. Sig. For external use. —*Exchange.*

Dusting Powder for Varicose Ulcers.

R.	Pulv. iodoformi			
	Pulv. salol			
	Busmuthi subnit.			
	Pulv. charcoal			
	Pulv. cinchonæ			
	Pulv. benzoini, āā	ʒii	8	

M. Sig. Use as a dusting powder.

—*Schwarz: Independ. Med.*

Treatment of Typhoid Fever.

R.	Tinct. iodin	m. x		66
	Acidi carbolici	gr. x		66
	Aquæ destil.			
	Syrupi simplicis, āā	℥ii	64	

M. Sig. A teaspoonful in cold water every two hours.

—*Miller: Penn. Med. Journal.*

Cardiac Dropsy in a Child.

℞.	Potassii iodidi	gr. ii		12
	Tinct. scillæ	m. v		33
	Tinct. strophanthi	m. v		33
	Spts. chloroformi	m. v		33
	Aquæ destil, q. s. ad	℥ss	16	

M. Sig. At one dose three times a day, for a child of 8 to 10 years. —*Ashby and Wright: Dis. of Children.*

Nephritis in Children.

R.	Potassii citratis	gr. xv	1	
	Syrupi limonis	m. xx	1	33
	Aquæ, q. s. ad	℥ss	16	

M. Sig. At one dose every four hours for a child of 6 to 10 years. —*Ashby and Wright: Dis. of children.*

Orchitis.

℞.	Morphinæ sulphatis	gr. xvi	1	06
	Hydrarg. oleati	℥ii	64	

M. Sig. Apply twice a day to the indurated part.

—*Marshall.*

Medicolegal.

An Irrelevant Opinion.—The rule in regard to the admissibility of a proffered expert, the Supreme Court of Missouri, in the case of Graney vs. the St. Louis, Iron Mountain & Southern Railway Company, is that the competency of the witness as an expert must be first affirmatively established. He must have special skill in the subject concerning which his opinion is sought to be given. But the opinion of the witness as to his own qualifications, the court declares, is irrelevant, and carries no weight with it. Besides which, the court holds that opinions grounded on mere conjectures or speculation are inadmissible in evidence.

Disorder or Disease.—In his answer, made to a medical examiner, an applicant for life insurance stated that he had not, since childhood, had the disease or disorder of "spitting or raising of blood." But the uncontradicted evidence showed that he had spit blood about a year before the policy was issued. However, it was insisted that, though the insured had spit blood, the spitting was not a "disease or disorder of spitting or raising of blood," as contemplated in tne question submitted to him, because he had spit but once, and that, therefore, it was error to hold that an untruthful answer had been made. Not so, however, thinks the Supreme Court of Pennsylvania. It says, Smith vs. Northwestern Mutual Life Insurance Company, that the answer was not true, although a false answer may have been unintentionally made. The applicant may have really believed that he had not had disease or disorder, but he did have spitting of blood; and although it may not have been at the time a disease, with him, as popularly understood, it was at least a disorder, which has been defined to be want of order, irregularity, or derangement of the animal economy. If there had been order in his system, and no irregularity, there would have been no spitting of blood. It was disorder, if not disease, and, having had either, the answer, which he warranted, and may have believed, to be true, was false; and that falsity, the court holds, invalidated the insurance.

Dying Declarations Taken by a Coroner.—Independently of any statutory authority, the Supreme Court of Rhode Island, holds, in the case of State vs. Jeswell, that a dying declaration, in which the circumstances of the injury received are the subject thereof, taken by a magistrate, is always admissible against the accused, if it is clearly made to appear that the declarant fully believed that his death was imminent at the time of making the declaration. Oral and unsworn declarations of the injured person are also admissible in evidence, if it appears that they were made in view of impending death. Such declarations, the court goes on to say, are admissible as evidence against the accused, not because they constitute an exception to the constitutional right of the defendant to be confronted with the witnesses against him. but because they were admissible at common law, and there is nothing in the constitutional declaration to shut them out. However, the court thinks it pertinent to remark in this connection that, owing to the necessary infirmities of dying declarations, and particularly to the fact that they are made in the absence of the accused, and hence without any opportunity to cross-examine or contradict the makers thereof, the law does not look with favor thereon, and they should be received with great caution, and every reasonable opportunity should be given the defendant to ascertain the facts connected with the transaction. So, while the court could not say, as matter of law, that the declaration in question in this case was not admissible without it, it declares that it would have been better satisfied if the trial court had required the coroner to testify as to the condition of the deceased, how he appeared, what he said, and what was said to him by the coroner, regarding the statement and regarding his condition, and also as to whether the statement was read to the deceased before signing it.

Accounted Physician and Patient.—A physician had been called in consultation by the permission of the attending physician, and had seen the patient four or five times. He was informed of the treatment and of the prescriptions. He gave his opinion on the treatment in the past, and not only advised, but ordered, the treatment of the future. He advised a surgical operation. Under these circumstances the second appellate division of the Supreme Court of New York holds, McCready vs. Staten Island Railroad Company, that the relation of patient and physician existed, so as to render admissible in evidence testimony of the latter relating to the statements made to him by the former as to his then present condition, pain and suffering, as statements made to his physician with a view of treatment. It says that he did not take the patient out of the hands of the attending physician, but such, it adds, is not the function of the consulting physician, as implied in the very term. Furthermore, conceding that the physician was an expert, in that he stated that he expected compensation at a fixed rate per diem, the court holds that this would not change the case, for the question was as to the relation that existed between the witness and the patient at the time the testimony in question was elicited by the witness. It may also be noted, in passing, that there was testimony in this case which, if credited, warranted the finding that the railroad accident involved in the case caused a hernia, and the court says that merely because the finding of the jury to that effect accorded with the views of one set of physicians, and not with those of the other set, it could not test the verdict by weighing the medical testimony or by arraying the physicians; for the jury determined the fact upon the evidence, which included these opinions only to the extent that it believed and valued them.

Liability for Wrongful Location of Pest-House.—City of Henderson vs. Clayton is the title, on its second appearance before the Court of Appeals of Kentucky, of an action brought by the latter-named party to recover damages for the location of a city pest-house within one mile of its corporate limits, by reason of which she and her family took the smallpox. She first sought to recover against the city and the municipal officers jointly. But the court held, on the first appeal, that she could not sue the city and its officers jointly, and on return of the case to the circuit court she elected to prosecute the action against the city alone. After this, a trial was had, resulting in a verdict and judgment against the city for $2.775. From this judgment the city prosecuted the appeal, the decision of which is the present subject of consideration. Now, section 3909 of the Kentucky Statutes provides: "It shall not be lawful to locate or maintain any pest-house or other place intended for the treatment of eruptive diseases, or diseases which are contagious or infectious, within the corporate limits of any incorporated city or town, or within a distance of one mile of the boundary line thereof. Any officer of any city or town, or other person, who shall violate the provisions of this act, or in any wise aid or abet therein, shall be deemed guilty of a misdemeanor, and upon conviction thereof in any court of competent jurisdiction, shall be fined not less than five hundred dollars nor more than one thousand dollars, and be liable in damages to any person injured thereby, and if willfully done, such person or his heirs or representatives may recover punitive damages." It will be observed that, while the statute imposes a duty upon the city, it provides a remedy by action only against the city officers in behalf of the person injured. But the court holds that, as the city was authorized by law to establish and maintain a pest-house, the acts of its officers in establishing and maintaining the pest-house in question were its acts, and it was responsible to the party aggrieved, as well as its agents through whose instrumentality it acted. Moreover, the court says that while it said on the former appeal that a common-law cause of action was stated against the city, it was not meant that the petition stated only a common-law cause of action independent of the statute. It holds the averments sufficient to constitute a cause of action independent of the statute, and also a cause of action, which, according to the common law, arises from the violation of a statute enacted for the protection of the citizens, for, from time immemorial, where a statutory duty for the protection of individuals had been violated, it says, an action at common law might be maintained. So, while the above statute is silent as to a remedy against the municipality, nothing being provided as to the remedy against it for its doing what the statute makes unlawful, the court holds that the common-law rule applies; for the wrong is the act of the city whose orders the municipal officers execute, and as the remedy against the officers might, in many cases, from insolvency and the like, be wholly inadequate, this provision of the statute, nothing to the contrary appearing, the court holds, must be regarded as merely cumulative. Wherefore, the court holds that the City of Henderson was liable for such damages as the party suing sustained by reason of the city's violation of this statute, although the latter does not in terms impose this liability on it. And while the verdict was large, the court holds that it was not so large as to justify it in setting it aside, considering the loathsomeness of the disease, and the anxiety and suffering it must have entailed upon the party suing.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), August 18.

1 *Extrabuccal Feeding. C. A. Ewald.
2. *Migrated Ovarian and Parovarian Tumors. George M. Edebohls.
3 *Posterior Colpoceliotomy for Lesions of the Adnexa and Uterus; its Indication and Technique. Charles G. Cumston.
4 Hematomyelia, with Report of Three Cases. W. F. Becker.

Philadelphia Medical Journal, August 18.

5 *Military Surgery. (Continued.) W. C. Borden.
6 *The Scope and Aim of the Work of the Section of Tropical Diseases. Kenneth MacLeod.
7 *Interrelation of Pathology and Bacteriology. E. E. Klein.
8 *The Teaching of Pharmacology. Walter G. Smith.
9. *Some Problems in Rural Sanitation. John C. Thresh.
10 *Work of the Surgical Section. Howard Marsh.
11 *The Treatment of Wounded at Sea. Belgrave Ninnis.

New York Medical Journal, August 18.

12 *Congenital Dislocation of the Shoulder, with Report of a Case. John L. Porter.
13 *A study of the Action of Gelsemium upon the Nuclei of the Motor Cerebral Nerves. R. H. Whitehead.
14 *The Treatment of the Morphin Habit—Can it be Cured? James H. McBride.
15 *Enterocolitis. William E. Fitch.
16 *On the Use of Suprarenal Extract in Diseases of the Nose and Throat. Seymour Oppenheimer.
17 Some Observations upon the Ocular Symptoms in Locomotor Ataxia. Paul T. Vaughan.
18 *A New Hypnotic. Warren B. Hill.

Boston Medical and Surgical Journal, August 18.

19 *Surgical Pain. G. Ryder.
20 *The Psychic Factor in Disease. Robert W. Greenleaf.

21 A Brief Report of a Case of Cerebral Abscess of Otitic Origin; Operation; Death. George L. Richards.
22 Purgation with Opium. J. W. Wainwright.
23 A Case of Volvulus Complicated by Peritonitis; Operation; Recovery. W. P. Giddings.

Medical News (N. Y.), August 16.

24 *The Treatment of Acute Alcoholism by Large Doses of Digitalis. Henry P. Loomis.
25 *Subsequent Histories of Patients Apparently Cured under Administration of Antitubercle Serum as an Auxiliary to Climatic Treatment. J. Edward Stubbert.
26 *Acute Anterior Poliomyelitis. E. D. Bondurant.
27 *The Treatment of Wounded at Sea. Belgrave Ninnis.
28 *Some Problems in Rural Sanitation. John C. Thresh.
29 *Modern Pathology. E. E. Klein.
30 *Tropical Diseases. Kenneth MacLeod.
31 A Case of Double Vagina and Double Uterus; Four Pregnancies. Herman E. Pearse.

Cincinnati Lancet-Clinic, August 18.

32 *Treatment of Irritable Ulcer or Fissure. Geo. J. Munroe.
33 Introspection. H. H. Spiers.
34 Consideration of Efficacious Productions of Modern Science in the Realms of Analgesia. W. H. Vail.

St. Louis Medical Review, August 18.

35 *Parasitic Origin of Eczema. Prof. Jadassohn.
36 Case of Typhoid Fever and Diphtheria. John Zahorsky.

Medical Age (Detroit), August.

37 *Fractures of the Vertex and Lateral Regions of the Skull, with Report of Cases. Angus McLean.
38 *Position and Phases of the Uterus. Byron Robinson.
39 Arid Regions in the United States for Consumptives. W. Thoroton Parker.

Medical Fortnightly (St. Louis, Mo.), August 10.

40 Surgical Disinfections. Carl E. Black.
41 Diseases of the Stomach. J. M. G. Carter.
42 The Symptomatic Value of Edema of the Thoracic Walls. Dr. Cuffer.

Annals of Gynecology and Pediatry (Boston), August.

43 *Asepsis in Obstetric Practice. James U. Barnhill.
44 *Hematoma of the Vulva and Vagina. A. L. Wright.
45 *Puerperal Eclampsia: Its Cause and Treatment. John E. Sylvester.

Denver Medical Times, August.

46 Address on State Medicine. William P. Munn.

Archives of Pediatrics (N. Y.), August.

47 *Three Cases of Head-Nodding and Head-Rotation in Rachitic Infants. D. J. Milton Miller.
48* Naso-Pharyngeal Disease in Pediatric Practice: A Clinical Study. Francis Huber.
49 Perforation of a Tuberculous Bronchial Lymph Node into the Trachea. Sudden Death. A. Calle.
50 Intussusception in an Infant Four Months Old. Relieved by Injection. Alfred Hand, Jr.

Kansas City Medical Record, August.

51 Appendicitis. G. T. Twyman.
52 Blood Clot with Pachymeningitis Interna; Report of a Case. W. F. Kuhn.
53 Case of Infantile Myxedema or Cretinism. S. Grover Burnett.

The Oklahoma Medical Journal, August.

54 Hypertrophy of the Tonsils. W. T. Salmon.
55* Shall the Physician Divide the Fee with the Surgeon? W. L. Capell.
56 A Unique Case. W. M. Hatfield.

Brooklyn Medical Journal, August.

57 Legal Restraint in the Treatment of Disease. R. C. F. Combes.
58 Pneumonia. J. M. Clayland.
59 Treatment of Pneumonia. Herbert F. Williams.
60 *A Form of Serum Treatment of Pneumonia. Carl E. Elfstrom.
61 Brief Notes on Pneumonia as Treated by Creosotal. Charles F. Stokes.

Richmond Journal of Practice, July.

62 What Constitutes Conservatism in the Treatment of Appendicitis? Hugh M. Taylor.

Medical Bulletin (Philadelphia), August.

63 Polytrichia—Ecthyma—Acne. John V. Shoemaker.
64 Epileptics, and their Criminal Responsibility from a Medicolegal Standpoint. T. G. Stephens.

Journal of Tuberculosis (Asheville, N. C.), July.

65 *The Degenerative Results of Deficient Ventilation. Chas. M. Denison.
66 *The Creosote Treatment and the Use of Drugs in Tuberculosis. Theodore Potter.

Journal of Mental and Nervous Diseases (N. Y.), August.

67 *Autopsy in a Case of Adiposis Dolorosa, with Microscopical Examination. F. X. Dercum.
68 Imperative Ideas in the Sane and their Management. Edward B. Angell.
69 Christian Pseudo-Science and Psychiatry. Smith Baker.
70 Case of Monocular Hysterical Amaurosis in a Girl Eleven Years of Age. C. A. Veasey.
71 On the Use of a New, Safe and Efficient Hypnotic in the Treatment of the Insane; Chloretone. J. Percy Wade.

Medical Summary (Philadelphia), August.

72 Morphin and Atropin. M. G. Price.
73 Acne. George J. Monroe.
74 Another Fad Gone. Ben. H. Brodnax.
75 Morphin and Other Drug Habits. C. E. Patterson.
76 Cholera Morbus. S. A. Buchanan.
77 Calomel or Mercurus Dulcis. Edwin W. Pyle.
78* Dividing Fees. W. L. Capell.
79 Lycopus. Brose S. Horne.
80 Treatment of Diseases of the Eye. Wm. Hooker Vail.

Canadian Practitioner and Review, August.

81 *Is the Anglo-Saxon Race Degenerating? James Russell.
82 *Excision of the Testicle, Vas Deferens, and Vesiculæ Seminales at One Sitting for Tubercular Disease. George A. Peters.
83 *Adenoid Vegetations. J. P. Morton.
84 Two Forms of Puerperal Infection, with Cases. K. C. McIlwraith.

American Journal of Surgery and Gynecology (St. Louis), August.

85 *A Case of Cystic Teratoma Complicated with Hemorrhage. Edw. Hornibrook.
86 Practical Lessons Learned from More than One Thousand Abdominal Sections. Emory Lanphear.
87 Treatment of Retrodisplacement of the Uterus. William Jepson.
88 A Case of Perinephritic Abscess Complicated with Myxedema. C. F. Wahrer.
89 Hydrocele. Lewis Schooler.
90 Appendicitis. Frank E. La Force.
91 Vaginal Menstruation. E. E. Dorr.
92 The Responsibility of the Physician in the Causation of a High Death-Rate in Cancer. D. C. Brockman.

Medical Examiner and Practitioner (N. Y.), August.

93 The Medical Examiner: What He Does and Why He Does It. Geo. W. Wells.
94 A Few Thoughts Regarding Modern Theories and Practice of Medicine. George R. Chitwood.
95 *The Insurance Examiner and Health Resorts. John S. Lankford.
96 *The Heart in Relation to Life Insurance. George Wilkins.

Medical Standard (Chicago), August.

97 Medical Colleges and Universities. I. N. Danforth.
98 Neuroses of the Heart. Albert Abrams.
99 Some Suggestions for the Practitioner. James H. Taylor.
100 The Personal Element in Medical Teaching. Hanau W. Loeb.
101 Secondary Syphilis. Wm. S. Gottheil.
102 Hemorrhoids; Obstinate Constipation. J. Rawson Pennington.
103 Perspectives of Medical Men and Medical Progress During the Nineteenth Century. Alfred S. Burdick.
104 The Development of Medical Education in America. W. F. Church.

Pacific Medical Journal (San Francisco), August.

105 The Management of Contagious Diseases Among Troops. C. P. Wertenbaker.
106 The Bubonic Plague from a Sanitary Standpoint. Chas. F. Craig.
107 What is the Clinical Importance of Albuminuria? H. D'Arcy Power.

Texas Medical News, August.

108 Observations in Foreign Clinics. Joseph Mullen.
109 Abdominal Section for Removal of Uterine Fibroid and Cystic Ovary, with Report of a Case. H. A. Barr.
110 *Summer Diarrhea in Children. J. D. Porter.
111 The Surgeon the Greatest Hero of Them All. Jno. O. Scott.
112 *State Legislation and the Medical Profession. James Hall Bell.
113 Chloretone in Cystitis. E. A. Malseh.

Medical Times (N. Y.), August.

114 Does the Brain Think? H. Gasser.
115 The Influence of the Nervous System on Metabolism. George C. Barton.
116 Tumor of the Superior Parietal Convolution Accurately Localized and Removed by Operation. Charles K. Mills and W. W. Keen.
117 Tumor of the Superior Parietal Lobule Accurately Localized and Removed by Operation with Complete Recovery, Mentally and Physically. Charles K. Mills, W. W. Keen and Wm. G. Spiller.

The Stylus (St. Louis), August.

118 Preventive Medicine. N. E. Winnard.
119 The Sitz Bath. Charles Shattinger.
120 Reflexes from the Pelvic Organs—The Genital Factor in Nervous Diseases of Women. Byron Robinson.
121 La Grippe—Sequela—Respiration 100. Report of Case. J. Wilson.

Medical Times (Philadelphia), August.

122 Medicolegal Responsibility of the Aged and the Premature Senile Considered Mentally, Physically and Morally, Particularly Concerning their Sexual Failings, with Cases Illustrative. (Concluded.) J. J. Caldwell.

AMERICAN.

1. **Extrabuccal Feeding.**—Ewald describes the methods and indications of feeding by other methods than the mouth, the power of the large intestine to take up the nutritive elements; also the effects of subcutaneous injections of nutritive substances, and the methods he uses in both these plans of extrabuccal feeding. He thinks the following combination is the one to be most recommended for dietetic enemas: Two tablespoonfuls (40 grams) of wheat flour are stirred into 150 c.c. of lukewarm water or milk and to this mass one or two eggs and a pinch of salt (3 gm.) are added, and the whole is beaten up with 50 to 100 c.c. of 15 to 20 per cent. glucose solution. The addition of a small amount of alcohol in the form of a glass of claret acts as an analeptic. Such an enema corresponds to 450 calories, of which, to be sure, only a portion fulfill their physiologic destiny. Such a combination may be modified by varying its constituents and adding some peptone preparations, but the more complicated the composition the more difficult is it to recommend and the more probable the production of irritation. He finally mentions the nutritive enema in concentrated form consisting of suppositories of peptonized meat or milk and shows by experiments reported that a fat-free dog can be made to accumulate dog-fat by subcutaneous injections of butter and that it may undergo complete metabolic consumption. Observations on man have shown that the same general principle applies, but the feeding by this method is not to be compared with the nutrient enemata for introducing fat into the system. His conclusions are given as follows: 1. Extrabuccal feeding does not completely replace feeding by mouth, and is not permanently capable of answering the demands of metabolism. In most cases in which this method exclusively is resorted to a state of malnutrition sets in from the outset. An exception to this rule occurs in those cases of gastric fistula in which the operation was necessitated by a benign stricture of the esophagus. 2. For a short time, in weakened individuals whose metabolism is below normal, it may be possible through extrabuccal feeding to increase the nitrogen conversion and even to cause an accumulation of nitrogenous substance and fat. 3. The best results are obtained when it is a question of a temporary replacement of the natural feeding per os, or when extrabuccal feeding is resorted to as an accessory measure to the former. 4. Nutritive enemata are to be preferred to the subcutaneous injection of oil. The applicability of the latter lies rather in isolated cases than as a measure adapted to widespread use in practice.

2. **Migrated Abdominal Tumors.**—Edebohls reports four further cases in addition to the hitherto reported twenty-five or thirty operated on for migrated ovarian or parovarian tumors and tabulates the cases that have been reported.

3. **Posterior Colpoceliotomy.**—The vaginal route for operation in cases of lesion of the adnexa and uterus is advocated by Cumston, who maintains that the abdominal incision should be avoided when possible, and that for all such operations the vaginal should be the preferred route. He reviews the statistics reported by different surgeons and the objections that have been raised. The slowness of the operation is a valid objection in only a small proportion of the cases, and to the objections that the clamps are a serious encumbrance, he says that they should not be employed until the pedicle has formed and the ovaries and tubes are ready to be removed. In all cases that are suitable to this operation, the field is as readily accessible to sight as through the abdominal incision and it has the advantage over the abdominal operation of affording drainage which is advisable since, with that most efficient toilet, some infecting fluid may be left behind. He does not agree that conservative surgery can not be performed by this method or that there is not sufficient space to work. The vagina can be rendered quite as sterile as the abdominal wall, and inasmuch as every operation should be considered in the beginning as experimental, the objection that it is difficult to stop if the condition of affairs is not found to be suited to the method followed fails. He has never seen a case of post-operative enterocele from this method nor heard of a case of intestinal occlusion. If fistulas occur they are in a much better situation than in the abdominal wall. Anterior colpoceliotomy and the lateral colpoceliotomy of Stratz may also be of use in certain cases. He describes the different conditions which he thinks are adapted to this particular operation, such as vaginal fixation, diagnosis of tumors, etc., removal of adnexa, diseases of the tubes, encysted salpingitis, retrouterine hematocele, etc. Extensive adhesions are contraindications to the removal of pathological conditions treated by either this or the abdominal route. A very high position of the adnexa in the pelvis and especially the impossibility of bringing them down low enough to be within reach are positive contraindications for this operation. The same is true of the high position of the uterus. In this method the patient is placed in the lithotomy position, with thighs well flexed, and he also uses the exaggerated Trendelenburg position. The choice of use of ligatures or clamps depends entirely on the preference of the operator; he prefers the latter. He has never seen any advantage in closing the vaginal incision with sutures after the removal of nonsuppurating lesions and rather prefers to insert a wick of gauze which can be removed in three or four days, and within a week or ten days the incision will have been found to be completely closed.

5. **Military Surgery.**—In this installment Borden describes the effects of the small-caliber bullet on the epiphyses of bone and on spongy bone generally. The effects are quite different from those on the harder bony tissues. They are generally clean perforations or groovings, unless the bullet has been distorted by the ricochet, but when the bullet has become deformed its effects will be much more serious. Shrapnel wounds are like those of the old-fashioned bullet of low velocity. The same is true of the old-fashioned revolver wounds. The modern small-caliber pistol will produce effects similar to the small arms of the infantry. Lodged bullets were noticed to be frequent in the Spanish-American, while they are rare in the South African war. The author accounts for this by the condition of the ground on which the fighting was done. In Cuba the battles were fought in the forests and the bullets were interrupted by trees. In South Africa the fighting apparently has been done in the open. As regards the question of removal of lodged bullets, he thinks they should be removed when they are producing dangerous symptoms, when it is possible and when it will not endanger life or invoke more serious trouble than the bullet itself is producing. It should never be removed in the field or field hospital unless aseptic technique is available or the danger that arises from its presence is greater than that from the infection that may arise. Probing for bullets should be entirely abandoned excepting in cases of absolute necessity. The methods of using the X-ray in military practice are discussed and the conclusion reached that it should not be used on the field or in the field hospital as it is not necessary there. The shell wounds are much more serious than those from the small-arms, because of the size and irregularity of their fragments and greater chances of infection. The risks of conservatism in the treatment of such wounds are very great and the judgment of the surgeon will often be severely tested. Wounds from side-arms, etc., present no peculiarities in modern practice. As regards regional injuries, flesh wounds of the head may be considered of minor importance. Wounds of the skull produce a large proportion of the mortality and Dent advises that in every case where the skull is grazed, trephining be practiced for the reason that injury of the brain is almost sure to have occurred. In a certain number of cases, however, the small-caliber bullet penetrates and perforates the skull and the brain with little traumatic disturbance and astonishingly little damage to the individual. This has been one of the greatest surprises since their introduction. The mortality from skull or brain injuries made by the small-caliber bullets in the late Spanish-American war is high. The statistics from the Boer war are not yet available, but it is probable that they will be similar in their results.

6.—See abstract in The Journal, August 18, p. 443.

7.—Ibid., p. 442.

8.—Ibid., p. 443.

9.—Ibid., August 25, p. 510.

10.—Ibid., August 18, p. 442.

11.—Ibid., August 25, p. 510.

12. **Congenital Shoulder Dislocation.**—Porter reports the case of a child four months old, in which a thorough study convinced him that it was a congenital, not a traumatic, case of sub-spinal shoulder dislocation. It was reduced under anesthesia, though there was a tendency to relapse; the head of the bone would not stay in place. He says from his review of the case and the literature that he thinks it is of fundamental importance to determine between traumatic and developmental cases of this lesion, and the pathology of the congenital cases is not sufficiently known to indicate the most promising line of treatment, and that none of the operations that have been done have established a successful method or added much to the knowledge. When the history and measurements prove the case to be developmental and remembering the probable deficiency of development of one or both articular surfaces, early operation before the humeral head has formed itself a new facet under the spine and become itself deformed, offers the best results.

13. **Action of Gelsemium Upon the Motor Nerves.**—The effects of gelsemium on the cells of the motor nuclei of the nerves have been experimentally studied by Whitehead, who concludes as follows: 1. Toxic doses of gelsemium produce chromatolysis of the cells which constitute the nuclei of the motor cerebral nerves. 2. The alterations produced are not specific, but are quite similar to those caused by various other agencies which act injuriously upon motor nerve cells.

14. **The Morphin Habit.**—McBride believes that the sudden withdrawal method of the morphin habit cure is not now practiced, and whether the rapid or slow method of reduction is employed depends on the power of the patient to endure. It is necessary that the patient be completely under control, restricted in his communications and especially from direct intercourse with the rest of the world; otherwise in spite of his desire to be cured, there is a possibility of his obtaining the drug surreptitiously. During rapid reduction he keeps the patient in bed or at least lying down; the amount of each reduction and the length of time intervening varies with the cases. It is possible to shut off large quantities of morphin at once because the system makes very little use of more than a certain amount. The patient should be allowed to recover from the effect of each reduction before the next one is undertaken, especially when the reduction in proportion to the amount last taken, causes suffering; it may sometimes be well to return to the former dose temporarily. The habits of the patient as to taking the drug should be considered, as it makes the matter easier for both him and the physician. To quiet the discomforts during the period of reduction he believes in the use of hot baths, massage once a day and for medicine the bromids are the best, but bromism should never be produced. For tonics and stimulants he prefers quinin, nux vomica, or strychnin, giving the latter in a pill and in small doses. The extract of coca is also helpful. For sleeplessness sometimes all the hypnotics fail, but various ones should be tried. Chloralamid sometimes acts admirably, and sometimes chloral and hyoscyamus produce sleep when nothing else will. When time is not important, a still slower method of reduction is more comfortable for the patient. The quitting of the habit, however, is only a part of the cure; the patient should be placed under environments completely normal which will help him to get it out of his thought, etc., and build up the shattered nervous system. The craving for morphin is often strong for a long time after the drug has been discontinued and the patient should be under control for months or a year before he is allowed to return to his occupation.

15. **Enterocolitis.**—Tannopine is recommended by Fitch as an efficient drug in intestinal disorders. It can be administered with benefit both by the mouth and the rectum and is easily absorbed, is efficient in all forms of enteritis, colitis, and inflammatory intestinal disorders and should be continued in small doses a few days after the bowels appear to be normal. It is completely innocuous and can be given without risk to the smallest infants in doses from 3 to 8 gr. four times daily, and in older children and adults from 7 to 15 gr. It acts by the tannic acid of the compound combining with the albuminous substances, forming albuminates, which causes contraction of the surrounding connective tissues and diminishes reflex activity and sensibility of the muscular tissue. Urotropin the second constituent of this division which takes place in the alkaline and intestinal contents acts as a disinfectant, restoring the integrity of the mucosa and stopping short the process of inflammation.

16. **Suprarenal Extract.**—The use of suprarenal extract in diseases of the nose, pharynx and larynx is discussed by Oppenheimer, who finds that it has two distinct actions: Absolute blanching of the parts followed by almost imperceptible constriction, which increases, however, in some regions, in the nose especially, until the tissues can be contracted down to the osseous structures. It acts only on the mucous surfaces, normal or otherwise, no change being produced in the serous surfaces or unbroken skin. It produces its effects by contracting the arterioles and cavernous sinuses by direct action upon their muscular walls, and its physiologic activity is limited to the area of the membrane brought into direct contact with the drug, differing in this respect from cocain. Its use is mentioned in epistaxis, hay-fever, after operations and in controlling post-operative bleeding. Its action continues in the majority of cases from four to five hours—sometimes even longer. It has no action on the blood itself and does not cause irritation. It is a sedative astringent to mucous membranes in its effects. No vicious habit is liable to be produced, and no special tolerance for the drug is developed; it can be used repeatedly in the same person with the same effects.

18.—See abstract in The Journal of July 7, p. 52.

19. **Surgical Pain.**—Ryder reviews the whole subject of surgical, and especially abdominal, pain, its signs as shown in gesture and attitude, and the referred pains of various kinds. He advances the idea that the solar ganglion is practically an abdominal brain. In his classification of pain he follows Lomer, of Hamburg, recognizing traumatic pain, contractile pain as shown in visceral lesions, inflammatory pain, and hysterical pain of the abdomen. The significance of abdominal pain is hard to determine in every case. Its location is one of the valuable points settled when elicited by pressure. Rigidity of the muscular wall is the next important aid. The causes of pain from obstruction, strangulation, volvulus, stricture, fecal accumulation, tumors, peritonitis, appendicitis, pelvic disorder, etc., are all noticed in detail with their significance and importance.

20. **The Psychic Factor in Disease.**—Greenleaf illustrates certain propositions which are given as follows: 1. That some cases of illness are simply neuroses without appreciable pathologic lesions. 2. That causes capable of producing such neuroses may act while disease is present and should be guarded against. 3. Purely psychic causes, as shock, grief, and the like, may pave the way for, if not directly cause, profound pathologic disturbance. 4. Attention to the psychic is capable under some conditions of so turning the scale to health that it may arrest, even perhaps cure, otherwise fatal pathologic conditions. 5. Attention to the psychic should be considered a routine measure in the treatment of delirium from toxic causes, as alcohol, belladonna, ether, and the like. 6. Attention to the psychic should also be considered a routine measure in the treatment and in the prevention of delirium in febrile states, as of typhoid. 7. Nurses should be able to enter into psychic relations with their patients; otherwise the value of their services is much lessened and may be harmful. He thinks the value of psychic treatment is not sufficiently appreciated and considers it especially important to nurses. Nurses graduated from the smaller hospitals are better in this respect than those who have had their training in the larger institutions as they are less slaves to routine and have had more special and individual care of patients. Another point which he makes is that the importance of the psychic element in the treatment is emphasized by the modern crazes of "christian science," mental healing, and homeopathy.

24. **Alcoholism.**—This article is the same as that published in The Journal of August 11, with the exception of the cases.

25. **Antitubercle Serum.**—Stubbert reports the subsequent histories of nine cases that have been treated with antitubercle serum in connection with climatic and hygienic measures. He refers to a former paper in regard to this subject, in which 39 per cent. were reported as apparently cured. Those whose histories have been traced are divided into two classes, representing those who have been discharged three and two years respectively. Four have been away three years and in all there seems to be an arrested or very much improved condition if not an absolute cure. In one there remains a slight dulness at the right apex as at the time of discharge. The five that have been away two years are all in excellent condition, and he reports in addition an apparent cure in an advanced case. In addition to these, nine cases are reported of those who have been away for one year at least and have spent at least one winter in their old environment and three other apparently arrested cases. As a résumé, he says that of those discharged apparently cured three years ago, 11 per cent. have remained cured; two years ago, 14 per cent. have remained cured; and 69 per cent. of those who have spent at least one winter in their old environment. He concludes that instead of the hoped-for specific we have in antitubercle serum simply another auxiliary to climate, hygiene and dietetic treatment. The results of two years' study of the subject would seem to indicate: 1. Further confirmation of the conclusions of the preliminary paper in 1898; the use of serum does not tax the functions of digestion or produce gastritis, diarrhea, or loss of appetite; in cases in which bacilli have disappeared, they have been lost while the sputa were still present, whereas in creosote cases the last specimens of sputa still contain bacilli. 2. Immunity seems to be established in apparently cured cases, capable of protecting the patient effectually in his old environment at least two years, and perhaps for a longer period. 3. The fact that cases for treatment must be selected, even among those in the incipient stage, and that it is less effective in low altitudes and city environment, conclusively ranks antitubercle serum among the auxiliaries to climatic treatment of phthisis, rather than as a specific.

26. **Infantile Paralysis.**—Bondurant reviews the history of acute anterior poliomyelitis as it occurs in children, and the difficulties of its diagnosis, and maintains that it is possible by treatment to prevent the contractures, deformities and extreme incapacity so common in the ordinary cases. He thinks after the fever has subsided that massage, tonics, and electricity can all be used, and surgical procedures in some cases. No case of infantile spinal paralysis, however unfavorable, should be regarded as beyond the reach of treatment.

27.—See also ¶ 11, above.

28.—Ibid., ¶ 9.

29.—Ibid., ¶ 7.

30.—Ibid., ¶ 6.

32. **Fissure of the Rectum.**—Patients suffering from rectal fissure usually let it go until it becomes chronic and makes more trouble than would otherwise have been the case. Monroe has never known a case to get well without treatment of some kind. Probably the first thing to do in its treatment is to relieve the constipation, regulate the diet, prohibit the use of alcohol and highly seasoned food, pies and cakes. Tea and coffee are objectionable; the use of laxatives such as compound licorice powder at night two or three times a week, and enemas is advised. The patient should drink plenty of water. He gives frequent enemas and recommends the use of at least two or three quarts of water at a time. For local complications he suggests, after cleansing, peroxid of hydrogen, and later applications of nitrate of silver, 10 gr. to the ounce of water. Five or six applications ought to cure. Next to this he prefers carbolic acid, with one to three parts of olive oil. He has had good results from ichthyol. Before using some of these preparations, it is well to apply a 4 per cent. solution of cocain muriate. In irritable ulcer of long standing, no local applications are used and the preferred of all operations is divulsion with slight cutting through the fissure. The patient should be given chloroform, placed on the left side on the operating-table, and the index fingers should be introduced, back to back, slowly separated and turned in every direction; the bowel should be pinched between the finger and thumb until it becomes soft and patulous. This will take from five to ten minutes and should be done with great care so as not to tear the muscle or mucous membrane. When sufficiently dilated, he takes the knife and draws it through the base of the fissure, frequently in two places, the cut not to be more than one-twelfth of an inch deep which is sufficient to separate the superficial nerves. This converts a chronic into an acute sore. Then the bowels should be kept quiet for two or three days and the wound dressed as a cut ulcer, washing it every day with boracic acid and water or Packer's tar soap and water. If a laxative is needed, give a seidlitz powder or a teaspoonful of sodium phosphate in a glass of hot water. He says that in delayed healing, a few applications of nitrate of silver, 10 gr. to the ounce of water, carbolic acid one to three of olive oil, or balsam of Peru should be sufficient.

35. **Parasitic Origin of Eczema.**—After noticing the difficulties of defining eczema and the term "eczematization" invented by Besnier, Jadassohn says the questions regarding the parasitic origin of the disease are summed up in three questions, in substance as follows: 1. Are there eczemas properly so-called in addition to the morbid processes mentioned? 2. If similar processes not caused by pyogenic infection exist, are they of parasitic origin? 3. Are the microbes in eczematous skin, factors of this process? The author himself does not deny that certain varieties of eczema may develop without the action of the pyogenic micro-organisms. There are lesions in which, by the methods heretofore in use, one can not discover any micro-organisms to which can be attributed any parasitic relation. In these cases we must admit local and general predispositions not readily explained as etiologic factors. In these processes, as in many other diseases of the skin, we can very often determine the micro-organism invasion—staphylococcus and streptococcus. The results of these are dependent on the degree of virulence of the microbe, the local and general predisposition, and upon the nature of the original processes. A long series of very different reactions of the skin results, from slight irritation up to the grave and chronic eczema. These so-called infections can be produced idiopathically without the pre-existence of recognizable morbid processes. Their development and degree depend equally upon the nature of the soil—ordinary primary infections of the skin.

37. **Fracture of Cranium.**—The points made by McLean are: That it is injury to the contents of the cranium, not to the bones, that must be considered in these cases. There may be contusion of the brain without fracture of the skull. There may also be intracranial hemorrhage in simple non-depressed fracture of the cranium. Severe intracranial lesions may occur with very slight external symptoms.

38. **The Position of the Uterus.**—Robinson claims that in the typical normal position of the uterus with the subject in the erect attitude, the uterus should lie in the middle of the small pelvis so that the external os should be about on a level with the inferior border of the symphysis pubis and on a level with the plane of the ischial spines. The axis of the cervix lies in the axis of the pelvic curve and the anteflexion angle is about 80 degrees, with bladder and rectum empty or slightly filled.

43. **Asepsis in Obstetrics.**—First reviewing the mortality from puerperal sepsis and showing that there has been a vast improvement in this respect, Barnhill insists on the need of still further attention to the subject. The dangers of infection are far more to the puerperæ than to those who undergo the great majority of operations in general surgery. In the puerperal condition the absorptive surfaces for diseased germs are far more extensive, the glandular structures more active. The nervous system is more unstrung and the resisting power generally lessened. The avenues of infection are generally through unclean hands, unsterilized instruments, bed-dressings and unsanitary surroundings. Every parturition is essentially a surgical procedure, and until this is recognized

we will continue to have a high mortality. The physician should impress upon his patients the advisability of consulting him early so that he may see that the necessary preparations are made. Just as much care should be taken as if a surgical operation were in view. The hands should be thoroughly washed for several minutes in soap—preferably the green soap—and water; the nail brush should be used, the hands rinsed in alcohol to remove the fatty substances, then in a 2 per cent. solution of permanganate of potash, decolorized in a solution of oxalic acid, immersed in a 1 to 500 solution of mercury bichlorid and finally rinsed in sterilized water. Examinations should be made with the greatest care and not too frequently. All abrasions, etc., should be prevented if possible, and lacerations should be immediately repaired. The average physician shrinks from a surgical operation, fearing more from sepsis than from anything else, yet he does not hesitate to attend cases of confinement with only the most meager preparation. This is a defect which he hopes will be avoided in the future. He mentions some of the unsanitary conditions in country practice and the need of insisting on the greatest caution and care in this direction.

44. **Hematoma of Vulva and Vagina.**—Wright believes that this accident is of very rare occurrence, more so in country practice than in the city districts. He suggests that the influence of syhpillis upon the blood-vessels may have something to do with its origin. A disparity in the diameters of the pelvis and the child's head may also act as a cause. Veins are more frequently ruptured than the arteries, but he doubts that varicose veins are necessarily a preceding cause of hematoma. The dangers of the condition are considerable and may be greatly increased by hemorrhage, especially dangerous if it is internal. The danger is very great if it appears in the vagina in advance of the head during parturition. Delivery should be effected promptly regardless of complications. The forceps is to be preferred to turning, owing to the pressure it may have upon the torn blood-vessels. Early delivery also relieves the local pressure stasis that increases the hemorrhage. The after-treatment must be to look after the patient's general health and restore the loss from the bleeding.

45. **Puerperal Eclampsia.**—The obscurity in regard to puerperal eclampsia, its origin, prognosis, etc., are noticed by Sylvester. He considers the various theories of its causation and seems to favor the idea of the toxic action from deficient elimination, but whether it is entirely due to the kidneys and not any part to the other organs is particularly questioned. He suggests that eclamptic coma may be due to excessive amount of acetone which can be demonstrated in many such cases, and believes that probably not one but several substances combined may be the primary cause of the symptoms. In the treatment it is necessary first to stop the convulsions. In plethoric persons blood-letting should be resorted to sufficiently to reduce arterial tension, while if necessary it might be carried to the extreme and the effects mitigated by the subdermal use of large quantities of normal salt solution. Chloral per rectum is highly recommended, and some advocate the hypodermic use of morphin, the results of which are said by Veit to be unequaled by any other method. The most influence for good, whether medication is used or not, would be in emptying the uterus promptly at whatever stage the convulsions occur. Artificial delivery should be resorted to when the symptoms do not improve under medical and dietary treatment.

47. **Spasmus Nutans.**—Miller reports three cases of this rare disease of which he finds only eighty-four cases reported in the literature. He discusses its symptoms and causes and concludes that it presents a strikingly defined clinical picture which ought not be confounded with the many other conditions associated with it. It can not be a serious organic affection as it has a brief and favorable course and lacks the general deterioration accompanying such, which takes it out of that category. He refers to Raudnitz' theory that it is of visual origin and analogous to miner's nystagmus, though he admits that this explanation will not apply to all cases. The nature of the affection is still very obscure and can not be explained by any one theory. He does not think the administration of bromid is so essential as are attention to the diet and hygiene and the use of drugs that will favor the general health and relieve any constitutional vice or temporary illness that may be present.

48. **Nasopharyngeal Disease.**—Huber discusses the subject of nasopharyngeal disease as related to pediatric practice and sums up that the removal of lymphoid hypertrophies with cure of the associated nasopharyngeal catarrh and regained permeability of the nose will make it possible to avoid many local pathologic changes, will improve the general health and mental faculties, the speech and hearing and the functions of taste and smell; reflex neuroses of various kinds will be modified or cured, and nasal and supposed pulmonary hemorrhages will disappear. Thoracic deformity will be relieved or cured. The tendency to acute rhinitis, laryngitis, pharyngitis and pneumonia is reduced. The dangers attending large cervical lymph-nodes will be avoided. Various infectious diseases are less likely to occur as well as meningeal infection from the nasopharynx, and ear complications in general.

55.—See also title 78.

60. **Serum Treatment of Pneumonia.**—Elfstrom reports experiments with a method of serum treatment suggested by C. and F. Klemperer. He applied two leeches to one case of croupous pneumonia and in the following eight cases only one leech on the forearm and after squeezing the blood out of the leech, he diluted it with from three to five parts of normal salt solution and heated it to a temperature of 60 C. for two hours. The mixture was then decanted and injected subcutaneously. In the majority of his patients the temperature fell to nearly normal. The patients seemed to be able to leave the sick bed earlier than he could have expected under other treatment. In one case the patient died without a lowering of temperature, and in still another patient, reaction was absent. The quantity of treated blood did not seem to have a deciding effect, but later in the disease a more decided action appears to follow.

65. This article appeared in The Journal of July 14, p. 79.

66. **Creosote.**—The use of creosote in phthisis is discussed by Potter, who, while he does not give up entirely the theory of the bactericidal effect of the drug, favors the idea that it acts more as a sort of tonic and increases the activity of protoplasm. Clinical experience at any rate shows us that the judicious administration of the drug is frequently followed by an improvement in appetite and digestion and better gastrointestinal action. With these come improved nutrition, improvement in strength, retardation of local disease, and diminution of the secondary symptoms resulting therefrom. He gives it in smaller does than was formerly the case and does not find that guaiacol is a full equivalent. He has yet to see a case of pulmonary tuberculosis markedly benefited with creosote treatment without alimentary improvement. As long as the appetite and digestion remain good it may be proper to increase the creosote and continue the large doses for some time. Perhaps the best plan is that of Anders, to run up to pretty good-sized doses and then drop down to smaller ones again. He has not found it specially valuable in advanced septic stages of tuberculosis, and patients suffering from abuse of alcohol seldom bear it well. Antecedent or coincident diseases that seriously impair the digestive organs often, for that reason, interfere and contraindicate the use of creosote. We must, therefore, be careful not to impose on the impaired organs, and functions already weakened. To do no harm is one of the first rules of therapeutics.

67. **Adiposis Dolorosa.**—Dercum reports the autopsy of the typical original case of adiposis dolorosa reported by him in 1888. The clinical history is repeated in brief and the autopsy findings detailed. The most striking peculiarity was the small size of the thyroid gland, and microscopical examination proved it to be abnormal beyond doubt. The changes observed were indicative partly of hypertrophy, with numerous small acini which appeared to be in process of development. He thinks the findings are rather surprising and hard to explain, but it may not be impossible that we have here a hypertrophy following general atrophy of the gland. It is also probable that there were other factors, viz., qualitative

changes of function that played a part in the peculiar symptoms of this patient. He suggests as not inconceivable that, as a result of deranged thyroid action, some substance was thrown into the circulation which prevented proper oxidization of the hydrocarbons, and also acted as a cause of neuritis and nerve degeneration. There are some features, like diminished sweating, slowness of speech and mental irritability which suggest that other thyroid disease, myxedema. It is worth noting also that in two previous autopsies of adiposis dolorosa, which were not microscopically examined, both thyroid glands gave unmistakable evidence of disease.

78. See also title 55.

81. **Is the Anglo-Saxon Race Degenerating?**—Russell's article is a general discussion of the regressive tendencies of modern civilization. He thinks there are disintegrating processes at work which if carried on will destroy the moral and intellectual stamina of the race, but he has faith in the Anglo-Saxon stock and believes that there will be no such consequences.

82. **Excision of the Testicles.**—In the opinion of Peters, every case of advanced tubercular testicle should be dealt with by operation and if the disease has spread up the vas deferens and reached the vesiculæ seminales the whole tract should be ablated, preferably by the Roux operation. It should be the aim of the surgeon to remove every particle of the disease as thoroughly as in a case of carcinoma, though failure to do so is less disastrous since the resistance of the tissues to tuberculosis is very great. The patient should be placed under the same hygienic conditions as are favorable to recovery from tuberculosis in other parts of the body.

83. **Adenoids.**—Morton believes in the reflex effects of adenoids even in cases where hypertrophy is slight and mouth-breathing only occasionally present. He thinks operation should be performed in every case because of the evil effects of mouth-breathing, their consequences in the production in ear diseases, their making the children more liable to infectious diseases and keeping up a chronic catarrhal condition leading toward atrophic states in later years.

85. See abstract in The Journal, xxxiv, p. 233.

95. **The Insurance Examiner and Health Resorts.**—In no part of his professional work is the physician put to a severer test than in examining for insurance and he is, if competent, specially valuable to the company in health-resorts where the difficulties are far greater and the responsibility heavier than in other situations. Lankford notices disorders met with in these places, the necessity of extra careful examination for tuberculosis, nephritis, etc., and the other diseases like rheumatism, for example, which often seem to be retarded or suppressed in these localities. A special difficulty is the transient character of the population.

96. **The Heart in Life Insurance.**—Under this general heading Wilkins considers the sounds, rhythm, muscular condition, and diseases that may exist without evidence in the physical examinations. The most frequent of all cardiac symptoms is that of mitral regurgitant murmurs. Formerly this was considered a serious matter, but now we know that it may be comparatively harmless. If it occurs in a young man, as yet not completely developed, the chances are in favor of his reaching the expectation of life so far as the heart is concerned. When it is the result of disease past middle life there is greater danger. A quiet, easy life, with plenty of fresh air and the non-use of alcohol or tobacco are favorable as compared with an active worrying condition or dissipation. Aortic regurgitant murmurs are far more serious than is aortic obstruction. It is the cause of many of the cases of sudden death and consequently must be avoided by the insurance companies. In case of heart disease we must look for the causes of death in other members of the family. It is possible for organic murmurs to disappear temporarily or permanently and this should be remembered in the examination. Accentuation of the aortic second sound is to be regarded as of grave significance, especially when observed in a patient past middle life. Disturbances of the rhythm are comparatively frequent and may be purely functional, but may arise from some obscure and serious organic disturbance. He therefore thinks it is well to give the company the benefit of the doubt and throw out the risk. Intermittent pulse is not inconsistent with perfect health. Hypertrophy of the muscular substance of the heart without valvular disease is more frequent than is generally supposed. In young people without a change in the aortic sounds, it may or may not be of grave significance, but in advanced life it should be carefully considered. Of those diseased states in which nothing is revealed by physical examination, the best marked is angina pectoris, and where there is the least suspicion of this disorder the medical examiner should postpone accepting the risk. Cases of mitral stenosis or double valvular murmur he considers also too hazardous, as are likewise aortic cases even in the young. When functional murmurs appear, he thinks it advisable to postpone the acceptance of the risk for a few months unless the applicant be willing to accept a loaded policy. When it is associated with anemia he would certainly advise postponing, when due to other causes, a very slight addition to the rate will cover the extra risk. The occupation of the applicant has an important bearing. Excessive or increased blood-pressure and any occupation requiring it, with symptoms of diseased valves, should exclude life insurance ordinarily, but with a sedentary life, provided the applicant is not a speculator, who is to be dreaded as much as a hard-working man, the case is different. The clerk with the small income, which satisfies all his wants, although he may have a leaky heart, may easily reach his expectation so far as life insurance is concerned.

110. **Summer Diarrhea in Children.**—Porter believes summer diarrhea in children to be the same as cholera morbus in the adult. For the treatment in many cases simple stoppage of food will be sufficient; for prophylaxis, cleanliness. Diluting the food with water is indicated as the weather grows warmer, the system does not need so much in summer as in winter. When the attack is serious all food should be stopped from twelve to twenty-four hours and as long as vomiting continues. Use plenty of sterilized water and in a few hours give rice, barley and albumin water. If the vomiting has ceased, the child may be nursed for two to three minutes at intervals of not over four to six hours and have plenty of egg water or plain boiled water between times. For artificially fed children he would have all food sterilized and well diluted, and he says he has had as good success with condensed milk as with anything else except cow's milk, and sometimes better even than that. For the mechanical treatment he would advise flushing of the colon, especially if the fever is high, repeated every three to six hours, always using cold sterilized water; not more than one foot of pressure should be used, as there might be danger of rupture of the bowel, and it is easier to retain. He always begins treatment with laxatives; calomel in small doses is best, combined with sodium and salol to begin with until there is the characteristic dark stools, then large doses of bismuth subnitrate, pepsin and zinc sulphocarbolate, either in powder or solution, preferably the latter. It is not a bad idea to continue small doses of calomel, 1/20 gr. every four hours for a few days. Never use opium when it can be avoided, only in extreme nervousness or to protect the child from its mother, who is sometimes liable to hinder the treatment. In cases that have become chronic his ideal is zinc sulphocarbolate, or better, copper arsenite. He gives this, 1/25 gr., in two ounces of water, in teaspoonful doses every two hours, and finds it especially useful in these cases. Never begin treatment with astringents; use stimulants when indicated.

112. **State Legislation and Medicine.**—This article is of interest as showing up the state legislation of Texas. It gives an account of the New York Medical College of San Antonio, which graduated a negro field-hand in seventeen days, and where the professor of diseases of children is the 6-year-old child of the proprietor. The legislation which charters such an institution and makes diplomas from such legally chartered establishments the only requisites to practice, is shown up. He suggests concentrated action of the profession to bring about a better condition of things. The article was prepared before the charter of the New York Medical College was revoked.

FOREIGN.

British Medical Journal, August 11.

Prevention of Insanity. R. Percy Smith.—The increase of insanity is first noted by Smith, and the fact that in spite of all the attempts to show that it is due to the accumulation of senile cases and to a diminished death-rate, yet we have to admit that the condition is increasing. His statistics have already been noted in the report of the meeting of the British Medical Association (The Journal, xxxv, p. 511). He then calls attention to three items in particular, viz., propagation of the race by those of insane inheritance or those who have suffered from insanity. The question whether persons with marked heredity of insanity should marry is treated and the fact that in many cases family interests, ignorance, etc., force such marriages is duly noted. He thinks it is the duty of the medical profession to give sound advice to those who consult them in the matter, and not to lose sight of the fact that heredity is the largest cause of insanity, as shown by statistics. While there may be a doubt as to the marriage of persons of insane heredity, there can be no question as to the impropriety of it in cases where persons have themselves suffered from an attack. These marriages should be absolutely forbidden, and yet cases occur where persons have sinned against knowledge, as, for instance, physicians marrying their patients, etc. The question whether it is right for persons to beget and have children after having had an attack of insanity is also mentioned. The new civil code in Germany gives three years continuing insanity as ground for a divorce, but he questions whether this would be allowed in Great Britain, though he thinks, in spite of the objections to such an enactment, it would aid in putting an end to the reproduction of bad stock. It might be thought superfluous to comment on the iniquity of congenital imbeciles being allowed to marry were it not that this has occurred in many cases where large property interests were involved. Again marriage ought not to be permitted in case of chronic epileptics of any type. [The statement here made is a sort of reflection on the ruling families of the monarchical countries of Europe, and might bring the author under the penalty of *lèse majesté* in some of them.] The influence of alcohol on the production of insanity is shown by the author to be of importance, and similarly the relation of syphilis to general paresis. He believes that the latter should be considered a preventable disease and that if syphilis were controlled it would lead, to a great extent, to its disappearance.

The Lancet, August 11.

Structural Lesions in Urethro-Stenosis. Reginald Harrison.—Harrison's article on "The Remote Results of Structural Lesions—Interventions Sanglantes—in Urethro-Stenosis" ends with the following: The conclusions arrived at from the examination of structural lesions used in the treatment of urethral strictures may be summed up as follows: 1. That there is evidence to show that in peri-urethral strictures of the deep urethra the effects of divulsion as practiced in Perréve's and Holt's operations may be limited to rupturing the dense stricture bands in the submucosa of the urethra, while the mucous membrane itself escapes any serious injury or laceration and is merely restored by stretching to its original dimensions. Here a permanent cure may result. On the other hand where the mucous membrane is in itself the seat of stricture and forms part of the latter structurally, it is necessarily torn or lacerated by the process of sudden divulsion, and the pathologic condition consequently becomes assimilated with that of traumatisms of the urethra from external violence accidentally applied, which are followed by strictures of the most contractile and recurrent form. 2. That there is evidence to indicate that where the entire thickness of the stricture can be included within an incision of moderate dimensions made by an internal urethrotome the normal caliber of the urethra may be completely and permanently restored. Where this happens it may be concluded that all the fibers of contraction constituting the stricture were divided at the time of operation. And further that the converse is equally true. There is also evidence to show that the absence of recurrence under such circumstances is not necessarily dependent on the use of a bougie, though the latter is a precautionary measure which should invariably be advised. 3. That in the case of multiple stricture or strictures of the deep urethra of considerable dimensions either in their length or thickness treated by an internal incision of corresponding proportion, apart from other considerations, the tendency to recontraction and recurrence with an additional amount of cicatricial material, is frequent; the latter being probably due to the circumstances under which healing takes place in wounds of these dimensions so situated. 4. That lesions of the urethra demonstrate in various ways the poisonous effects that unprotected and unconfined urine is capable of exercising both on the body generally and on the tissues in contact with it, and that the liability to such effects is greatly diminished where drainage and irrigation render these conditions of the urine unlikely. 5. That in the case of recurring stricture previously treated by incision and in primary strictures of such length or extent as to require an internal section of corresponding size or as to which there might be doubt as to whether it would be safely possible so to include them, for the purpose of the operation and its results such wounds should be made with due regard to other surgical principles in addition to the one pertaining to the division of the contraction. 6. That there is direct evidence to show that the tendency to recontraction and recurrence of stricture after internal urethrotomy is largely diminished by the concurrent employment of systematic and efficient urine and wound drainage such as the combination of external urethrotomy, or perineal puncture affords.

The Indications of Thyrotomy. Felix Semon.—The indications of thyrotomy according to Semon are: 1. Foreign bodies in the larynx. 2. Injuries to the larynx. 3. Laryngocele. 4. Stenosis of the larynx. Acute laryngeal perichondritis. 6. Laryngeal tuberculosis. 7. Scleroma of the larynx. 8. New growths in the larynx: (*a*) Benign growths, and (*b*) malignant. In the case of foreign body there can be little divergence of opinion as to the propriety of first trying every possible method where practicable of removing it by the natural route, but he cautions that under no circumstances is it advisable to allow the foreign body to remain impacted in the larynx, no matter whether it produces serious symptoms or not. He has seen and recorded cases where such a course produced very serious consequences and, considering that thyrotomy is a comparatively safe operation in healthy persons, we should not hesitate to have recourse to it if any attempts at intralaryngeal removal failed. If the case were not suitable for this method we should not hesitate to perform thyrotomy with or without preliminary tracheotomy, according to the special needs of the case. In the case of severe fracture of the larynx by bullet-wounds, etc., the possibilities of thyrotomy to set matters right can not be questioned. In case of laryngocele where symptoms are threatening, thyrotomy followed by extirpation of the cysts would be indicated. In stenosis he thinks it is likely that this will be performed more frequently than it has been in the past. The recurrence of stenosis after intubation is a contingency which he thinks gives this operation a future, and particularly in cases of hypertrophic stenosis with enormous fibroid thickenings of the mucous membrane, excellent results may be obtained. The indications for thyrotomy in acute laryngeal perichondritis are likely to remain rare in spite of Schüller's recommendations; occasionally, however, it may be of use. In laryngeal tuberculosis the indications are that the operation is optional in circumscript lesions and preferable in patients whose general state of nutrition is good even if their lungs should be considerably affected. It is not desirable under opposite conditions. There is one serious drawback and that is the danger of tubercular infection of the wound. In scleroma of the larynx, thyrotomy, occasionally to be followed by methodical dilation, appears to be a sovereign operation. As regards new growths, especially benign ones, no external operation should be performed until surgery has unsuccessfully endeavored to remove it by the natural way. Still he thinks that one ought not to be too dogmatic and in individual cases no generally accepted canon should be the rule. In cases of multiple papillomata in children attempts at intralaryngeal removal ought to precede external operation, but unfortunately cases will occur where the conditions are unfavorable. Personally, he would in these cases be in favor of prophylactic tracheotomy, the child wearing its tube until it has grown up sufficiently to assist intelligently in intralaryngeal removal of the growths. Here we should remember the chance of losing the tube and death occurring. With malignant growths we have the most frequent and important causes of thyrotomy, and its results nowadays in really suitable cases are of more than encouraging nature. It is of the utmost importance that the diagnosis should be made in time. In those cases where the disease is still limited without infiltration of the glands, thyrotomy will be found to suffice not only for the radical extirpation of the disease but also for the prevention of recurrence. Semon claims to have succeeded in lastingly curing 83 per cent. of all the patients on whom he has operated. In very advanced cases, of course, no operation may be necessary and in some complete laryngectomy may be required.

A New Disease with a Specific Urinary Reaction. N. F. Surveyer.—The author describes the case of a young Parsee woman who suffered from a vesicular eruption and conjunctivitis, with febrile symptoms following an injury. He examined the urine and on adding a drop of strong caustic soda solution to the centrifugalized deposit, with a view to testing for pus, he found that the urine assumed a bright pinkish-purple in color. The precipitate was scarcely, if at all, soluble in any of the solvents tried. The reaction could be obtained by adding any other alkali and was obtained after more than five months. Heat did not destroy the reaction. On recurrence of the attack there was pain in the ear, but the eye was less affected than at the first attack.

He has not found this modified reaction in any other case, and since the patient has recovered, did not see it any further. He has never seen anything like it in 195 cases of urine analysis, but if carmine is added in due amount to healthy urine the reaction is at once obtained; this is soon destroyed by hydrogen peroxid. Tinc. chlorof. c., which contains carmine, had been given, and to be sure that the carmine had nothing to do with the reaction he availed himself of the opportunity afforded by the second attack when the drug was withheld, yet there was no difference. The blood was examined for the reaction with negative results. As regards the nature of the disease he abstains from making any observations at the present time.

Annales de Dermatologie (Paris), July.

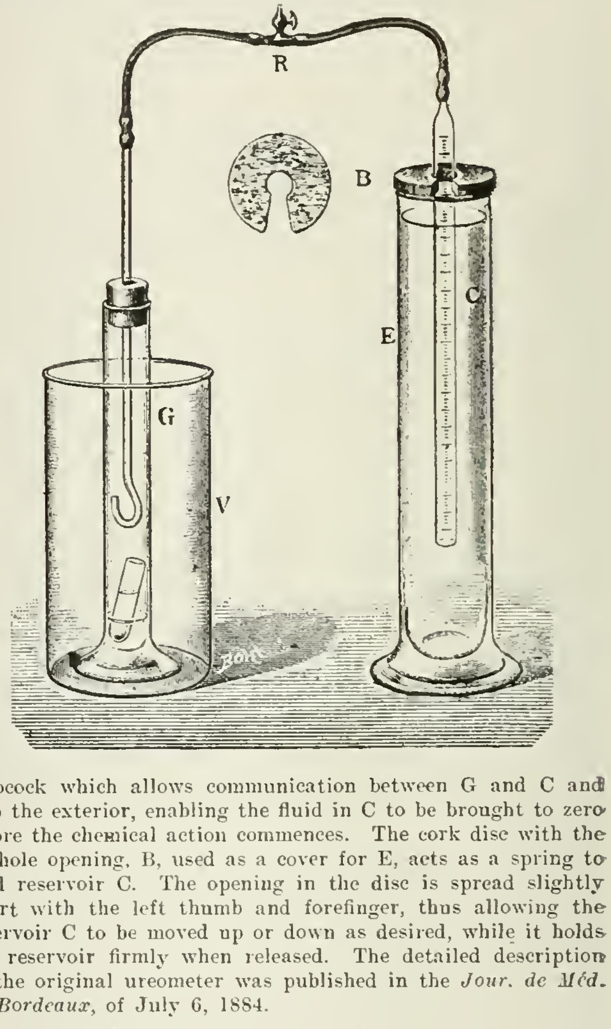
Improved Culture-Medium for Gonococcus. M. Sée.—Tubes of gelose are melted and cooled to 40 C. Half the volume of blood—drawn directly from the artery of a rabbit—is added to the gelose, and the tubes cooled slanting. The gonococcus develops on this medium more rapidly and luxuriantly than on any other. Characteristic colonies are evident in the first twenty-four hours, and retain their vitality for several weeks if not allowed to dry out. Bezançon and Griffon, who first described this method, have reinoculated cultures six months old.

Alloxuric Origin of Eczema. P. Tommasoli.—Hematopathology has discovered one constant element in every manifestation of eczema under all circumstances and in the most diverse subjects. This connecting link is uricemia. The alloxuric bodies—and uric acid in particular—are the cause of the affection, but they are not the only factors. Uric acid produces the disease, eczema; the other causes determine the variety. A communication from P. Gaston in the same issue summarizes the conclusions of seven years' study of the etiology of eczema as follows: Eczema has no existence as an entity, as a type of a skin disease. It is the expression of a disturbance in the nutrition of the papillary layer. The disturbance may be of parasitic or toxic, of external or internal origin, but the characteristic features, clinically and anatomically, are the signs of eczematization.

Chloric Acne. G. Thibierge.—Employees in electrical works are liable to an extensive acne induced by nascent chlorin. It especially affects those predisposed to acneic disturbances, although extreme cleanliness and cold weather may postpone its appearance. It does not differ clinically or anatomically from ordinary acne.

Bulletin de la Soc. de Pharmacie de Bordeaux, June.

Simplified Nitrogen Apparatus. G. Denigès.—Most of the apparatuses used to estimate the total amount of nitrogen in the urine are cumbersome, fragile and expensive. Denigès has modified his ureometer and claims that it is now possible to estimate with it both the urea and the total amount of nitrogen in the organic matters and fluids as accurately as with the most complicated instruments. It can also be used for the volumetric analysis of other gases, with manganese and lead carbonates, peroxids, hypochlorites, etc., merely adding some fluid to E less dense than water, that does not affect the carbon dioxid. The connecting rubber tube has an ebonized stopcock which allows communication between G and C and also the exterior, enabling the fluid in C to be brought to zero before the chemical action commences. The cork disc with the keyhole opening, B, used as a cover for E, acts as a spring to hold reservoir C. The opening in the disc is spread slightly apart with the left thumb and forefinger, thus allowing the reservoir C to be moved up or down as desired, while it holds the reservoir firmly when released. The detailed description of the original ureometer was published in the *Jour. de Méd. de Bordeaux*, of July 6, 1884.



Bulletin de l'Academie de Medecine (Paris), July 31.

Antitoxin of Pellagra. V. Babès.—It has been established that decaying corn contains a toxic substance which produces pellagra in certain localities, among the predisposed. Babès has further proved that an antitoxic substance is formed in the blood of persons, during or after recovery from pellagra, which possesses the property of annulling the toxic action of an extract of decayed corn obtained for this experimental research from regions where the disease is endemic. No other serum tested possessed this specific antitoxic property.

Sensitiveness of the Heart and Vessels. G. Pagano.—The venous portion of the vascular system, including the right heart, is practically insensible, while the arterial portion is extremely sensitive. The test excitation was made with prussic acid injected directly into the vessels and each half of the heart, the immediate effects alone being noted, to exclude the possibility of toxic action. The arterial tension was immediately increased to a marked extent when the substance was injected into the femoral artery, for instance. This reaction did not occur after removal of the abdominal sympathetic, thus demonstrating its nervous character. Pagano concludes from his research that the property of inducing at a distance actions modifying the statics and dynamics of the circulation is limited to the left section of the circulatory system, while the right—although it may respond to them—is incapable of generating them. He considers this sensibility of a sympathetic nature and that it is not the attribute of the capillaries alone, but also of the arterial trunks. This indirect or remote action may affect the entire organism or only certain regions. The sensory terminations—if this conception is correct—are nerve sentinels watching over the needs of the territory where they are stationed, ready to supply them before harm results.

Dourine, a Horse Disease. Buffard and Schneider.—These two young lieutenants in the French army in Algiers have succeeded in proving the etiologic identity of the dourine of Algiers with the "surra" of India and the "tsetse disease" of East Africa; they are all caused by a single trypanosoma, affecting horses and cattle. Dourine in horses is always propagated by mating and has never been known to affect a nonproductive animal. The symptoms are progressive anemia terminating in paraplegia, with fleeting circular patches on the skin, which remain flat, painless, non-fluctuating. The disease progresses insidiously to a fatal termination in four to ten months.

Journal des Sciences Med. de Lille, July 21.

Diabetic Myopia. Dujardin.—Two cases of diabetic myopia have been published recently and Dujardin has had occasion to observe a third. His case was a woman, 69 years old, with pronounced, chronic diabetes, who had used convex 4 D. glasses for reading. Her sight suddenly changed until she could read without glasses, while vision for distance was almost lost. The pupils resisted the mydriatic action of atropin, even a solution of 15 cg. in 10 gm. The idea of a spasm of the ciliary muscle seems more probable in this case than a physicochemical change in the lens as the explanation of the myopia. Paralysis of the muscle of accommodation might enable a hitherto latent hypermetropia to manifest itself. Horner has suggested that the presence of a large amount of sugar might result in the dehydration of the vitreous body, with consequent decrease in the size of the eye.

Nord Medical (Lille), August 1.

Pseudo-Coxalgia of Hernial Origin. Phocas.—When a child has a hernia, if dubious signs of coxalgia appear, the possibility of pseudo-coxalgia of hernial origin must be borne in mind and treatment commenced by curing the hernia. The child may limp and complain of pain in the hip-joint, but there is no atrophy of the member, and the muscular contraction is intermittent and subsides during repose. The movements of the joint are free except extreme abduction or flexion. There is no pain in the hip-joint on pressure at the classic points, and, finally, there is always hernia, although possibly unsuspected. The hernia becomes painful and produces an actual neuralgia of the cord. This neuralgia induces intermittent contraction and limping by reflex action. Phocas cites several instances in which a supposed coxalgia vanished completely after radical treatment of a slight and previously unnoticed hernia.

Presse Medicale (Paris), August 3.

Structure and Physiology of the Tonsils. M. Labbé.—Among the points emphasized in this communication are the important part played by the tonsils in hematopoiesis. The lymphocytes are transformed in them into mononuclear leucocytes with incessant karyokinesis. The antitoxic substances, oxidants and ferments secreted by the white corpuscles may possibly participate in the transformation of starchy matters in the mouth. The follicles of the tonsils by the extension of the epithelial surface are also a means of defense against microbian invasion.

Revue Hebd. de Laryngologie (Bordeaux), July 21.

Rapid and Effective Treatment of Fungous Otitis. A. Bonain.—"I cleanse, render antiseptic and anesthetize with cocained menthophenol. Then I remove with the loop or curette all the fungous growths and cauterize the raw surfaces left with zinc chlorid, pure or in a strong solution. After this I apply a gauze wick dressing and renew it every second or third day until all discharge has ceased." Bonain thus described his method, with which he has treated twenty-five cases of fungous otitis of the middle ear, among them one peculiarly chronic, rebellious case, cured in six days. Twenty days has been the average time required, with a maximum of forty-five in one complicated case. All but three have been cured or are still under treatment. These three have probably a lesion in the mastoid, but refuse operation.

Centralbatt f. Chirurgie (Leipsic), August 4 and 11.

Primary Carcinoma of Male Urethra. P. Rupprecht.—At the autopsy of a patient who had been operated on for primary carcinoma of the urethra nearly five years before, metastatic nodules were found in the lungs, and a carcinoma the size of a child's fist in the prostate, with involvement of numerous retroperitoneal lymph-glands. There had been no local recurrence and the patient had been in satisfactory health for four and one-half years, although requiring catheterization before and after intervention. He was 73 years of age at time of death.

August 11.

Necessity of Inflammation for Healing of Wounds. G. Meyer.—Modern methods of treating wounds neglect one of the most important factors in healing, *i.e.*, the natural reactionary processes of inflammation. We have learned that most of the benefits of antiseptic dressings are due to the slight inflammation they induce, and we know that absolute asepsis is unattainable. Meyer, therefore, claims that wounds should be rendered as aseptic as possible and then the preliminary stage of aseptic inflammation induced, to collect blood and leucocytes at the spot, so that the few invading germs that remain may meet their masters at once, even in the depth of the blood-clots, instead of finding conditions favorable for a culture-medium. He accomplishes this with tincture of iodin on aseptic, and aluminium acetate on infected, wounds. He considers treatment without inflammation absolutely dangerous in case of suppurating lesions on elderly or feeble persons. Thick dressings, holding the heat, to supplement the action of the aluminium acetate, attract the leucocytes and have proved very successful in his experience in such cases.

Advantages of Resection of the Pylorus. L. Rydygier.—Resection of the pylorus in appropriate cases, and not gastroenterostomy, is the operation of the future, according to Rydygier. He cites the history of one of his patients as a conclusive argument in favor of the former. She was operated on for ulcus pylori slightly encroaching on the pancreas, requiring resection of a portion of this organ with the pylorus. The operation was performed nineteen years ago, and she has since borne five children, the oldest now 17. She has done her own housework all these years and had only coarse fare to eat.

Dermatologische Zeitschrift (Berlin), August.

Pemphigus of the Conjunctiva. J. V. Michel.—This study of six personal cases of pemphigus of the conjunctiva concludes with the statement that systematic investigation of the mucous membranes and skin will usually disclose indications of pemphigus in all cases of adhesion of the conjunctiva not to be attributed to any evident cause, such as the action of caustics, trachoma or diphtheria. Pemphigus of the conjunctiva may appear at first in one eye, and become bilateral later. The prognosis is almost invariably bad. The process continues a progressive course as in other localizations. Boricized vaselin with cocain, or a plastic operation may be indicated. The success of the operation is usually annulled by the continuation of the pemphigus process.

Radiotherapy of Epitheliomata. V. Bie.—Sixteen cases of cutaneous epitheliomata have been treated with the chemical rays at Finsen's Institute, and seven have been completely cured. Another was cured, but has had a recurrence since. Five were improved, but not cured, and in three instances the treatment failed to produce results of any kind. One of the cases cured has been under observation for two and one-half years without recurrence, the rest from six to eleven months. Five cases had been ineffectually treated with vigorous measures before commencing the radiotherapy. Success is only possible when the epithelioma is superficial and accessible.

Transmissibility of Late Syphilis. O. Lassar.—A patient had acquired syphilis seventeen years previously, and had been thoroughly and apparently successfully treated. She married recently a healthy man who has remained healthy. She bore him a child in a normal pregnancy, but the infant at three weeks presented all the symptoms of hereditary syphilis of the new-born. Another patient, infected seven years previously, was being treated for an ulcerating, gummatous lesion on the leg, when her healthy, six-months' infant presented unmistakable primary sclerosis of the labium majus.

Present Status of Radiotherapy. A. Loewald.—The writer reviews the reports published by Finsen and others in regard to the effects of treatment of cutaneous affections with the concentrated chemical or Roentgen rays, and concludes that they do not surpass those obtained with other methods. Their only superiority is the better cosmetic results, but with most patients the cosmetic benefits are out-balanced by the length and expense of radiotherapy. That the Roentgen rays have a peculiar and special effect on certain morbid conditions of the skin has been demonstrated beyond question.

Deutsche Medicinische Wochenschrift (Leipsic), August 2.

Diabetes Proved a Carbohydraturia. Rosin and Alfthan.—Baumann discovered that benzoyl chlorid combined with the carbohydrates—after decomposition with sodium hydrate—to form benzoyl compounds of the carbohydrates. It is possible to obtain by this means the total carbohydrates of the urine in the form of benzoyl esters. Rosin has been applying this fact to the quantitative estimation of the total carbohydrates in diabetic urine in comparison with normal, first expelling the monosaccharids by fermentation at 37 C. The research was conducted at Senator's clinic and many interesting results are hinted at, but this preliminary communication only announces that the benzoyl esters were found five to thirty times more abundant in diabetic than in normal urine. There does not seem to be any direct proportion between the amount of sugar and of the other carbohydrates. The results of the research seem to indicate that in diabetes not only the sugar, but all the other carbohydrates are increased in the urine, whether derived from the carbohydrates of the food or of the body or from the albumin of the food or organs. Alfthan concludes from special study of these benzoyl esters that the carbohydrates forming them are an intermediate product in the series of oxidations of the carbohydrate portion of the albumin molecule, and more particularly, of the organic glycogen. between the polysaccharids and grape sugar. He agrees with Rosin that this new research suggests that diabetes mellitus or insipidus is not merely a glycosuria, but an organic carbohydrate disease.

Future of Forensic Medicine. G. Puppe.—The writer of this article is superintendent of the "Investigation Prison". at Berlin, and his remarks are only intended for Prussia. He takes a gloomy view of the prospects of forensic medicine. In order to improve existing conditions he advocates that each medical graduate should pass an examination in this branch of medicine, after a special course which should include the legal questions involving the responsibility and rights of medical experts in criminal trials. The material for such courses should be derived from autopsies, which should be obligatory in every case of sudden death in which it is impossible to determine with certainty the cause of death, and in case of suspicious circumstances, even if no criminal proceedings are in view; also of suicides, of persons dying from cholera, plague, etc., of all unmarried women dying in the puerperium, and of all illegitimate children dying before the school-attending age. Further material would be afforded by examination of living subjects, claimants for damages, etc.. and of blood-stained articles. The course would require a special institute.

A "Cured" Case of Diabetes Mellitus. Zaudy.—A man, 50 years old, was treated at Ebstein's clinic for pronounced. chronic and rebellious diabetes mellitus. The measures used were appropriate diet and four doses of salol on successive days. The sugar was reduced from 274.2 gm. to 50 gm. in 4570 c.c. urine in a month, and to merely traces by the end of the second month. There has been no recurrence during the year since.

Metatraumatic Alimentary Glycosuria. M. Haedke.—Twenty-five persons under treatment for severe traumatism with concussion, such as a fall from a height or serious injury to the skull, were tested with 100 gm. sugar to induce alimentary glycosuria the day after the trauma. Fifteen reacted positively, including two women.

Value of the Saccharometers in Vogue. A. Spaethe.—Comparative tables of the results attained with various tests and saccharometers demonstrate the superiority of Lohnstein's over Einhorn's and Fiebig's and the polarization test.

Milk and Salt in Severe Hemoptysis. E. Aronsohn.—Rectal injections of milk have been successful in arresting severe hemorrhage from the lungs, rebellious to all other measures, in several instances in the writer's experience. Eating salt has also proved useful in certain cases. One of his patients was attacked with recurring hemorrhage on the street, which was arrested at once by some salt obtained at the nearest house. It does not induce vomiting, but probably acts as an internal revulsive by the hyperemia it causes in the alimentary canal.

Variable Capacity of Morphin Syringes. H. Singer.—Twenty-nine morphin syringes were tested by Singer to determine their actual capacity and all were found to contain either more or less than the standard 1 c.c. Twelve were new from the factory and another dozen were borrowed from colleagues. The capacity varied from .865 gm. to 1.39, averaging 1.178. He suggests that syringes for subcutaneous injections should be officially inspected, as there is exceptional need for precision in substances thus injected into the system.

Wiener Klinische Rundschau, July 25 and August 5.

Treatment of Navel Infection. T. Escherich.—The importance of the umbilicus as a portal of entry for septic affections or as a local infectious focus is seldom fully realized. In 107 cases studied at Graz from this point of view, the evil consequences of a long, infected cord are conclusively demonstrated in tabulated statistics. They have convinced Escherich of the necessity of cutting the cord 3 cm. from the body as a routine measure. He uses the thermocautery for the purpose and then applies the band invented by Flick, which has a couple of tapes around the trunk and another around the back of the neck. The navel is inspected with ease as often as desired, without moving the child, by merely loosening the two tapes around the trunk and turning the bandage up. He applies dermatol or salicyl-talcum powder in most cases, but in gonorrheal affections has found aluminium acetate most effective, cauterizing with silver nitrate. In case of suspected tetanus the surface of the umbilical wound is scraped and a mouse inoculated with the scrapings. The tetanus was experimentally demonstrated in this way within twenty-four hours in several instances.

August 5.

Exclusive Milk Diet in Diabetes. A. Berger.—Five patients were fed exclusively with milk and kept in bed, two others were reliable out-patients, also restricted to an exclusive milk diet. The two cases of slight diabetes seemed to thrive on the milk and all sugar disappeared from their urine. The rest were chronic cases of diabetes and in each instance the amount of sugar in the urine materially increased under the influence of the milk.

Wiener Klinische Wochenschrift, July 19, 26 and August 2.

Post-Typhoid Suppuration of Thyroid Gland. A. Schudmak.—The writer explains the rarity of post-typhoid suppuration of the throid gland by assuming that some product of the gland usually renders the invading germs harmless. In a case he describes—about the thirteenth on record—the typhoid bacillus was found pure in the gland the ninth day after the first evidences of suppuration, the thirty-ninth after the first febrile symptoms. He states that the pyogenic property of the bacillus is not dependent on its virulence. He considers the leucopenia noted in abdominal typhoid the consequence of the localization of the disease in the principal leucocyte-forming apparatus and that it is not dependent on the virus of the bacillus. Whenever the latter locates at the periphery, leucocytosis is induced.

Iodin Intoxication the Cause of Basedow. R. Breuer.—In the course of a few weeks Breuer has had occasion to observe nine cases of "thyroidism," or of Basedow's disease, directly traceable to the administration of iodin. In some of the cases the symptoms were those of "constitutional iodism." The rest were secondary, and in one case primary Basedow's disease. The Geneva writers have also recently called attention to this same experience after administration of even small amounts of potassium iodid. The disturbance is probably due to the absorption of thyroid substance under the influence of the iodin, and the consequent flooding of the organism with it, which causes phenomena of intoxication—tachycardia, vasomotor disturbances, etc. These phenomena may be transient in some persons less susceptible than others, or they may become permanent by inducing constantly fresh congestion of the gland, thus forming a *circulus vitiosus*, which is manifested in chronic thyroidism, i. e., Basedow's disease. Goiter is extremely prevalent in Vienna. Breuer states that physicians residing there even for a few months have frequently noted that their necks became a little larger, requiring a larger sized collar. Possibly this local tendency may be an important factor in the frequency of the post-iodin thyroidism he has observed.

July 26.

Glycerin as a Vehicle for Antiseptics. O. V. Wunschheim.—The tests and experiences of the writer demonstrate that certain processes occur in 5 and 2.5 per cent. glycerin solutions of carbolic acid—either of a chemical or molecular character—which modify the acid in some way so that its disinfecting effect is completely lost. The addition of water restores this property. Diluting the 5 per cent. solution to make it a 2.5 per cent. glycerin-aqueous solution renders it as effective as the same solution without glycerin.

Artificial Interruption of Pregnancy. J. V. Braitenberg.—The particulars of twenty-two cases are tabulated in which delivery was induced for various reasons. One patient had applied for assistance in obtaining a living child, as her five previous children had died in the last month of pregnancy from no known cause. She was kept under careful supervision and when it was found that the fetal heart-beat and movements were becoming feebler, she was delivered artificially of a healthy child. This measure is recommended in case of habitual death of the fetus, as in this case.

Ferropyrin as a Hemostatic. E. Toff.—In sixty-five cases of gynecologic puerperal hemorrhage, the effect of ferropyrin in arresting the hemorrhage and favorably modifying the general symptoms was unmistakable in 90.7 per cent. of the cases. It is a mixture of ferrum chlorid and antipyrin, with none of the caustic properties of the former. It can be used freely on sensitive membranes.

Treatment of Necrotic Acne With Sea Salt. F. Luithlen.—Several cases of severe necrotic acne were treated by the writer with compresses impregnated with a solution of 1.2 per cent. solution of sea salt. This treatment was suggested by the improvement of a case during a course of sea bathing. The acne in each case had been treated ineffectually with the various remedies generally used, and the sea salt was a last resort. The effect was surprisingly favorable. The necrotic processes were arrested; the surface rapidly healed and there was no further loss of substance. In some of the cases salt baths were taken at the same time, but one was cured with the compresses alone. All were old, rebellious cases.

St. Petersburger Medicinische Wochenschrift, August 3.

Suffocation from Swallowing a Rubber Nipple. H. Lorentz.—A healthy 8-months' child was given a rubber nipple tied over a cork, which it sucked into the upper portion of the esophagus. It was tightly wedged and the entrance into the larynx was completely closed. Death occurred in fifteen minutes.

Influence of Frost on Peripheral Vessels. Zoege-Rudintsky and the writer found in research on guinea-pigs that the more highly organized the tissue the more it is injured by frost. Cicatricial tissue takes its place and arteriosclerosis results when the process occurs in the vessels. The lesions occurring in the nerves at the same time are much less pronounced and less extensive than in the vessels under the influence of a freezing temperature, and it is evident that the vascular changes are not dependent on the nervous. Arteriosclerosis can thus be induced primarily without the participation of the nerves. This research also proved that exposure to cold, even months before, may entail disturbed nutrition in the part and consequent tardy gangrene.

Change of Address.

J. M. Brigham, Howell, to Kalamazoo, Mich.

J. W. P. Bates, 1830 Madison Ave., to 930 North Ave., Baltimore, Md.

E. W. Bayley, 718 5th St. S., Minneapolis, to Forest Lake, Minn.

Carl Booth, Carlow, to Barnes Medical College, St. Louis, Mo.

L. B. Boyer, 26 Hanover, to 69 Aldrich St., Battle Creek, Mich.

W. H. Borne, Norcross, to Lyons, Ga.

Lee Jackson Chapman, 220 E. State St., to 1426 Wesley Ave., Columbus, Ohio.

G. B. Citron, West New Brighton, to 174 E. 108th St., New York City.

W. J. Coulter, Milverton, Ont., Canada, to 1720 LaGrange St., Toledo, Ohio.

D. Conboy, Bad Axe, Mich., to 496 Jackson Boul., Chicago.

W. H. Campbell, Livingston, to Kalispell, Mont.

E. N. Crockett, 348 Main St., to Cambridge Bldg., Portland, Ore.

F. S. Clinton, Red Fork, to Tulsa, I. T.

C. S. Curry, Clayton Ill., to Beatrice, Neb.

E. W. Davis, 119 to 325 N. Fayette St., Saginaw, W. S., Mich.

A C. Durkee, 578 W. Congress, to 762 W. Harrison St., Chicago.

D. W. Detwiler, 2400 Dearborn St., Chicago, to Moravia, Iowa.

W. J. Fairfield, 68 S. Meridian, to 1302 Meridian St., Anderson, Ind.

J. Gunn, 5127 Cornell Ave., to Mary Thompson Hospital, Adams and Paulina Sts., Chicago.

R. F. Godard, Hazlehurst, Ga., to Citra, Fla.

F. Herb, 524 to 528 Tower Ave., West Superior, Wis.

Guy Hinsdale, Kennebunkport, Me., to 3943 Chestnut St., Philadelphia, Pa.

C. A. Hamann, 282 Prospect, to 744 Prospect St., Cleveland, O.

W. P. T. Jones, 2232 Morgan, to 2231 Market St., St. Louis, Mo.

I. P. Lyon, Tarnesda, to 531 Franklin St., Buffalo, N. Y.

J. M. Lemons, Friendship, Tenn., to Hudson, Ark.

J. S. Lindley, Fort Yates, N. D., to Hoopa Valley, Cal.

L. A. Malone, 6 Stewart Pl., to 39 W. Ohio St., Indianapolis, Ind. apolis, Ind.

R. Mather, 376 Michigan Ave., to 483 Grand Boul., Detroit, Mich.

E. S. Miller, Baltimore, Md., to Pleasant Mount, Pa.

W. O. Nisbet, Waxhaw, to Charlotte, N. C.

Susanne Orton, Chicago, to Darlington, Wis.

A. S. Palvis, 528 Washington St., to 527 Oakland St., Kansas City, Kan.

R. C. S. Reed, 209 S. Olive St., to 3765 Vermont Ave., Los Angeles, Cal.

W. D. Saxon, 112 to 102 Wisconsin St., Milwaukee, Wis.

R. D. Scott, 682 Adams, to 3200 Wallace St., Chicago.

J. S. Shrader, Appleton, Wis., to Delano, Minn.

P. C. Sutphin, Greensburg, to Uno, Ky.

E. M. Toler, Merwin, Miss., to Woodland, La.

T. R. Thomas, Gomer, to Cahill Blk., Lima, Ohio.

W. S. Tomlin, 48 W. North St., to 608 N. Illinois St., Indian-

J. M. Wallace, Tallassee, Ala., to Webster, Fla.

M. E. Withrow, Stillwater, Minn., to Grantsburg, Wis.

W. B. Wells, Eldridge, Iowa, to Milton, Wis.

D. Y. Willbern, Baby Head, to Lillano, Tex.

J. H. Woods, Brookline, to Boulevard, Mass.

Queries and Minor Notes.

MEDICAL LAWS.

To the Editor:—Will you kindly tell me something of the laws regulating the practice of medicine in New Mexico; also to whom should I apply?

Yours truly, J. F. S.

Answer.—A diploma, properly verified, from a medical college in good standing, is required as a condition for license in New Mexico. A four-year course and satisfactory preliminary educational requirements are necessary for recognition of a medical college by the board. Applicants for license must furnish satisfactory references of moral character and professional standing. Non-graduates or those without satisfactory diploma must pass examination. No licenses are issued to non-residents and no foreign diplomas are recognized. The secretary of the State Board of Health is Dr. T. P. Martin, Taos, New Mexico.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., August 8 to 14, 1900, inclusive:

George F. Adair, acting asst.-surgeon, now at Fort Sheridan, Ill., to report to the commanding officer of that post for duty with the 5th Infantry, under orders for foreign service.

W. Edson Apple, acting asst.-surgeon, leave of absence granted, on the expiration of which he will report at San Francisco, Cal., for duty with troops en route to China.

Orlando Ducher, major and surgeon, Vols., former orders amended so as to direct him, on expiring of his present leave of absence, to report by letter to the Surgeon-General.

Harry C. Gemmill, acting asst.-surgeon, from Fort Thomas, Ky., to accompany the 2d Infantry, under orders for foreign service.

Guy C. M. Godfrey, captain and asst.-surgeon, U. S. A., from the Department of Western Cuba to San Francisco, Cal., to accompany troops en route to Manila, P. I., where he will report for assignment.

Lewis A. Griffith, lieutenant and asst.-surgeon, 42d Infantry, Vols., now in San Francisco, Cal., to report in person to the Surgeon-General for instructions.

J. Randolph Harmer, acting asst.-surgeon, from Washington, D. C., to Fort Fremont, S. C., for post duty.

Philip F. Harvey, major and surgeon, U. S. A., from the Presidio of San Francisco, Cal., to Nagasaki, Japan, to establish a base hospital at that place.

John Van R. Hoff, major and surgeon, U. S. A., to proceed without delay to Taku, China, and report in person to Major-General Adna R. Chaffee, U. S. Vols., for duty as chief surgeon on his staff.

Alvis B. Kennedy, acting asst.-surgeon, former orders directing him to proceed to San Francisco, Cal., to accompany troops on foreign service revoked.

Thomas J. Kirkpatrick, Jr., lieutenant and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine candidates for appointment as second lieutenants in the army.

Edward E. Lamkin, acting asst.-surgeon, previous orders amended so as to direct him to proceed from Baltimore, Md., instead of from St. Louis, Mo., to the Department of California.

Henry E. Menage, acting asst.-surgeon, now at New Orleans, La., to proceed to Denver, Colo., for assignment to duty at Fort Logan, Colo.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine candidates for appointment as second lieutenants in the army.

Arthur B. Smith, acting asst.-surgeon, from San Francisco, Cal., to the U. S. General Hospital, Fort Bayard, N. M., for temporary duty.

Bat Smith, acting asst.-surgeon, now at Fort Sheridan, Ill., to proceed to Wharton, Tex., for annulment of contract.

Albert E. Gruby, lieutenant and asst.-surgeon, U. S. A., relieved from the Department of Western Cuba and from further duty with the 1st Infantry; on expiration of present leave of absence to report at San Francisco, Cal., for duty with troops going on foreign service.

Benjamin B. Warriner, acting asst.-surgeon, from Fort Tremont, S. C., to San Francisco, Cal., for duty with troops going on foreign service.

The following acting asst.-surgeons to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops destined for foreign service: Howard H. Bailey, Washington, D. C.; Louis Brechemin, Jr., Philidelphia, Pa.; William C. Mabry, Cleveland, Ohio; Clemen W. McMillan, St. Louis, Mo.; Robert E. Noble, New York City, N. Y.; Lorin B. Ohlinger, Alleghany, Pa.; Joseph A. O'Neill, New York City, N. Y.; Luke B. Peck, Brookline, Mass.; John A. Rafter, West Winfield, N. Y.; William Roberts, Washington, D. C.; J. Ralph Shook, Greencastle, Pa.; Charles A. Sturtevant, West Somerville, Mass.; Henry J. Watson, Ottumwa, Iowa; George Wilklow, Ellenville, N. Y.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending August 18, 1900.

Asst.-Surgeon M. K. Elmer, commissioned asst.-surgeon from July 18, 1900.

Surgeon C. H. T. Lowndes, commissioned surgeon from June 7, 1900.

Asst.-Surgeon W. M. Garton, detached from the *New York* and ordered to the *Massachusetts* immediately, temporarily, by the commander-in-chief of the North Atlantic Station.

P. A. Surgeons C. D. Costigan, G. A. Lung, J. T. Kennedy, ordered to the *Monocacy* for additional duty with regiment of marines.

Asst.-Surgeon E. Davis, ordered to the *Yorktown*.

P. A. Surgeon A. R. Alfred, ordered to the *Castine*.

Marine-Hospital Changes.

Official list of changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending August 16, 1900.

Surgeon J. H. White, to proceed to Jacksonville, Fla., as inspector: thence to proceed to Camp Perry, Fla., as inspector.

Asst.-Surgeon H. A. Stansfield, detailed by Chief Quarantine of the Philippine Islands as quarantine officer at Iloilo, P. I.; confirmed by Department approval August 15.

Asst.-Surgeon F. J. Thornbury, granted leave of absence for three days.

Asst.-Surgeon H. A. Stansfield, detailed by Chief Quarantine Officer of the Philippine Islands as quarantine officer at Cebu, P. I.; confirmed by Department approval August 15.

Acting Asst.-Surgeon F. C. McIsaac, granted leave of absence for fourteen days from August 3.

Hospital Steward B. E. Holsendorf, letter of July 20, 1900, granting Hospital Steward Holsendorf leave of absence for 30 days amended so that said leave shall be for 15 days only.

Hospital Steward C. A. Warbanik, relieved from duty at New York, N. Y. (Stapleton), and directed to proceed to Vineyard Haven, Mass., and report to medical officer in command for duty and assignment to quarters.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, SEPTEMBER 8, 1900. No. 10

Original Articles.

SERUMTHERAPY IN CROUPOUS PNEUMONIA.*

J. C. WILSON, M.D.
Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College.
PHILADELPHIA.

It is a matter of history that the diplococcus discovered in human saliva by Sternberg in 1880 and shown to produce in rabbits fatal septicemia, was found by Fraenkel a few years later to be almost constant in the rusty sputum of patients suffering from croupous pneumonia and in certain associated lesions. The confirmation of these observations by Weichselbaum led to the designation of this micro-organism as the "pneumococcus of Fraenkel and Weichselbaum." The rapidly following studies of Zaufal, Netter, Weichselbaum and others established the fact that the organism in question is present in the lesion of croupous pneumonia, the accompanying pleurisy, and in such intercurrent conditions as endocarditis, arthritis, middle-ear inflammations, parotitis, meningitis, pericarditis and others and in some cases of bronchopneumonia, orchitis, conjunctivitis and other inflammatory affections not necessarily associated with croupous pneumonia. It is, however, most commonly and closely identified with the last named disease.

The inoculation experiments of Netter in rabbits demonstrated the presence of the pneumococcus in the saliva of 20 per cent. of persons who had not had pneumonia, and in 82 per cent. of persons suffering from pneumonia. In the saliva of from 60 to 89 per cent. of persons who had passed through one attack of pneumonia, the pneumococci were shown to be virulent for varying periods extending over months and years—a fact which explains the common liability to subsequent attacks.

McFarland and Lincoln, who have recently written upon the subject, regard the evidence at this time as warranting the assertion "that about 75 per cent. of the cases of true croupous pneumonia are caused by the pneumococcus alone, about 15 per cent. by that organism in combination with the influenza bacillus, streptococcus, staphylococcus, colon bacillus, etc., and the remaining 10 per cent.—a very liberal allowance—by various bacteria other than the pneumococcus."

Netter found that in fatal cases the pneumococcus can be grown in cultures from the blood in the cavities of the heart. Kohn demonstrated it in 21.8 per cent. of a series of cases in the blood drawn from the veins of the arm, in patients suffering from croupous pneumonia, and concluded from an analysis of the cases that its presence in the blood adds greatly to the gravity of the disease.

Inoculation experiments have established the fact that intravenous or intraperitoneal injection of the pneumococcus does not give rise to pneumonia but to a general septicemia frequently associated with purulent pleurisy or pericarditis; while in some few instances the lesions of croupous pneumonia have followed direct inoculation of the lung through the chest wall.

These facts viewed in connection with the familiar phenomena of croupous pneumonia warrant the assumption that the disease arises from direct infection of the lung via the air-passages, the extensive exudate developing in the vesicles and terminal bronchi, and being, to use the phrase of Lambert, "practically outside of the body so far as the tissues themselves are concerned." The exudate contains the pneumococci in rich culture, and as Welch showed, in their most virulent state. Into the surrounding blood-vessels and lymph-spaces are poured the toxins produced, apparently small in volume, as separable products, but of great intensity, as shown by the common severity of the symptoms. The pneumococci, however, tend also to enter the circulation and cause a septicemia—a general pneumococcus infection of the entire body. The clinical picture is made up of the symptoms caused, on the one hand, by the mechanical disturbances due to the exudate, and on the other by those due to the toxemia, and varies as these respectively predominate. The gravity of any given case may be due to a massive exudate or to intense toxemia; but the fact must not be overlooked that the more extensive the exudate the more abundant the toxins produced. The variable virulence of the pneumococci in different instances may be invoked in default of other explanation to account for cases of massive exudate with comparatively mild general symptoms or limited local lesions with intense constitutional disturbances. General bacterial invasion of the blood in certain cases adds a new set of phenomena to those already present and serves to explain the gravest symptoms, distant local infections, exudative and suppurative processes and in many instances the fatal issue.

The knowledge of the bacteriology and pathology of croupous pneumonia, thus gradually acquired, has at each point of advance made it a more tempting field of investigation for the student of serumtherapy.

The worker in the laboratory here finds problems of the greatest intricacy, the solution of which gives promise of results of the highest practical value. The clinician awaits with eagerness this solution and the practical application of the results. The state of the subject at the present time is encouraging as to the future of serumtherapy in pneumonia.

The limits of this communication forbid any extended review of theoretical considerations. Suffice it to say that the earlier investigators, namely, the Klemperers, and those who immediately followed them, used in their experiments filtered cultures, cultures sterilized by heat or by antiseptics, glycerin extracts, etc., and produced an antitoxic serum; while the more recent workers, Washburn, de Rienzi, Pane, Lambert, and McFarland, have produced a serum by immunizing animals to increasing doses of live virulent cultures, until, as in the case of McFarland, a tolerance on the part of the horse to 100 c.c. of a very virulent culture has been established. These sera are anti-infectious. Lambert states that "the action of all pneumococcus sera which have so far been developed is to act within the blood-vessels and prevent a general septicemia, having apparently but little influence on the exudate." McFarland, on the other hand, expresses the hope "that the serum will be of use in the therapeusis of croupous pneumonia, exerting its effect upon the bacteria engaged in the pneumococcic processes in the lung, and that its immediate effects will be the reduction of temperature, strengthening of the pulse, production of an early crisis, and above all the prevention of the frequent accidental metastatic inflammations so common in the disease."

---

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

During the last four years a considerable number of cases of croupous pneumonia have been treated with antipneumococcus serum by different observers. On the whole the results are not discouraging, as regards the death-rate, the immediate effect on the symptoms or the course of the disease. De Rienzi reports a series of thirty-two cases with twenty-nine recoveries and three deaths. Numerous observers report improvement in the general condition and subjective sensations of the patients; lowering of the temperature and improvement in the pulse, without immediate crisis or shortening of the duration of the attack.

In February last Dr. McFarland placed at my disposal antipneumococcus serum prepared in his laboratory to be delivered fresh at such times and in such quantities as might be required for the treatment of cases of croupous pneumonia in the German Hospital in Philadelphia. The treatment has been carried out under my direction in a series of eighteen cases by Dr. Page, assistant physician to the hospital, and my residents, Drs. Moore and Uhle. I desire to express my thanks to these gentlemen for the interest and skill they have manifested in conducting the observations, and especially to Dr. McFarland for the opportunity of making them.

The extreme variations in the course of the attack and in the mortality of croupous pneumonia as modified by the age of the patient, his habits, previous health, antecedent disease and complications, render general statistics wholly unreliable in determining the efficacy of any plan of treatment. I therefore submit brief clinical histories of the cases, recognizing that the results can not be regarded as conclusive, but venturing to hope that as a contribution to the clinical study of serumtherapy they are not without value.

It is important to state that the serum was not used in these cases to the exclusion of other treatment. On the contrary, individual patients were treated in accordance with the usual plan in my service at the German Hospital, namely, by the systematic administration of Dover's powder; the application of ice bags to the affected region of the chest; the use of calomel, strychnia, alcohol, inhalations of oxygen when necessary, and such other symptomatic treatment as seemed judicious, in response to the indications in individual cases. The injections of serum were given in most instances directly after the patient's admission to the ward. In some few cases a delay of several hours arose in order that fresh serum might be obtained.

Case 1.—G. B., admitted Jan. 15, 1900, 23 years of age, single, male, Scotch, window-washer. Family history negative. Previous history: Scarlet fever in childhood; probably syphilis, alcohol in moderation.

The patient was admitted on the second day of the disease; his temperature was 103.4 F.; pulse 104; respiration 54. Onset sudden with chill and stabbing pain in right side of chest. Herpes on penis; crepitant râles and friction rub; tactile fremitus increased at right and left base. Pleurisy very marked. Signs of an effusion appeared on right side on the seventh day. Rusty sputum containing pneumococcus. Urine albuminous without casts, which disappeared before discharge.

Treatment.—Ice-bags to chest. Pulv. Doveri 0.3 every three hours. Serum started on fourth day of disease. Temperature 102.6 F.; respiration 36; pulse 104. Ten c. c. of serum was given hypodermically about every five hours. He received in all 19 doses, extending over a period of eight days. Temperature gradually lowered to 101 on the eighth day, then became septic and empyema was diagnosed. Transferred to surgical ward and operated upon.

Temperature not affected by serum but respiration and general condition improved after first few doses. Patient slept after nearly every dose. Blood counts were made before serum was given and daily afterward. It is interesting to note that before serum was given the white blood-corpuscles numbered 23,200. After three injections they were 42,400, and remained at this point for three days, when the serum was omitted for twenty-four hours, and the leucocytes dropped to 23,320. Upon resuming the serum the leucocytes again became 44,000. Patient discharged cured March 15.

Case 2.—F. C., admitted Feb. 19, 1900, aged 24 years, male, Italian, laborer. Family and previous history negative.

He was admitted on the sixth day of the disease. Temperature 101.2 F.; pulse 90; respiration 37. Herpes on lips; cough, painful in right chest. Dulness and tubular breathing over right upper lobe; crepitant râles at right lower lobes; impairment of resonance at left base. Heart—pulmonary second sound accentuated; no murmurs. Jaundiced on second day after admission.

Treatment—Ice-bags; pulv. Doveri 0.3; strychnia sulphate 0.002; whisky 15 c.c. every three hours. Serum treatment begun on eighth day. But two doses were given of 10 c.c. each. Temperature normal by crisis in twenty-four hours; no collapse. Uneventful recovery. Urine showed albumin and casts. No sputum or blood reports. Patient discharged March 7.

Case 3.—A. E., admitted March 4, 1900, aged 23 years, single, male, U.S.A., spinner. Family history negative. Previous history, smallpox.

He had been ill with grippe for three weeks. Three days before admission he had a chill and stabbing pain in right chest. Cough with rusty sputum. Tubular breathing; increased fremitus and flatness over base of right chest; a few fine râles; no friction rub. Sputum showed pneumococcus present. Urine showed albumin and casts; chlorids decreased. Blood examined on seventh day showed hemoglobin 55 per cent.; red blood-corpuscles 3,770,000; white, 12,500.

Treatment.—Ice-bags; pulv. Doveri 0.3; strychnia 0.002; whisky 15 c.c. every three hours. Serum begun on fifth day, evening. Temperature 101.6 F.; pulse 84; respiration 40. Six doses of serum, 10 to 15 c.c. each, about every six hours. Temperature normal in twelve hours. Treatment stopped. Temperature rose to 100 F. but returned to normal in two days without more serum. Recovered. Discharged March 19.

Case 4.—H. R., admitted March 4, 1900, aged 15 years, single, U.S.A., office boy. Family history: Mother, one brother and grandfather phthisical. Previous history negative.

Onset sudden with chill and stabbing pain in right chest. Cough with rusty sputum. Admitted fifth day. Temperature 101.2 F.; pulse 116; respiration 46. Base of both lungs dull posteriorly: dulness higher on left side. Increased fremitus; tubular breathing and râles over both bases; no herpes. Sputum showed pneumococcus present. Urine was albuminous; no casts; chlorids diminished. Blood examination, seventh day, hemoglobin 50 per cent.; red blood-corpuscles 4,250,000; white 8500.

Treatment.—Ice-bags; pulv. Doveri 0.3; whisky 15 c.c. every three hours. Serum began on sixth day. Six doses were given of 10 and 15 c.c. every five hours. Temperature 103.2 F.; respiration 38; pulse 104. Temperature normal on seventh day after five doses of serum were given. Recovered. Discharged March 18.

Case 5.—W. H., admitted March 20, 1900, aged 39 years, male, married, U.S.A., salesman. Family history negative. Previous history: Tubercular testicle removed at German Hospital one year previous.

Present illness began suddenly with severe chill, great prostration, cough, rusty sputum, stabbing pain in left chest. Admitted second day. Temperature 103.6 F.; pulse 108; respiration 32. Tubular breathing over base of left lung posteriorly. Dulness increased. Fremitus, râles and marked friction rub. Urine contained albumin and casts; chlorids decreased .1 per cent. Sputum showed pneumococci; no tubercle bacilli. Blood showed hemoglobin 75 per cent.; red blood-corpuscles 4,290,000; white 16,000, third day.

Treatment was as usual. Serum begun at once, 9 doses of 20 c.c. each every three hours. Temperature 99 F. on sixth day. Serum stopped. Two days later patient became delirious, cyanotic and jaundiced. Right apex found solid and the seat of a well-marked pneumonia. Temperature 103.4 F.; respiration 52; pulse 120. Blood showed hemoglobin 71 per cent.; red blood corpuscles 3,650,000; white, 20,000. Serum resumed as before, 14 doses of 20 c.c. each every three hours. Temperature normal in two days. Recovered. Discharged April 19.

Horse 628.—Bled Feb. 3, 1900, used March 20.

Case 6.—J. VanD., admitted March 24, 1900, aged 28 years, male, single, Holland, laborer. Family and previous history negative.

Onset sudden with chill and stabbing pain in right chest; cough and rusty sputum. On admission, the second day of disease, temperature 104 F.; respiration 46; pulse 112. Entire right lung solid. Very delirious and cyanosed.

Treatment was as usual and oxygen every half hour. Serum not begun until third day. Three doses were given of 20 c.c. each every three hours. No influence on temperature or symptoms. Died in twenty-four hours.

Post-mortem confirms diagnosis. No other lesions found.

Horse 628.—Bled Feb. 3, 1900, used March 24.

Case 7.—G. D., admitted March 27, 1900, aged 25 years, male, married, U.S.A., blacksmith. Family history negative. Previous history: Bronchitis three years previous; tobacco to excess; alcohol habitually in moderation.

Present Illness—Grippe for two weeks; recovery. Five days before admission had a chill and pain in left chest; cough, rusty sputum.

On admission, the sixth day of attack, the temperature was 102 F.; pulse 98; respiration 36. Great prostration; cough and pain; rusty sputum; herpes on lips. Dulness at base of left lung up to angle of scapula. Increased fremitus; tubular breathing; many râles and a friction rub. No friction rub heard in right lung over lower lobe. Sputum contained pneumococcus. Urine showed albumin and casts; chlorids normal. Blood—Eighth day, hemoglobin 75 per cent.; red blood-corpuscles 4,810,000; white 21,000.

Treatment was as usual. Serum begun on seventh day, five doses of 20 c.c. each, every three hours. On beginning, the temperature was 101 F.; pulse 88; respiration 32. The temperature became normal in twenty-two hours from beginning of serum treatment. Recovery. Discharged April 13.

Horse 628.—Bled Feb. 3, 1900; used March 27.

Case 8.—W. B., admitted March 27, 1900, aged 42 years, female, single, Ireland, dressmaker. Family history—Sister died of phthisis. Previous history—Pleurisy seven years ago.

Present Condition—Grippe for two weeks before admission. Three days before admission suddenly taken with chill and pain in left chest, with cough.

On admission the temperature was 103 F.; pulse 120; respiration 40. There was cough with rusty sputum; pain in left chest; dyspnea; delirium; tenderness over gall-bladder; markedly cyanosed. Left lung expansion diminished; fremitus increased; dulness posteriorly over whole lung. Bronchial breathing; râles at end of expiration. Right lung edematous; numerous râles.

Blood examination showed hemoglobin 65 per cent.; red blood-corpuscles 3,890,000; white 8500. No urine report. Sputum contained pneumococcus.

Treatment was as usual. Serum begun on fifth day, six doses, 20 c.c. each, every three hours. All symptoms improved until the seventh day except pulse. Temperature suddenly went up to 105 F.; pulse 160; and death ensued on the third day after admission.

Horse 628.—Bled Feb. 3, 1900, used March 28.

Case 9.—J. R., admitted April 4, 1900, aged 26 years, male, single, U.S.A., cigar-maker. Family history negative. Previous history—Enteric fever one year ago; tobacco and alcohol to excess.

Present illness began suddenly with chill and stabbing pain in right side; painful cough and dyspnea.

He was admitted on the fifth day. Temperature 103.4 F.; pulse 120; respiration 40. Herpes on lips; dyspnea; markedly cyanosed; delirious. Tubular breathing, flatness and increased fremitus over right lung except apex anteriorly. A few râles heard over both lungs. Friction rub over right lung. Blood count on eighth day of disease showed hemoglobin 75 per cent.; red blood-corpuscles 3,850,000; white 25,000. Sputum contained pneumococcus. Urine contained albumin; granular and hyaline casts.

Treatment was as usual. Serum begun at once on fifth day. Ten doses, of 20 c.c. each, every three hours. Temperature dropped to 100 F. in two days. All symptoms improved. Temperature ended by lysis, reaching normal on the fourteenth day. Pleurisy continued, and signs of effusion at base of right lung appeared on eleventh day and was absorbed before discharge. Recovery. Discharged April 25.

Horse 5597 G—Bled March 28, 1900; used April 4.

Case 10.—J. F., admitted April 4, 1900, aged 30 years, male, Ireland, cigar-maker. Family and previous history negative. Alcohol at times to excess.

Present illness began suddenly with severe chill, pain in left side and dyspnea. Remained at home for two days without treatment, then walked to hospital. Admitted on third day. Cyanosed; herpes on lips; rusty sputum. Temperature 103.8 F.; respiration 42; pulse 128 and irregular. Lungs: Right lung, clear except for a few râles at base posteriorly. Left lung flat all over except at apex anteriorly. Pure tubular breathing and a few fine râles. Marked friction rub, heard best in axilla.

Urine showed albumin, hyaline and granular casts. Sputum contained pneumococcus. Blood count, fourth day, showed hemoglobin 75 per cent.; red blood-corpuscles, 3,730,000; white 28,000. Fifth day, hemoglobin 70 per cent.; red blood-corpuscles 3,780,000; white 20,000.

Treatment was as usual. Patient received serum, 20 c.c., every three hours and seemed to improve except that he was persistently cyanosed. After thirty-six hours, he became wildly delirious and died in that condition April 6 after a fit of screaming.

Horse 497 G—Bled March 28, 1900, used April 4.

Case 11.—A. T., admitted April 19, 1900, aged 25 years, male, single, Jamaica, laborer. Family history negative. Previous history: Malaria several times; rheumatism twice. Syphilis. Alcohol in moderation.

Present illness began suddenly with fever and chill, stabbing pain in left chest, great prostration and dyspnea.

He was admitted on fifth day. Temperature 104F.; pulse 100; respiration 36. Intense dyspnea; no herpes; cough; rusty sputum; delirium; sharp pain over base of left lung. Left lung flat at base posteriorly up to angle of scapula; increased fremitus; fine crepitant râles at end of inspiration; tubular breathing.

Sputum showed pneumococcus present. Urine contained albumin, no casts. Blood, sixth day—hemoglobin 60 per cent., red blood-corpuscles 3,920,000, white 24,000.

Treatment was as usual. Serum begun at once, ten doses of 20 c.c. each every three hours. Temperature normal in thirty-six hours.

Patient developed an abscess in right thigh at seat of serum injections. Incised, drained; healed rapidly. Recovery. Discharged May 5.

Horse 736 B—Bled April 10, 1900, used April 17.

Case 12.—J. M., admitted April 21, 1900, aged 38 years; female, married, U. S. A., housework. Family history: One brother died of phthisis. Previous history negative.

Present trouble began two weeks before admission, with sore throat and other symptoms of influenza. Five days before admission she had a chill, with stabbing pain in left chest; cough. No rusty sputum or dyspnea.

On admission, sixth day, temperature 103.8F.; pulse 104; respiration 38. Cough, pain in left chest; purulent sputum, herpes on lips. Dulness anteriorly over right lung; increased fremitus and tubular breathing over upper lobe anteriorly and posteriorly. Râles over both lungs at upper lobes. Impaired resonance over upper lobe of left lung. Both bases clear.

Urine contained albumin, no casts. Blood, sixth day, before serum injections, hemoglobin 45 per cent., red blood-corpuscles 3,130,000, white 15,000. Three hours after first injection, hemoglobin 45 per cent., red blood-corpuscles 3,190,000, white 17,000.

Treatment was as usual. Three doses of serum, 20 c.c each, every three hours. Temperature normal in eighteen hours. Convalescence uneventful. Discharged May 2, recovered.

Horse 736 B—Bled April 10, used April 21.

Case 13.—J. W., admitted April 23, 1900, aged 19 years; female, colored, single, U. S. A., housework. Family and previous history negative. Present illness: Influenza one month previous. Recovered. Five days before admission taken sick again. Onset: vomiting and pain in right chest and abdomen. Two days later, chill, fever, cough, expectoration, sweating, pain in chest. On admission, third day, temperature 104.8F.; pulse 106; respiration 36; rusty sputum, intense dyspnea, restlessness. Dulness anteriorly and posteriorly over upper lobe of right lung, base clear; bronchial breathing; fremitus increased; râles over dull area.

Sputum showed pneumococcus present. Urine contained albumin; no casts. Blood fourth day, before serum injection, hemoglobin 55 per cent.; red blood-corpuscles 3,660,000; white 22,000.

Treatment as usual. Serum started on fourth day, 12 doses, 20 c.c. each, every three hours. When begun temperature was 105.4F.; pulse 120; respiration 40. Temperature normal in forty-eight hours. Recovery. Discharged May 10.

Horse 497 H—Bled April 6, used April 24.

Case 14.—R. B., admitted April 24, 1900, aged 19 years; male, single, U. S. A., laborer. Family and previous history negative. Present illness began sixteen days before admission with sudden onset, chill, headache, nosebleed, cough, bloody sputum, dyspnea and stabbing pain in right side. No herpes. Felt better the next day and went to work, but the following day all symptoms returned with greater severity and continued until admission. On admission temperature 102.6F.; pulse 116; respiration 34. Complains of pain on coughing and deep inspiration in upper abdomen; no expectoration; headache; dyspnea and malaise. Heart: Soft mitral systolic murmur; pulse irregular. Lungs: Right lung flat at base, extending laterally to mid-axillary line; impaired resonance at apex; vocal fremitus increased over apex anteriorly and posteriorly, absent over base posteriorly. Breath sounds absent over base posteriorly. Tubular breathing at angle of scapula. Fine râles heard. Left lung normal.

Sputum showed a few pneumococci. Urine contained albumin and casts. Blood three days after admission, before serum injection, hemoglobin 75 per cent.; red blood-corpuscles 4,030,000; white 4,400. Widal test negative.

Treatment was as usual. Serum begun the day after admission, three doses of 20 c.c. each, every three hours. Temperature normal in three days. Rapid lysis. Recovery. Discharged May 10.

Horse 497 H—Bled April 6, used April 26.

Case 15.—G. C., admitted April 25, 1900, aged 48 years, male, single, U. S. A., gardener. Family history negative. Previous history: Smallpox, enteric and scarlet fevers; alcohol and tobacco habitually.

Present illness began one week before admission with symptoms of grippe. Five days before admission had chill and stabbing pain in right chest; dyspnea; rusty sputum.

On admission temperature 102F.; pulse 112; respiration 36. Fifth day cyanosed with intense dyspnea; painful cough; rusty sputum. Heart: No murmurs: pulmonary second sound accentuated. Lungs: Consolidation of base of right lung; friction rub in axillary region. Sputum revealed pneumococcus. Urine contained albumin and casts. Blood: fifth day hemoglobin 50 per cent.; red blood-corpuscles 3,260,000; white 20,000.

Treatment was as usual. Serum begun on sixth day, three doses of 20 c.c. each every three hours. Temperature normal in nine hours. Recovery. Discharged May 9.

Horse 497 H—Bled April 6, used April 26.

Case 16.—C. W., admitted May 13, 1900, aged 34 years, male, single, U.S.A., show-man. Family and previous history not obtainable. Had been property man in Buffalo Bill's show for five years, during which time health had been good. Malt liquors in moderation. Weight about 200 pounds.

Present illness began eighteen hours before admission with a severe chill, pain in left chest and dyspnea.

On admission temperature 102.6 F.; pulse 120; respiration 50. Intense dyspnea; cough and rusty sputum; cyanosis. Pain in left chest. No herpes. Lower left lung solid; marked friction rub. Examination very difficult as any disturbance occasioned great cardiac distress. Urine showed albumin; no casts. Sputum had pneumococcus present. Blood: hemoglobin 76 per cent.; red corpuscles 4,390,000; white 15,000.

Treatment was as usual. Twenty doses of serum of 20 c.c. each, every three hours. Patient seemed to be improving but suddenly became very delirious, cyanosed and died very suddenly four days after admission.

Horse 497 T—Bled April 30, used May 13.

Case 17.—A. P., admitted May 2, 1900, aged 19 years, male, single, U. S. A., machinist. Family and previous history negative. Present illness began one week before admission with symptoms of grippe. Three days before admission was taken suddenly with chill; cough with rusty sputum and stabbing pain in left chest.

On admission temperature 105F.; pulse 124; respiration 50; delirious; very much cyanosed; no herpes. Heart: No murmurs; pulmonary second sound accentuated and metallic, pulse weak, quick and irregular. Left lung flat anteriorly and posteriorly all over. Tubular breathing everywhere except at base where for a few inches only harsh breathing and a few râles can be heard; fremitus increased; rusty sputum; no friction rub heard.

Treatment was as usual; 20 doses of serum given, 20 c.c each, every three hours. During the first twenty-four hours had to be stimulated nearly all the time. Right lung became very edematous and patient seemed to be dying. In forty hours the temperature reached 100F.; pulse 120; respiration 44. He seemed very much better and lungs began to clear. Temperature was slightly elevated for two weeks, probably on account of an abscess at site of serum injections, which was opened and drained, when temperature immediately became normal. Sputum revealed pneumococcus. Urine showed albumin and casts; at present only a trace of each. Blood: seventh day, hemoglobin 82 per cent.; red blood-corpuscles 3,430,000, white 37,000. Seventeenth day hemoglobin 60 per cent., red blood-corpuscles 2,890,000, white 21,000. Recovery. Discharged May 23.

Horse 736 B—Bled April 10, used May 3.

Case 18.—T. D., admitted May 11, 1900, aged 23 years, male, single, Wales, weaver. Family history negative. Previous history: Diphtheria and scarlet fever. Habits good.

Present illness began with sudden onset, chill, stabbing pain in right chest, cough, bloody expectoration.

On admission, fifth day, temperature 104F.; pulse 120; respiration 46; herpes on lips; rusty sputum. Lungs: Tactile fremitus increased. Tubular breathing and flatness over lower right lobe, posteriorly. Sputum had pneumococcus present. Blood: eighth day, hemoglobin 70 per cent.; red blood-corpuscles 4,150,000; white 11,000. Urine was albuminous, with casts; later, trace of albumin; no casts.

Treatment was as usual. Thirteen doses of serum, 20 c.c. each, every three hours. Temperature normal in forty-two hours. At that time the temperature was 99F.; pulse 92; respiration 22. Recovery. Still in hospital.

Horse 497 T—Bled April 30, used May 11.

Of the foregoing 18 cases 2 were women, 16 men. The youngest was 15 years of age, the oldest 48. The patients were all working people, most of whom had occupation up to the time of the attack. There were no tramps, coal-passers or sots among them.

Eleven of the patients were natives of the United States, one of Scotland, one of Wales, one of Holland, one of Jamaica, one of Ireland, and two of Italy.

One patient, Case 13, was a colored woman. The remainder were white.

In three instances there was a history of previous attacks of pneumonia.

One patient was admitted on the first day of the attack, 3 on the second, 2 on the third, 3 on the fourth, 4 on the fifth, 4 on the sixth, and in one instance the day of the attack was not ascertained.

The temperature upon admission varied from 101.2 to 105 F. The pulse frequency upon admission ranged from 90 to 128, and in 16 of the cases was 100 or higher.

Albuminuria was noted in 15 cases. In 9 of these cases casts of various kinds, usually hyaline, were also present, and in one, Case 14, blood was present in the urine.

Blood examinations were made in 15 cases, usually upon the day following admission; in some instances later than this. In 13 of the cases there was very marked leucocytosis. In two the leucocytes numbered 8500. In one of these, Case 4, the defervescence was complete twenty-seven hours after the first serum injection; in the other, Case 8, admitted on the fourth day of the attack, death took place on the seventh day. This patient, a woman aged 42 years, weighed over 200 pounds. The attack followed influenza.

There was a reduction of the red blood-corpuscles in all cases, usually moderate. The amount of hemoglobin was notably reduced in every instance, the least reduction being, in Case 16, to 76 per cent., and in Case 17 to 82 per cent.

Rusty sputum was present in 17 cases. In Case 12, admitted on the sixth day, the sputum was purulent.

The pneumococcus was reported to be present in the sputum of 15 cases. In Case 2, and in Case 6, no report was made, while in Case 12 it is distinctly stated that no pneumococci were found.

The summary of the dosage is interesting. In the earlier cases, it was given somewhat timidly, and at considerable intervals, the effect being closely watched. Later it was given freely and rapidly. In the first four cases the age of the serum, that is, the period that had elapsed from the time the serum was taken until its employment therapeutically, was not ascertained. In the subsequent cases it was known and recorded. The serum in all the cases was administered hypodermically. The total quantity varied from 20 c.c., in Case 2, to 460 c.c., in Case 5. Three cases received 400 c.c., or more. The administration extended over a period varying from six hours, in Case 6, to eight days, in Case 1. The age of the serum, as above stated, varied from seven to fifty-three days. The immediate effects were more favorable and more marked in recently-drawn serum than in that which had been drawn for longer periods. They consisted in general in lowering the temperature and pulse frequency, mitigation of pain and tendency to drowsiness. Several of the patients expressed themselves as feeling better after the injection and seemed to be anxious for the time when it should be repeated. There were no effects observed that could be ascribed to the trikresol present in the serum.

Of the 18 cases, 4 died, a mortality of 22.2 per cent. In two of the fatal cases, 6 and 10, no improvement followed the administration of the serum. In Cases 8 and 16, it is noted that slight improvement followed the earlier administrations of the serum, but that the later injections were without effect.

The defervesence was usually by crisis or rapid lysis. The duration of the attack varied from five to fourteen days, the majority of the cases coming to an end on the sixth, seventh or eighth day.

Of the 4 fatal cases, death occurred in 2 on the fourth day of the attack, in 1 on the fifth, and in 1 on the seventh. In three of these cases, 6, 10, and 16, the patients were alcoholic. In Case 8, no information concerning the previous habits of the patient could be obtained. In 6 of the cases that recovered there was a history of habitual excesses in alcohol.

The average duration of the stay in the hospital of 13 of the 14 cases that recovered, was 20½ days, one patient remaining in the ward at the time of the writing of the paper.

It is interesting to note that of 20 patients treated in my service in the men's medical ward at the Pennsylvania Hospital during the same period, on the same general plan, but without serum injections, 4 died, a mortality of 20 per cent. In this series, 8 of the patients, including the 4 fatal cases, were intemperate. No conclusions as to the effect of a plan of treatment can, however, be drawn from a limited series of cases.

DISCUSSION.

Dr. A. O. J. Kelly, Philadelphia—In connection with this important communication by Dr. Wilson I should like to report briefly for Dr. John H. Musser and myself, a single experience with the use of the antipneumococcic serum in the treatment of croupous pneumonia. A man, Charles D., 30 years of age, a native of Pennsylvania, and a lead-worker by occupation, was admitted to the Hospital of the University of Pennsylvania, to the service of Dr. Musser, March 9, 1900. He had been a hard worker all his life, constantly exposed to the inclemencies of the weather, and he had consumed alcohol to great excess. He had had at least two attacks of delirium tremens, and was reported to have been more or less under the influence of alcohol for a long time. On his admission to the hospital, it was ascertained that the patient had been complaining of cough and general malaise for two weeks. On Saturday evening, March 3, he went on one of his customary debauches, and continued drinking until the following Monday morning. On the evening of this day, March 5, he was taken with a severe chill, which lasted twenty minutes, but chilly sensations continued throughout the night. From this time until his admission to the hospital, he complained of pain in his right chest, cough, rusty expectoration, dyspnea, and fever. On admission to the hospital his temperature was 102.4 F., his pulse-rate 100, and his respirations 45. He was markedly cyanosed, revealed a blue line on his gums, and presented well-marked physical signs of consolidation of the right lung. There were also heard superficial to-and-fro friction sounds that were attributed to a concomitant pleuritis. The heart was negative with the exception of a systolic murmur at the base. Examination of the urine revealed a specific gravity of 1024. It was dark amber in color, slightly turbid, and acid in reaction. It contained no sugar, nor indican; albumin was present in small amount; the chlorids were apparently normal. Microscopic examination revealed a few pus-corpuscles but no casts. Examination of the blood revealed hemoglobin 84 per cent., erythrocytes 4,300,000, and leucocytes 6770. The treatment instituted consisted of the local application of cold, the internal administration of carbonate of ammonium, whisky and strychnin, and ,a single hypodermic injection of morphin (1/32 grain). The following morning, with the exception that his respirations had increased to 56 per minute, the patient's condition had not changed. At 1 p. m., however, he became much worse, complained of extreme pain in the left side; his respirations had increased to 62 per minute. Physical examination of the chest revealed the signs of consolidation of the lower lobe of the left lung. Another hypodermic injection of morphin relieved the pain. Delirium, which was slight before, now became very marked, casts were detected in the urine, diplococci were found in large numbers in the sputum, and friction râles were heard over the pericardium. In view of the hopeless character of the case under ordinary circumstances, it was determined to try the effect of the antipneumococcic serum, which was very kindly placed at our disposal by Dr. Joseph McFarland. Injections of 20 c.c. each were given every three hours, commencing at 7 p. m., March 10. Only seven injections were given, because of the lack of serum. The leucocytes, which on admission had numbered 6770, just before the first injection numbered 17,360 per cubic millimeter. A half hour after each succeeding injection they numbered 16,420, 15,120, 19,420, 23,760, 24,520 and 29,400 respectively. At 6 p. m. March 11, they numbered 27,300, at midnight 28,200, and shortly before the patient's death, which occurred at 8 a. m. March 12, they numbered 33,400. The necropsy, which was performed by Dr. Flexner, revealed acute fibrinous pneumonia of the lower lobes of both lungs, extensive bilateral fibrinous pleurisy, chronic adhesive pleurisy of the right side, acute fibrinous pericarditis, acute splenic tumor, cloudy swelling of the liver and kidneys, slight atrophy of the cortex of the kidneys, moderate arteriosclerosis, and softening of the bronchial lymph-glands. I can not persuade myself that the serum was of any material value whatever in this case, but I admit that in view of the necropsy findings it is not likely that any treatment with which we are acquainted could have been of the slightest utility. The action of the serum, however, seems favorable rather than otherwise. The patient's general condition appeared to improve a little after each injection, but this may have been fanciful, as the pulse-rate and the respiration-rate gradually increased: the former reached 148, and the latter 72 per minute. Delirium also became active and ceased only a short time prior to death, when extreme exhaustion supervened. The serum, however, seemed to exert a marked influence in the production of leucocytosis. I am not unmindful of the fact that this may have been more apparent than real. It may possibly have resulted from the reaction of the body to the infection of the second lung, which became involved a short time prior to the commencement of the injections. But this is not likely. The treatment seems to merit further trial.

Dr. Delancy Rochester, of Buffalo—I rise to report a case in this connection of some interest because it bears upon the serum-therapy of pneumonia. About eight years ago, in the service of Dr. Charles Stockton, in the Buffalo General Hospital, there was a case of lobar pneumonia, and shortly after recovery another case entered the hospital. We were experimenting at that time and, with the permission of the patient, we blistered the convalescent patient and injected the serum thus obtained into the sick one. I do not remember the details of the case, but there was a decided improvement in the patient's condition for twenty-four hours. We were unable to obtain enough serum from the patient, but the evidence so far adduced in the use of the antipneumococcic serum points to the fact that we will yet have an agent of much value, when sufficiently concentrated, and when given in large enough doses. In the use of the antidiphtheric serum good results follow large doses, and I think the same thing will apply if larger doses of the antipneumococcic serum be used.

Dr. McFarland, Philadelphia—We found that small doses of the serum did but comparatively little good; it should be administered *ad libitum* until a large total amount of the serum is given. We are by no means certain as to the nature of the serum, and at present there is no accurate way of measuring its strength. The serum is prepared by administering living cultures of the pneumococcus to the horse. The pneumococcus is a difficult organism to cultivate, and its virulence is so quickly lost that one is never certain of the nature of the culture that he is administering to the horse. The best method by which the pneumococcus is kept virulent is by growing it alternately on artificial culture-media and in animals. The nature of the serum is uncertain. It may be antitoxic or antimicrobic, probably antimicrobic. While it is true that the serum of diphtheria and tetanus are specific for the respective diseases, there are proofs that the antipneumococcic serum is not specific for pneumonia but may be equally operative upon other microbic infections. I can cite for you an interesting observation made upon a horse which was immunized to the pneumococcus for four to six months, and one day received by mistake a large dose of the streptococcus culture. The dose should have killed it, but no ill effects followed. This leads me to believe that the serum is not specific for pneumonia alone. It is difficult to estimate the strength of the serum and it is natural to conclude that the number of theoretical observations made depend on the serums used and on their different strengths. The early observations on the pneumococcic serums are entirely useless. To administer 10 c.c. of serum from a convalescent patient is perfectly ridiculous; the patient is not getting any appreciable amount of the antitoxin. I have hesitated to use the intravenous method of injecting the serum, on account of the fact that the increased coagulability of the blood in pneumonia might lead to thrombosis. Later on we may find that this is the necessary mode of treatment. The serum should be fresh. Dr. William Park, of New York, urged that the serum should not be kept longer than six weeks, on account of losing its germicidal power. At the present time the whole subject is a very vague one, but the result of animal and culture observations indicates that the subject is one deserving much future investigation.

PSEUDO (?) OR MODIFIED (?) SMALLPOX.*

T. J. HAPPEL, M. D.
TRENTON, TENN.

The diversity of opinions in regard to the eruptive disease that has prevailed throughout the United States during 1899, has atracted much attention. My having had a personal experience with at least two hundred cases in one of the large counties of Tennessee (Gibson), and a nominal supervision of fully one hundred more as county health officer, has induced me to report this epidemic as briefly as possible. My sole object is to provoke a discussion, in which we should be deeply interested, as smallpox has been regarded with no favor by medical men.

SOME FEATURES OF VARIOLA VERA.

Before entering directly upon the phase of the subject presented in this paper, I desire to review briefly some of the chief characteristics of variola vera. It has been defined as an acute contagious and infectious disease, communicable at any time from the first rise in temperature to the final desquamation of the patient, and even after death, by the body itself in the dead-room, or by the effluvia of the corpse, when disentombed years after burial. It may be communicated by the urine or feces of affected patients, or by the small particles of the cuticle or scabs thrown off during the desquamative, or desiccative period. It has been rightly termed one of the most communicable of all the eruptive fevers.

According to Osler, one of our best authorities on the subject, "The contagium develops in the system of the smallpox patient, and is reproduced in the pustules. It exists in the secretions and excretions, and in the exhalations from the lungs and skin." . . . "Smallpox is one of the most virulent of contagious diseases, and persons exposed, if unprotected by vaccination, are almost invariably attacked. . . . There are instances on record of persons unsusceptible to the disease." He adds, further, that in the fearful epidemic in Montreal, in 1885, 86 per cent. of the deaths were of children under 10 years of age, when there died in that city, of smallpox, within nine months 3164 persons. He holds that the nature of the contagium of smallpox is still unknown, and that it is a little remarkable that in a disease which is rightly regarded as a type of all infectious maladies, the specific virus should still remain undetermined.

---

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Hartshorne, in "Reynold's System of Medicine," holds that the disease is communicable from the time of the initial fever till the last dry scale has disappeared: that in confluent smallpox the mortality is 50 per cent.; that in 2654 cases of the disease the mortality was 37 per cent., but that in this series of cases, the mortality in children under 5 years was 50 per cent., and from 40 to 60 years, 69 per cent., and from 70 to 90 years, 90 per cent.

Dr. Haygarth states that during his long attention to this subject, "Not a single instance had occurred to prove that persons liable to smallpox could associate in the same chamber with a patient with the disease without receiving the infection." "It is communicable in every way." "A single breathing of the air is sufficient." "It is communicable from the moment of the initial fever." It has been caught in the dissecting-room from dead bodies that have been prepared for use on the table. I might thus continue to cite authorities showing the infectious and contagious nature of variola vera; its fatality—the death-rate varying from 25 to 45 per cent.—the fact that the disease is especially fatal when it prevails among negroes; that with all classes in the extremes of life—infancy and old age—the mortality is very great.

Other points upon which all authorities agree are: the date of the eruption—the third day from the initial headache, backache and fever—the fact that this eruptive stage lasts about three or four days, and that the eruption is first papular, then vesicular, then pustular; that in the vesicular stage the points of eruption become flattened, generally umbilicated, and slightly shriveled—this condition being followed by a state of euphory on the part of the patient; that on the eighth day of the eruption the contents of the vesicles become completely purulent, the eruption attains its greatest development and the vesicles become hemispherical and distended to their utmost, and the "suppurative, irritative or so-called secondary fever," begins, the temperature ranging from 102 to 105, or even higher; "that the mucous membrane of the mouth,. fauces and larynx becomes most dangerously involved; that the vital forces of the patient are put to the severest test, and his life is placed in the greatest jeopardy"; that the cutis between the pustules becomes inflamed and the face, hands and feet swollen and disfigured far beyond that of the primary or eruptive stage; that pus begins to exude, and thick, yellow and dirty scabs and crusts form which, when removed, leave deep suppurating ulcers; that about the third day of the eruptive stage an intense itching sets in, and that this becomes almost unbearable in the suppurative stage when the crusts and scabs begin to loosen and fall off; that in the secondary fever we often have a muttering delirium; that it is frequently followed by deep-seated boils, and that most of the patients are left scarred and marked for life with pits at the sites of the points of eruption, especially on the neck, face and hands. These are points, as I have said, on which all authors agree.

THE EPIDEMIC AMONG NEGROES.

On June 1, 1899, I was called to Fruitland to see F., colored, aged about 35 years, supposed to have smallpox. I found the patient in one of the railroad section-houses sitting at a sewing-machine at work. I obtained the following history: In the latter part of April, or the first of May, a negro man came to the section-house from Mississippi, stopping in Jackson, Tenn., from one train to another, in a part of the city in which there had never been a case of smallpox. A few days after his arrival in Fruitland he became sick, went to bed in an adjoining house, and, "broke out," as the woman expressed it, "just as she was, but more so." She also told me he suffered before the eruption with headache, backache and fever; when the eruption appeared he was perfectly relieved from fever and pain, and in about two weeks was well and ready to go to work; that about the time he recovered, his wife became sick in the same way, only she was worse than he, and recovered in about the same time; that all of the colored inmates of the two section-houses freely mingled with these two cases, and that the white family, separated only by a fence, made no effort to maintain non-intercourse; that the head of the white family saw both of the sick negroes several times, and that the white children at the fence were frequently close to those who had just been in contact with the cases. None of the parties had ever been vaccinated; this fact I ascertained by an inspection of the arms. This woman stated that about four days before she was suffering with headache and backache, and called on her physician for something to relieve her; that finding some "bumps" on her face, he gave her some medicine and told her to keep in the house closely, as he suspected smallpox; that on the following day she was free from pain and fever, but that the bumps were still present, and that it was reported that she had smallpox; that she was not suffering at all, was, in fact, as well as she had been for months, and that there would have been no report or alarm had she not called for relief for her head and back, as her case was similar to the two reported, but much slighter. The eruption was found passing into the vesicular stage, with probably not more pain, and was at work, as has been stated. The disease was regarded as suspicious, and all the inmates of the section-house who could then be found were vaccinated, but the section laborers were away, and escaped vaccination at that time.

All were cautioned to remain on the premises, but were not quarantined or guarded. On June 21 I was again called to the section-house. I found a negro man about 30 years old with a confluent case of the eruption mentioned in the first case. He gave a history of headache, backache, fever, swollen face, hands and feet; eyes closed by the intensity of the inflammation; the papules discrete, but as numerous as possible; then, the vesicular stage, in which the blisters coalesced, forming large blebs, in many places larger than a silver dollar, with still larger ones on his hands and arms. Some of the blebs were fully 4x6. They appeared to involve only the most superficial layers of the cutis, and were unicellular. The patient did not claim to suffer at all, except from the natural soreness of the parts, blistered, as they were. He had no fever, could have been up but for the condition of his feet, hands and buttocks. He was more comfortable lying down. He was then in the seventh or eighth day of the eruption. A week or ten days later I saw him again. He met me at the fence, and claimed to be well. He had no secondary fever nor any complications. To-day there is not a pit or mark on his person, except some few stains on his face and arms due to a deposit or accumulation of pigment material in the skin. A few who were vaccinated on the first visit had typical vaccin sores. One of these escaped the disease, the balance were attacked Case after case occurred in the two section-houses, never more than two at a time, till all but one or two had the disease. The two last seen by me were an old man, fully 70 years old, and a child about 4 years old. The old man's case was a reproduction of the second one, already reported, whilst the child's case was very similar to the first one. The child had been successfully vaccinated by me on June 2, and developed the disease in August. The old man gave an undoubted history of a successful vaccination in childhood.

July 23 I was called to a negro family in another neighborhood. This family had contracted the disease from a negro man who had visited the cases in Fruitland. He considered the disease of no importance till he had fully developed the eruption in the vesicular stage. Two families or more had then been in close contact with him. The family which I visited consisted of a man, his wife and three or more children. The two of the three children had had the disease in a mild form, leaving only maculæ on the cutis. If the youngest child had developed the disease, it was so mild that they did not discover it. The mother had broken out slightly on the Wednesday preceding my visit, which was made on Sunday. She was at church that day, just the fourth day from the date of the eruption. The man was then in the eighth day of his eruption. The points were conoidal, not at all inflamed around the base, and were discrete. He said that aside from the eruption, he was well; there was no fever, no loss of appetite. He had suffered from nausea and a decided sore throat. None of these parties had ever been vaccinated. On a subsequent visit I saw two families. In one, where the hygienic surroundings were good, the house being large and roomy, all the cases, some seven in all, had been very mild. None of these had been vaccinated, and not more than two at a time had developed the disease. In the other house I found a family of nine. The disease had existed in that house for a month or more, it having been contracted from the party who visited Fruitland. In this house two cases at a time was the rule. There had been six cases at the date of my visit, including the one just entering the eruptive stage. In some of these cases the headache, backache and fever had been severe and the eruption abundant, but after the first case no physician had been called, the mother stating that as soon as she discovered that she had to deal with a case of "the eruption" she felt easy, knowing that there was no danger. The mother claimed that she would not have the disease, as she had been vaccinated, but before the last case recovered she and the old grandmother, who had also been vaccinated, had a mild attack. Later on, in the same neighborhood, I visited a negress about 35 years old, who was suffering from the confluent type of the eruption. She gave a clear history of vaccination in her childhood. There were four children in the family. All were vaccinated, though in one or two there was "no take," yet all had the disease in a very mild form, the successfully vaccinated one having a severer attack than the baby under one year of age. In this settlement there were about forty cases. None were very sick; none were in bed for a longer time than four days, except the confluent case, which was confined for one week. When the disease first developed in this neighborhood, the first case, one of the severe ones, was visited by a physician, who carried his son, aged 4 years —who had never been vaccinated—into the negro cabin with him, where both remained nearly a half hour; neither contracted the disease. The fullblooded negro, except in one instance, alone suffered. In the excepted family, the negroes were almost white, and their attacks were very slight. Later on I vaccinated five of these children, of which number one had escaped in a large family. In this one the vaccination was successful, though he failed to have the disease, being exposed to it for at least six weeks. In another neighborhood, among families known as the Johnson families, there were about 30 cases—all black negroes. Two of these cases were confluent, the others discrete, being milder in proportion to the decreasing age of the subject. In one of these families three children, nearly grown, who had been vaccinated in March, 1899, escaped the disease, but the mother, who had a good vaccin mark, had a mild attack, and a daughter, who had never been vaccinated, escaped with not more than a dozen papules and vesicles. About one month after the complete recovery of two children in this series of cases, I vaccinated them. The result in one case was a typical vaccin sore, and negative in the other. I have reported now as briefly as possible the epidemic among the negroes.

AN EPIDEMIC AMONG WHITE PEOPLE.

On October 21 I was notified of the appearance of a case of the disease in one of the best white families in Fruitland. The source of infection was traced through a negro child. Her case proved to be a very mild, discrete eruption. On the eighth day of the eruption, when I saw her, she said that she was well, except the conoidal vesicular eruption. She had no fever, and from that day on desiccation progressed rapidly, and when seen on November 1, all of the eruption had disappeared, except the red elevated nodular base of the vesicle. On my first visit an effort was made to vaccinate all the members of the family. Some were conveniently absent from home. On November 1, I visited the family a second time, and found two new cases, the son, who had never been vaccinated, and a daughter with a typical vaccin sore, both mild, but the son much the milder of the two. Two other cases appeared, one that had been successfully vaccinated, the other not. The son who had the disease was afterward successfully vaccinated.

October 22, 1899, I was called to see J. H. A passing physician eight days before had called when he was suffering from headache, backache and fever, and when the eruption was just beginning to become vesicular, and had diagnosed the case as measles. The family suspected a mistake, and kept the case quiet. The report having gone out that the case was measles, those neighbors who had had rubeola visited the family, so that six families were exposed from the time of the initial fever till the date of my visit, several persons having been in the house and in the room after the eruption had become vesicular. My visit was made on the ninth day of the eruption. The patient was free from fever and sitting up in bed, able to eat all he could get; he said that he was well except the soreness of his hands, feet and buttocks. The eruption on his face was flattening and desiccating rapidly; that on his body was conoidal in shape, and filled with an opaque lymph; there was no pus, no itching nor other complaint.

There were ten inmates in this house at the time of my visit, besides the patient. All of these were vaccinated and notified that they must stay where they were or go to a pest-house. All were adults except one—a child of about eight months—five males and five females. Only two had been previously vaccinated—one in the sixties, the other before the war. The latter had a typical mark, well pitted; the other had a glazed cicatrix on the site of the vaccin sore. Every family that had been at all exposed was vaccinated—a total of thirty. Two days later I returned to see the patient, and found him rapidly improving. Five or six days later I found typical vaccin sores on seven of the inmates of the house, but the remaining three had "no takes." The patient was out of doors, all crusts or scales had dropped, and nothing remained of his disease except red, elevated points, which had been the bases of the original papular eruption. On November 31 two members of the family began to suffer with headache, backache and a rise in temperature, two others with slighter pains and the baby became fretful, with no assignable cause. On November 5 a papular eruption made its appearance on five of the inmates mentioned, changing rapidly to a vesicular one. On Tuesday I visited the family and found the baby with not more than fifty points of a conoidal eruption, the mother with probably twice as many—vaccination having failed completely on these two—a discrete eruption scant on the remaining three, but much severer on the two young men. The three had typical vaccin sores of a week's duration. The grandmother, who had been vaccinated before the war, and on whom vaccination had again taken well, suffered most from the localized pain in the bases of the eruptive points. Of the three who escaped, two had been successfully vaccinated, the other unsuccessfully. One of these quarantined persons had left the place, deeming it safe to return home, as his vaccin had proved a perfect success, but on the same day, November 1, the initial fever developed, and on November 6, the eruption came out severely; but as soon as it fully appeared, he got out of bed and claimed to be well. None of the other inmates were confined to bed at all, except about October 28, when one of the young men remained in bed about thirty-six hours with a sick-headache and a sore arm. When I visited them, November 7, all were up and free from fever. Bear in mind that all of these parties, ten in number, were exposed from October 13, the date of the beginning of the fever of invasion, till October 22, the date of my first visit; that on this date they were all vaccinated; that on the 28th or 29th six of them had typical sores, and that no eruption appeared on any of them till November 5 or 6, just fourteen days from the date of vaccination; and do not forget that the mildest cases were the mother and child, on whom the vaccination did not take. Not a case appeared in any of the six families exposed. In every family, save one, there were some failures in vaccination; in one of these cases in which vaccination failed, the child had been exposed to the case several times during the febrile and early eruptive stage. On November 1 a case in another white family was reported, and was at once visited by me. In this case no contact could be traced with a case of this disease—exactly as it was reported by the patient J. H.

This last case, Mr. C., gave a history of fever, headache and backache, followed by an eruption, beginning on October 28, the fever subsiding on the appearance of the eruption. This man had never been vaccinated. The eruption was smaller and more irregularly shaped than in any of the other cases, and on the face, especially the forehead, it was almost confluent. On the arms and lower limbs it was discrete and conoidal. The eruption had not fully passed the papular stage on the hands and feet, though the vesicles had assumed an opaque appearance on the face. The patient was out of bed, with a temperature less than 100 F., feeling well, and ready to eat anything and everything brought to him. Five members of this family were vaccinated, after many threats and much persuasion, and four had the disease.

These cases are reported in as brief a manner as possible, and sum up about eighty colored and eleven whites.

AN OUTBREAK IN ANOTHER PART OF THE COUNTY.

About November 15, a new point of infection was reported in the county, in an incorporated town. I was sent for; I reported to the authorities that the disease was what we had had in the southern part of the county; that the State Board of Health called the disease smallpox; that I didn't consider it variola vera, but in deference to the health authorities, advised isolation and vaccination without quarantine. The first cases were, as elsewhere, negroes. The families were vaccinated successfully, and kept in their own premises, but every one of them developed the disease.

The local authorities next discovered the disease in a white family that could not account for its presence. These were detained for about fourteen days at home, but refused vaccination, and one-third of the family developed the disease, the later cases being milder than the first. No further efforts were made to prevent the spread of the disease, and it was reported that nearly every negro in the town had the disease, and not less than twenty-five whites, making in all about 100 cases, with no deaths; though one old lady 76 years of age died from congestion of the lungs while suffering from a very mild eruption. The disease appeared in the only hotel in the place, all of the proprietor's family being attacked, but business was never suspended, the traveling public being received.

In a country district just east of this incorporated town the epidemic held undisturbed sway. I was never called in; nor were many vaccinated. They preferred the disease to vaccination, so they reported officially to me. Here, too, the disease ran its own course, gradually growing milder, killing no one. There were forty or fifty cases in that district.

In another town three colored families became infected. After the first case all were vaccinated, except the babies, but not one escaped the disease, the mildest cases being the unvaccinated babies. In one family two cases of a severe type developed twenty-one days after vaccination, followed by a typical vaccin sore. Here there were seventeen cases, with no deaths.

At another point, in a family of twelve negroes, there was only one case, and this was not discovered till the fourth day of the eruption, which, while discrete, was severe. The family had been constantly in contact with this patient, but during the day lived largely out of the house. The man went to his work on the fifth day, and so continued till he was turned loose. He is now spotted, but the maculæ are rapidly disappearing. Living in another house was a family of three men, one woman and a baby. One of these men contracted the disease from the same source as the last case reported. All were successfully vaccinated except the baby. All had the disease, the baby in a milder form than did any of the others. These cases were at the county seat, and had been mingling with other negroes till the appearance of the eruption, and yet no other cases developed. In another negro family with the disease, all unvaccinated except the father and mother, this disease was so mild that the children were sent home from a crowded schoolroom during the vesicular stage of the eruption, and returned before desiccation and desquamation had been completed. I personally inspected some of these cases; only one member of the family had been in bed, and that for only one or two hours, when they thought she had a chill. The vaccinated mother finally had the disease as severely as any of the others.

The disease finally ceased in the county, without any special efforts to check it, save the isolation of the families. There were in all about 300 cases, the large majority of them being negroes. In those cases where the whites contracted the disease they appeared to suffer more than did the negro. The last cases in the county were negroes who had had the disease in their families for weeks before it was discovered. When at last found out they were transferred to a house of detention. There on April 26, 1900, I visited in person and closely examined them. One man, who had contracted the disease on April 10 or 12, was nearly well. His was reported to have been one of the most severe cases. It was claimed that he had secondary fever, but this was disproved fully. His face was thickly marked with dark, almost black, spots. The next case, a colored male, a syphilitic, was in the eighth day of the disease. The scales were already dropping off. His face presented a variegated appearance. His nose was almost double its natural size. Crusts were abundant, but no thick scabs, and no pus anywhere. His temperature and pulse were normal. This was a severe confluent case. When seen he was very busy disposing of a full breakfast of rice. Of the fourteen cases in the house, not one was in bed. The cases ranged from two days to two weeks in duration; the patients were from 1 to 50 years of age. They were about equally divided as to sex. With this number in a room just before it had been aired and swept there was not the least odor. The eruption varied in size from a grain of wheat to a large vesicle. The cases of the children were mild in proportion to their ages. All were hungry. Not one complained of anything except of being detained in the house. There was no itching. It has been my experience further, in two large families, where all the inmates had been unrestrictedly allowed to mingle with the one case of the disease up to the fourth day of the eruption, to have had no case except the first in either family. One family, with the exception of two or three members, was successfully vaccinated; the other unsuccessfully. One was white; the other colored. In another family the only two members who had contracted the disease had had variola vera in their younger days—one being well pitted. The epidemic has shown a decided preference for the colored race, and the history of these cases has shown that it is more easily communicated from one to another among negroes than among the whites; but this is easily accounted for by the difference in their hygienic surroundings.

CHARACTERS OF THE EPIDEMIC COMPARED WITH SMALLPOX.

The points of similarity in these cases and true smallpox have been brought out in the clinical histories. There is in some the same backache, headache and initial fever, papular eruption, followed by the vesicular, then becoming opaque, but in the large majority of cases having none of the appearance of pus. These vesicles have in many cases flattened, but lacked the peculiar umbilication, and when full of opalescent fluid were conoidal, not hemispherical, in shape. There was no puckering around the eyes. None of them ever had creamy pus in them, and in no case was there ever an ulcerated surface left upon the removal of a crust. The vesicles, no matter how confluent, went through a process of desiccation, not of suppuration—only the epidermis and a few superficial layers of the cutis being involved. There were no crusts, only thin scales. In not a single case was there any secondary fever, the highest temperature on or after the eighth day not reaching 100 degrees, though the family physician reported secondary fever on the sixth day before the eruption had fully matured, with a temperature of 100.3 degrees. In no case at the time the secondary fever should have developed was there any inflamed margin around any of the so-called pustules, nor even in the confluent cases was there any inflammation about the skin after the eighth day. The cutis between the sores on the body and the extremities was normal in appearance, and there was no inflammation about the face or hands after that date.

In every case with the appearance of the eruption the fever subsided, and the patient got out of bed, and so remained, except in a few confluent cases mentioned, where the patients were more comfortable in bed on account of the condition of the feet and hands. After the eruption appeared the appetite returned in all of the cases. In not more than 5 per cent. of the cases was there nausea or vomiting. Itching was absent in nearly all, especially was this so in those patients whose skin had been kept clean. In not more than a half dozen cases was there any pitting, and in these few cases the marks were due to the patient rubbing off the vesicles to hurry up the process of recovery, as they supposed. In the few marked cases, the skin is rapidly assuming a normal appearance. The cases are chiefly marked by maculæ, in the negro, caused by an undue deposit of black pigment in what had been the base of the papules; in the whites this pigment is reddish or purple. This gives to the face a spotted appearance, but, as in the case of the pits, the pigment is rapidly disappearing.

Vaccination has not seemed to exert any protective influence whatever, but as so few of the negroes have been vaccinated, it is difficult to draw any conclusions on this point, but I would especially call attention to the results of my experiments in vaccinating those who have had the disease. In one instance, when two were vaccinated there were a "take" and a failure, and in the second lot, where five were vaccinated, one, who had escaped the disease through a period of six weeks' contact with it, showed a typical sore, and another one a slight "take." Again, in parties who in childhood had been vaccinated, two of them had a confluent attack, and in at least two instances, children who had been vaccinated about one month previously contracted the disease. Lastly, where of ten vaccinated persons, with seven typical sores developing six days after vaccination, and where three of the same lot of cases entirely failed to "take," fourteen days after the vaccination and seven or eight days after the appearance of the vaccin sore only three had escaped the disease, one of these being one on whom vaccination had no effect, and the two mildest cases of the eruption being the baby and wife of the first case, the two having failed to show any vaccin sores at all. Again, two cases with vaccin sores twenty-one days old had severe attacks of the disease, and still again, of a family of ten persons, all of whom were vaccinated at the development of the first case, not one escaped the disease; and there was a duplication of this in another family. You answer that it has frequently been reported that parties who have had smallpox have been successfully vaccinated. "It is to be observed, however, that the smallpox has been experienced, in most cases many years before."[1] It is admitted by all that the more recent the vaccination, the more protective it is. Yet I found persons vaccinated a month and those vaccinated two weeks before the appearance of the disease equally affected. In my last series of cases, one that had a typical cicatrix, and was again vaccinated successfully, with the vaccin sore fully matured, conditions in which, according to Dr. Hare, protection is most easily afforded, had just as severe an attack as did any of the others in the house. The primary vaccination should have perfected it, yet the disease appeared, while one who had never been vaccinated, and on whom vaccination had failed in this group of cases, escaped.

---

[1] N. Y. Record, July 5 and 26, 1879.

Smallpox is communicable in every stage of the disease, while this disease becomes communicable only in the late vesicular, opaque lymphoid or pustular stage. This fact has been demonstrated in every case with which I had to deal. I have already cited families exposed in my last cases. Is this disease that has been so widespread true variola, such as we have met with for years—a disease having a death-rate of from 25 to 50 per cent., while this has none?

I find in examining medical works of old as well as recent dates but little reference to any eruptive disease corresponding with this. In Good's Study, published in 1829, Mr. Marshall reports what is called Kandayan Epidemic. While several cases made a near approach to varicella, all of them so far deviated from the ordinary character of the variolous secretion as to be devoid of a creamy and consistent pus, and rarely exhibited more than a whey-like matter, whether the eruptions were distinct or confluent, or the fever mild or severe. In other respects, Mr. Marshall observes, "the disease did not materially differ from the description given of the smallpox by systematic writers." These were mostly cases that had been preceded by vaccination.

Van Swieten has described a spurious or bastard variola under the name of *Steen-pochen* (Stone-pox), which he claims to have seen as frequently epidemic as the genuine variola, indeed, running apace with the latter, and sometimes succeeding it.

Reynolds,[2] under the head of "Variola Benigna," refers to Van Swieten's description "of natural smallpox under the title of Variola Verrucosa, or Cornea, Stonepock, horn-pock and wort-pock, which we sometimes see in these days, and in which the disease is of a mild, modified character." He says: "These are examples of a mild, natural smallpox, such as have occurred no doubt at all periods to a few favored individuals, and in which, fortunately for the subjects attacked, the disease leaves no trace behind."

CONCLUSION.

Can this disease be called variola vera? The initial fever, backache and headache are the same, but all eruptive diseases have the same train of symptoms to a greater or lesser degree. In a large per cent. of cases of variola in this stage we have nausea and vomiting, with an inflamed condition of the mucous membrane, whilst in this epidemic this state of affairs has been the rare exception. In variola the eruption is, as a rule, more regular in its development. In this I have seen cases as late as the sixth day with vesicles still appearing. In variola the eruption is, as a rule, in the pustular stage, hemispherical; in this, in the third stage, conoidal in almost every case. In smallpox the rule is that the patient begins to fight for his life on the eighth day, but in this he begins to recover. There is no suppurative stage, but a stage of desiccation, and when the scales are removed by force there are no ulcerated bases seen even in the confluent cases. This eruption has never in a single case been followed by boils or phlegmonous swellings, which are too common in smallpox. Smallpox is prevented by vaccination, this is not, nor even, so far as my experience and experiments go, modified, as I have seen milder cases in the same house among the unvaccinated than among those whose arms had a vaccin sore, 8 or 10, or even 21 days old. Smallpox, as a rule, stamps its indelible imprint on its victim: it is the exception to find one "pitted" with this disease, and when pitted at first, the skin rapidly becomes smooth. There is no mortality in this disease, but in smallpox about one-fourth of the cases die. In this disease there have been neither complications nor sequelæ, but in smallpox they are the rule. In the cases which I have seen, and they have been many, not a dose of medicine has been given. Nature has not been interfered with, and all have recovered, whether in the hovel, hut or comfortable house.

You ask what I call the disease—I answer frankly that I do not know.

DISCUSSION.

Dr. J. J. Walsh, New York—It must be remembered that the great Vienna school of dermatologists have never admitted that there is an essential distinction between varicella and variola. Prof. Senator, of Berlin, said not long ago that while at first in his medical career he held with the Vienna school in this matter, later he came to disagree with them, and yet now goes back to his former opinion and thinks the two diseases have some very intimate connection. In Berlin, when an epidemic of varicella appears, Prof. Senator always looks for a true case of variola somewhere in the vicinity.

Dr. Happel's observations, so carefully made, are very valuable as showing, perhaps, an intermediate stage between varicella and true variola. In children-hospital practice it is possible to have with varicella, severe fever, 104 F., perhaps, and, after two or three days, umbilicated vesicles, pustulation and minute pitting, very much resembling smallpox. The study of the two diseases, and especially of cases that seem to occupy a place between them, is most interesting. Dr. Happel is to be congratulated on the faithful observations he has made and on his delay in making a diagnostic conclusion until he was assured of the true character of the disease he had to deal with.

Dr. James, Missouri—I was much interested in the paper, because in Missouri we have been enjoying this epidemic in a somewhat exaggerated form. We have been fortunate enough in having but few deaths from variola, or discrete smallpox. In our state we have had to fight for an opportunity to demonstrate the benefits of vaccination. We have also had an opportunity of demonstrating the peculiarities of some of the medical profession, and the mistakes of a great many of the profession who depend too much on their knowledge as clinicians. We are called to see a case that is supposed to be smallpox or chickenpox and we, on the impulse of the moment, diagnose the case, possibly in the stage of desquamation or inflammation. It is chickenpox. We are too bigoted and too bright to acknowledge our error; it is chicken pox and the whole locality is so informed. In the western portion of Missouri several thousand cases of this form have appeared in certain localities, and the board of health of which I have the honor to be a member has been invited to pass upon the disease. In one locality, in a town of 15,000 or 20,000 people, I was informed that the disease prevailing was chicken-pox, passed on by men of vast experience in that disease during the Civil War. The locality begged for help. I called and found that this town had from 150 to 200 cases of discrete smallpox, with possibly 4 or 5 cases of the confluent form. In another locality there was a case which was brought to Kansas City; immediately I was invited to visit the case. I isolated it and vaccinated the people who had been exposed, with the result that we had no further development of the disease in that locality.

---

[2] Reynolds: System of Medicine. 1880, p. 32.

Dr. Chapman, Ohio—In Ohio during the last year or two, there has been quite an epidemic of this disease. I have also had to contend with the doctors in regard to the name of the affection. In some communities, hamlets or villages where I have personally inspected the patients, I have found 30 in a population of 102 in bed with the disease. In the majority of cases they were adults and very sick. A great many cases occurred in those who had been vaccinated and who bore the well-known marks of pseudo-vaccination. None of them had been vaccinated recently or had any mark of recent vaccination. I wish to call attention to one point. The disease varicella or chicken-pox is not a disease of adult life. It is a disease rarely found in adults. I beg to differ with the writer of the paper regarding his views. I have failed to see a case develop where vaccination had run its course. I object to vaccination after the disease has developed five or six days, because you then would have two diseases running. I do not believe that this is varicella. Formerly varicella and variola were considered alike. In a community of 102 there were 4 deaths from this disease. I believe that if it be left to run rampant there will be more deaths. I believe that if we, as health-officers, do not do our best to isolate the cases and vaccinate the community we shall get a severe epidemic of smallpox such as has never been seen. The majority of doctors have never seen a case of smallpox, and yet they know more about smallpox than those who have.

Dr. Corlett, Ohio—Twenty years ago I studied smallpox in London, and since that time I have studied the disease in various countries, and especially in this country and in the State of Ohio; we get different epidemics, differences in virulence and in clinical features. That is well recognized by all writers on this disease. During the past few years we have had in the State of Ohio a visitation of smallpox, which first started in a small town from an alleged case of chicken-pox. From those few cases the disease has gradually spread over the whole state. In Cleveland we have had a great many cases, hundreds of them, and during this time I have taken the occasion to make photographs of the disease, which I hope to exhibit to another section, showing the differential diagnosis between smallpox and chicken-pox. In Cleveland we have had a number of fatal cases; we have had an opportunity of showing the value of vaccination. I believe that many cases of supposed vaccinations, reported as typical vaccination marks, were due to other pathogenic organisms gaining access. When tubes are used with proper antisepsis a typical lesion occurs and it is devoid of the formation that is so common in a more careless vaccination. I am still of the opinion that we have chicken-pox and smallpox, which differ in severity, and that vaccination is the only safeguard against smallpox.

Dr. Woodruff, Ohio—I know vaccination is a protection. I know of one family of eight people, a dirty, filthy family, all had the disease but the mother and she had been protected by vaccination. I know of another family, where a young man, well to do, had a case of smallpox; he had the pustular form, with much fever, and he was very sick. In that family there were three others, two sisters and a mother, who were protected by vaccination and none of them took it. The stand taken is wrong, for we know that from the disease occurring in a town the whole country may become infected.

Dr. Stewart, Philadelphia—In an epidemic a few years ago in Philadelphia we had as high as 255 deaths in one week from smallpox. There was no mistake about the diagnosis of the disease at all. Any man who went through that epidemic can not fail to recognize the differences between varicella, varioloid and variola. They are as distinct as can be. There could be no mistake in diagnosing the three forms. In regard to the paper read here I do not think from the evidence given that it is any form of variola at all. It comes under eruptive diseases, of course, but I should think it was some form of vesicular exanthem of some kind, due to climatic conditions.

Dr. McCormack, Kentucky—The cases from Tennessee were cases of genuine but mild smallpox, and may have been the cause of the violent outbreak that occurred there where the death-rate was 60 per cent. [Dr. McCormack then moved the resolution which was published in the official minutes of the Section in The Journal, June 23, p. 1630.]

Dr. T. J. Happel, Trenton, Tenn.—I think the resolution is a gross injustice. Dr. McCormack never saw a case of the disease coming from Gibson County, and no case of the disease has been reported as going from Gibson County into Kentucky and none of the Kentucky or Ohio authorities know anything about these cases. I consider a resolution of that kind a gross injustice.

Dr. George Dock, Ann Arbor, Mich., Chairman—The resolution is out of order.

Dr. Happel (continuing)—I must say that many have misrepresented the intent of the paper. I have nowhere argued against protection against variola. Ninety-five per cent. of the persons living in my town were vaccinated under an enforcing ordinance drawn up by myself. Taking the position that I have in the paper, I wish to say that I have no axes to grind. I have succeeded in doing what I expected to do. Personally I have this to say. My first experience in the practice of medicine was with smallpox, and I have met with it time and time again. The cases reported have none of the typical appearances of true smallpox. I am not alone in this statement. I regret that the time allowed me does not permit my enlarging on this point. Whenever this disease has appeared there has been this same difference of opinion as to its identity with variola vera. The older practitioners, as a rule, who treated smallpox twenty years ago, constitute a majority of the doubters. The text-books written from twenty to fifty years ago do not describe any epidemic of smallpox where, as a rule, there was no secondary fever, no pustular stage, no pitting and no mortality. Some of our more recent works on practice have been rewritten on the subject of variola vera and have been made to conform to many of the features of this disease.

One of the most nonsensical arguments, or rather, statements, made in regard to this present epidemic is that continued vaccination through several generations has so modified the systemic conditions of the people that this epidemic in its mild form is easily accounted for. This statement is completely negatived by the fact that there has been no systematic vaccination of the negro population since 1860, and but little up to that time, as the Southern planter depended on isolation to protect his slaves, and not on vaccination. In the South the negro has borne the burden of this epidemic, representing fully 75 per cent. of the reported cases. In Tennessee vaccination, outside of the cities and incorporated towns, has been almost entirely neglected since the war of the sixties, owing to the reports of suffering brought back by returning soldiers who had been vaccinated.

Now, in conclusion, permit me to repeat and emphasize the fact that there is no stronger advocate of repeated vaccinations in this Association and no greater believer in its efficacy and protecting influence against variola than I am, but the point that I make in this discussion is that vaccination has not protected against this disease, as has been proved in the cases reported by me and in the letters received from different sections of our country, which I herewith submit and make a part of this paper.

In addition to what has been already said, I desire to present a few communications in regard to this disease that I have received from different parts of the South when the cases first appeared. I desire to show that I am not alone in the views presented in my paper. The first is an extract from an article by Dr. J. P. Fletcher, of Lonoke, Ark., sent me when I first began the preparation of my paper:

> Much discussion has been had at the bedside of the patient, as well as at the offices of the physicians of our town and surrounding country, about an eruptive disease which has been lingering in our midst since August 17 last. The history is as follows: About August 1 last, one of our citizens visited Little Rock, Ark., and was detained over night, which he spent at a private boarding-house. Upon returning home he was taken with a chill on the morning of August 17, which was followed with a high fever, pain in the head and back, lasting thirty-six to forty-eight hours, when a full crop of papules made their appearance on the face, followed by a full crop on the body. The fever subsided with appearance of

eruption. Patient up in five or six days. No secondary or recurrent fever followed. Desquamation leaves a discoloring of the skin, but no pits, but rather a prominence. This gentleman's family consists of wife and three little boys from 5 to 9 years of age. The boys took it in the course of the following twenty days. The wife and mother escaped entirely. The attending physician diagnosed the case chicken-pox, confirmed by the president of the State Board of Health. . . . I will now give you a brief history of the most interesting and mystifying case that has come under my care. Dr. J. F. O., who was well vaccinated two years ago, was taken ill December 14 or 15, with all the symptoms of all the other patients. There was a full crop of eruption, representing all the stages of full pustule—umbilication excepted—to the minute papule, winding up without a single pit. Up to the 12th inst. his face was still covered with papules, which were gradually fading, leaving the surface smooth and natural. His family consists of father, mother, wife and two little girls. The elder of the little girls was vaccinated when her father was, some two years ago. Both children and grandmother had mild attacks. Grandfather and wife escaped entirely. What is this disease? From the teaching of our latest and best writers I can not think it smallpox. I have been exposed to it from the commencement, and am not an immune from smallpox. Up to this writing have not had any symptom of the disease. I have treated thirty-two cases. We have had, in all, possibly sixty cases in town, with only one death.

Lonoke, Ark., Nov. 29, 1899.

Dear Doctor:—With great pleasure I have watched the proceedings of the Tri-Medical Association during its late session. I was very much interested in your paper on smallpox diversion. The *Commercial-Reporter* gave only a synopsis of your paper, but sufficient for me to comprehend your position in the matter of the disease. In August, 1898, the first case occurred in our town and during the summer and fall we had from 50 to 75 cases, in which we had but one death, and that was a young lady of very delicate constitution, who was also suffering from menstrual trouble. We were informed by an expert, so-called, that as soon as cold weather set in the disease would spread rapidly and be attended with great fatality. During the cold weather, however, there were but few cases, and these very mild, so much so that few called a physician or even consulted one. Up to May 1 of the present year we had 150 cases in the town and surrounding country, with but the single death mentioned above. Another remarkable feature of the disease was that the only fully confluent cases which came under my care were those that had been vaccinated a year or two before. Again, in families of from 5 to 8, 2 to 6 cases would occur, and the rest escape. There was no odor nor recurrence nor secondary fever or pitting after desquamation. My experience with this disease, so-called smallpox, is that it is evidently not even moderated by vaccination, but rather intensified. It is still lingering in our state and it seems to be a concurrent opinion with the profession that it is smallpox, except a few independent thinkers who have the backbone to express their convictions to the contrary. I hope some learned expert will soon find a name for the intruder.

Yours fraternally, J. P. Fletcher, M.D.

South Boston, Va., Dec. 1, 1899.

Dear Doctor:—I am heartily in favor of abandoning the old name of smallpox as applied to this mild or pseudotype of the disease. We have had some 75 or 100 cases here, and they all seemed to get along all right without even the attention of a physician; some kept at their ordinary duties until detected by the health officer. Not one case was sick enough to require special attention. Many of them were negroes, and, according to our best writers, this race usually suffers most. In this instance the negroes suffered least; many of them never stopped from their usual labors. I am unable to understand why we should have such a mild type of so fatal a disease. Vaccination seems to have but little effect in preventing or modifying the attacks. Hence I am at a total loss to know what to call the disease that is contracted from those who have previously undergone thorough vaccination. There does not seem to be any difference in severity in those who have and those who have not been vaccinated. Do you think genuine smallpox can be contracted from varioloid? Fraternally,

Bittle C. Keister, M.D.

Columbia, Tenn., March 15, 1900.

Dear Dr. Happel:—It is currently reported here that you have backed down from the position you took last year in regard to this thing that every little four-by-six doctor is calling smallpox. We have it here, and have hundreds of cases, and not a single scar or death from it yet, nor a single case that has been sick enough to give any concern; any number of them running their course in four to seven days and none lasting longer than fourteen days; never any true pustules or crusts nor any secondary rise of temperature. It occurs as readily and as often in persons recently vaccinated as those not. Vaccination takes as readily after the attack as in those who have not had it.

It occurs as severely in those that have previously had true smallpox as in any other class, as I have had an opportunity to observe in two cases. The patients are sick only one or two days and often not then. In other words, it has nothing in common with true smallpox, and I am very sure it is nothing akin to the genuine article. Please write me if you have changed base in the matter. Your sincere friend,

W. K. Sheddon, M.D.

Coldwater, Miss., Jan. 11, 1900.

Dear Doctor:—This is to obtain a knowledge of your views relative to a very prevalent skin disease simulating smallpox that is scattering all over several states in the South. We have it in this town and prominent physicians are very much divided in opinion as to what it is. It is unnecessary to give you symptoms in detail, as I learn that you have the same trouble in your county. But very few of my cases pit, and none seem to be protected by vaccination. The mortality is very low. I am not of the opinion that it is true smallpox. But many of my older colleagues are very friendly toward the variola idea, yet none have ever seen a case of smallpox before the appearance of this disease. If you have named the trouble please write me full particulars. Yours truly,

Geo. H. McCain, M.D.

McKenzie, Tenn., March 24, 1900.

Dear Sir:—Our town is just now having its first experience with the so-called smallpox, so pronounced by Dr. Albright, Secretary of the State Board of Health. Dr. R. D. Given, one of our oldest and ablest physicians, stoutly contends that it can not be smallpox. He has been attending the patients daily and has treated old-fashioned smallpox several times during his practice. It has been told here that you contended for a long time that the disease that has been *called* smallpox by the state health authorities in your county was not smallpox, but that you had recently changed your views and are now convinced that you were mistaken in the opinion you formerly held. For my own satisfaction, and for that of others, I would like to know if this is true. Very respectfully,

J. T. Burns.

Hickman, Ky., May 13, 1900.

Dear Doctor:—Have you had any experience with the cutaneous eruption that has infested this country for the past twelve months or more? If so, do you think it is smallpox as it has appeared in this country before, or as it is described by the authors on the subject? Do you think it likely we could have at this place over a hundred cases of smallpox—most of them negroes—broken out from head to foot—many of the lumps so close together as to compress each other like peas in a pod and not have a case of secondary fever? A few of the cases had chills; most of them had chilly sensations, headache, backache and fever. Eruption appeared on third day. Patients feel ill on the fourth day; some of them on the fifth. After that the appetite is good. They claim to feel as well as ever, and go to work if you allow them. The eruption remains out for weeks in some cases. There is a little milky fluid under the cuticle about the fifth or sixth day. If the cuticle be rubbed off, the lump is smooth and oval, and is removed by absorption at the base, remaining oval on the apex—unless scratched or irritated—until it disappears, leaving no pit whatever. Some of these cases have quite sore throats for two or three days. One of my cases had marked photophobia, with inflamed lids. In all the cases—I have seen over thirty—I have prescribed a gargle in four only, and solution of boracic acid for the eyes in one. That is all the medication they received, except cosmolin over the exposed parts. If we admit this to be a mild type of smallpox, do you think it would have been advisable to have placed all these cases in a small pest-house? Might it not have aggravated the type? I had guards put at the houses, and isolated them the best I could in that way. But after the fifth day it was almost impossible to keep them confined in any place. Yours, etc.,

Alex. A. Faris, M.D.

CROCKETT MILLS, TENN., May 26, 1900.

Dear Doctor:—I am desirous of obtaining your ideas on an "eruptive disease" which we are having at present in this part of Crockett County. I have been informed that you have had considerable to do with a malady of this type in your county, hence my writing you. I will relate the history of a typical case which, with two others not so typical, has been under my care and observation. The patient, male, white, aged 17, was taken sick the 10th inst. with slight fever, headache, malaise, etc., as the history was given me on Saturday, the 12th, which was the first time I saw him. At this time, the third day of his illness, he complained of frontal headache, general malaise, constipation and some muscular pains; his temperature was 101.2 F. No chill had preceded these symptoms, nor was there any nausea or vomiting or lumbar pains. There had been also in the same family, about two weeks previous to the case in question, some eruptive trouble, which I did not see, but which was diagnosed by the attending physician as "biliousness and impetigo contagiosa." This patient, a girl, remained in bed only two days, so I was informed. Knowing that there had been a "suspicious case" in the family before the boy was taken sick, I took particular care to examine his entire body for some sign of an eruptive trouble, but found none. I inferred therefore that the case was one of la grippe. On the following morning I called again, at which time the boy was covered from "head to foot" with a vesicular eruption, each having a "halo." His temperature at the time was normal, all discomfort had disappeared, and, to use the boy's words, "he felt like being out." These vesicles were on all parts of the body, but more particularly on the face and hands, and not more than one in a hundred were umbilicated, and then only slightly so. On pricking them with a needle they at first would collapse, but later would not, showing that they were reticulated. They remained in the vesicular stage for four days, when they assumed the pustular form, going on to scab and desiccation during the next twelve days. As before stated, there was no pre-eruptive rash of any description, neither was there even a papular stage preceding the vesicular, and his temperature stayed at normal from the appearance of the eruption till the end of the attack. Three representative physicians of this county saw the case with me during the lactescent stage of the eruption, and they unhesitatingly diagnosed the case as one of true, discrete variola. From this diagnosis I dissented, for the reason that there was not and had not been anything charactristic of this malady any of the time, except the vesicular eruption, which was then present; and because the temperature, as in the other case, was normal, and remained so all the balance of the time. Neither was the beginning of the attack characteristic of variola—no chill or chilliness, no nausea, no "backache," and above all, no pre-eruptive rash, followed by papules, giving the "shotty feel" on palpation. In fact, there was absolutely no indication of an eruption until the crop of vesicles appeared. You will notice, too, that from the initial stages until desiccation was nearly complete only sixteen days elapsed, and there was no "secondary fever." I am sure the case was not varicella, because the eruption came too late for that, came out suddenly, and there was not the characteristic phenomena of papules, vesicles and crusts appearing on the same parts of the body in proximity. I omitted to say that the eruption appeared scantily on the tongue and the pharynx.

There have been more than fifty cases of this trouble in Crockett County, with no deaths, and in many instances the parties having the disease did not go to bed, or only stayed there two or three days. I can hardly bring myself to believe this to be variola; if so, I have been misled by the most eminent authorities, viz., Osler, Anders, Tyson and the American Text-book (Pepper). Now, Doctor, I have written you with no other motive in view than obtaining information, or rather obtaining your ideas on the subject, which I may say without any degree of flattery, I am sure are as good as I can obtain, believing, as I have a right to do, that you have seen similar cases and are competent to give me something definite on the subject. I shall hold what you say "sacredly confidential" if you desire it. The cases in question were never vaccinated.

W. T. REDMOND, M.D.

SALT LAKE CITY, May 23, 1900.

Dear Doctor:—I see by the program of the American Medical Association that you are to read a paper on "Pseudo (?) or Modified (?) Smallpox." This subject intensely interests me, as we are having an epidemic of modified (?) smallpox (?) in the West—Utah, Montana, Colorado, Oregon and Wyoming. The profession is at sea and many good men differ as to a diagnosis. Yours, H. N. NAYOR, M.D.

PSEUDO, MODIFIED, OR TRUE SMALLPOX—WHICH IS IT?

H. M. BRACKEN, M.D.
MINNEAPOLIS, MINN.

The first term is in common use at the present time. Let us analyze it. It is applied indiscriminately to a mild eruptive disease prevailing quite generally throughout the southern and middle states and, to a limited extent in other parts of the country. This disease is admittedly like smallppox in many of its characteristics, but those who use the above term in describing it insist that certain characteristics of smallpox are absent. I presume no one will dispute the fact that the disease prevailing so generally, whether accompanied by slight or severe symptoms, is one and the same when the line of infection is clearly continuous. It is therefore all smallpox or not smallpox. Let us consider carefully some of the arguments used against the diagnosis of this epidemic disease as true smallpox.

First, the mildness of the disease! It is absurd in this day of advanced knowledge to put forward such an argument. We all know that there may be mild epidemics of diphtheria, in which the majority of cases may show but little membrane; that often diphtheria prevails as an epidemic under the false name of tonsillitis until a few deaths arouse the lethargic physician, or a microscopic examination reveals the presence of the bacillus of diphtheria. Who would say that an epidemic sore throat with the specific bacillus of diphtheria present was not diphtheria because the disease was of a mild type, and had none of the dangerous symptoms of malignant diphtheria? Again, we have probably all seen an epidemic disease with many of the characteristics of scarlet fever but varying in degrees of intensity from the mildest rash, characterized by the old-woman doctors of both sexes as scarlet rash, to the severest type with the accompanying fatal sequelæ. Would any intelligent physician of modern days say that the cases with the mild symptoms and those of the severe type were not one and the same? It was not many years since it was considered necessary to have the typical history of typhoid fever before we were willing to call a fever by this name, but now we know that there may be a mild typhoid fever with very few of the classic symptoms of that disease. Let us be reasonable then and admit that while it is the rule to have a mortality of from 25 to 50 per cent. with smallpox, it may be possible to have the disease in mild form with a very low mortality.

The eruption is said not to conform to the book description of smallpox. Are we such slaves to books that we can not make a diagnosis of smallpox without all the cases having an ideally-formed eruption? It is no uncommon thing to find grouped together cases with the typical eruption at one extreme and the non-eruptive cases at the other, with all grades of eruptions between. Would any one with the history of a common infection say that some of these cases were smallpox, and the others not? What would those who need a classical eruption in order to make a diagnosis do with the most fatal of all, the hemorrhagic cases? I presume they would call them purpura hemorrhagica instead of hemorrhagic smallpox.

The temperature is said to be too mild in the majority of cases. Why should not the temperature be mild if the infection is mild? It certainly would be a freak of nature to cause a prevailing fever out of all proportion to the degree of infection. The secondary fever is said to be absent. The physician who has to wait for the secondary fever of smallpox before he can make a diagnosis would do well to change his profession. Why should there be marked secondary fever when the eruption is mild? Not long ago I saw a young lady with probably not more than a dozen smallpox pustules on the entire body. Why should she have secondary fever? Her brother, a young man, contracted the disease from her. He had confluent smallpox and a secondary fever.

Those who wish to call this mild type of smallpox by some other name, point to the fact that good authors state the danger of infection from smallpox is present during the entire progress of the disease, and likewise that all who are exposed to a given case at a given time do not promptly succumb at one and the same date, about fourteen days from the time of exposure. But why should they? All individuals may not be equally exposed at one time. Some may be more susceptible to infection than others. It is possible for an individual to have absolute resistance to infection at one time and not at another. It is even possible to have a natural immunity against this disease, the same as with other infectious diseases. Some writers at least who use the evidence of mild or irregular infection as an argument against smallpox, in speaking of this disease seem to recognize the fact that as a rule it attacks all, or at least many, of the non-immune members of a household when it once appears. Those physicians who consider the disease smallpox are cognizant of the fact that all who are subjected to a casual exposure do not of necessity become ill. Why should they? With the disease in mild form it is quite natural that the degree of infection should be mild. But even with the disease in severe form a casual exposure is not necessarily followed by infection. About one year ago I visited a child who died of confluent smallpox while I was at the house. Her father, a physician, had failed to recognize the disease. As a consequence the whole village had practically been exposed, many of the inhabitants more than once, for the child lay ill in a semipublic room and had many visitors. Yet, following this there were only eight cases from direct infection.

It is said that some of the prodromal symptoms of true smallpox are wanting in this epidemic. Granting this to be so, it proves nothing. We do not need all of the classical symptoms of typhoid fever in order to make a diagnosis. If a few typical ones are present, that is sufficient. I venture to say that with the exception of the smallpox cases without eruption, all of those occurring even in mild form have a sufficient number of symptoms at some stage of the disease to enable the careful observer to recognize the presence of smallpox.

Some of the doubters state that vaccination does not protect against the prevailing epidemic. This does not agree with my experience. An old vaccination, an imperfect vaccination, a vaccination made after exposure, may not afford protection. But in a large percentage of *successful*, recent vaccinations protection is complete. Some have been vaccinating these cases during or immediately following their recovery with the belief that evidence of a successful vaccination under such conditions would tend to stamp the disease as not smallpox. Such a test is absolutely useless. There is no reason why vaccinia and variola should not exist at one and the same time in an individual. They may have some influence on each other without complete antagonism. It would be strange, however, if all those who had this mild form of smallpox should respond to vaccination made a sufficiently long time after recovery from the first disease. I do not think they all will, and my opinion in this matter has been borne out by the experience of those observers with whom I have been associated.

Regarding the advisability of calling this mild type of smallpox—for such it undoubtedly is—a modified smallpox there is little to say. It certainly is not varioloid, for by this we mean smallpox modified by vaccination, and many of these mild cases under consideration have never been vaccinated. If vaccination had been practiced quite generally over our entire country thirty and forty years ago, and then neglected during the past twenty years we might then think that a partial immunity had been secured. I do not lean to this latter belief, but rather to the opinion that we have nothing more or less than a mild type of disease, such as may occur at times with other infectious diseases. A few illustrations may be of value.

About a year ago I was called to see a man, aged 40 years, suffering from an eruptive disease called chicken-pox by his attending physician. He gave the history of having had somewhat marked symptoms before the eruption appeared, with but little discomfort afterward. The case had not been quarantined before the seventh or eighth day of the disease. The population of the village was about eleven hundred. Investigation brought out the fact that in all there were eleven cases in this village; nine preceding and one following this man. Most of these were adults, all closely associated. None had as marked eruption as the man under consideration. All had marked prodromal symptoms but not all of those described in books as belonging to smallpox. The source of infection for these cases was traceable to undoubted smallpox. The man under consideration had smallpox. The others had beyond a doubt the same disease, although in very mild form. None of the cases were fatal.

Again, in the early spring of 1899, a man, aged probably 50 years, returned from California, visiting for a time in Nebraska before reaching his home in southern Minnesota. At the time of reaching home he had a mild eruption, which did not discommode him at all, and which he called chicken-pox. Shortly after his return, his wife became ill with smallpox and died. She undoubtedly contracted the disease from her husband, who had had smallpox in mild form instead of chicken-pox. There were five other cases of smallpox from these exposures, varying in degree from a very mild exanthem to a most marked eruption. One of the patients, a physician, died of smallpox contracted while attending the first fatal case.

Again, early in August of 1899, it was reported to me that two young men, doing business in a city having a population of about 3000 inhabitants, were ill with chicken-pox. I advised the local health officer to be on his guard, as in all probability the young men had smallpox in mild form. Later I learned that no heed had been given my advice. The young men had carried on their business as grocers, regardless of the disease. From this infection there were in this city and vicinity over two hundred cases of smallpox *without a death.* However, there were four deaths in places somewhat remote, traceable to infection at this place.

It is not difficult to furnish illustrations like the above. There have been over one thousand cases of smallpox in Minnesota since January of 1899, having the characteristics of the so-called pseudo or modified smallpox. There has been a total mortality of a trifle over 2 per cent., although in some localities with many cases there have been no deaths. Some of the fatal cases were of the acute hemorrhagic type, causing death before the fifth day. In several of these cases a correct diagnosis was not made until after death.

We can not be too careful in dealing with the present general epidemic of smallpox, and those physicians who have failed to make a correct diagnosis or who are seeking notoriety by suggesting a new name for an old disease can do much toward aiding in the suppression of the trouble by admitting their errors, or at least ceasing to preach false doctrines.

TYPHLITIS, PERITYPHLITIS AND APPENDICITIS IN INFANCY AND CHILDHOOD.

CAUSATION AND RELATIVE FREQUENCY*.

JOSEPH HENRY BYRNE, M.D.
Visiting surgeon, Metropolitan Hospital and Dispensary.
NEW YORK CITY.

The title of my paper might possibly lead some to suppose that I was about to bring forward few or many well-grounded facts which might tend to sustain the theory of the older writers. I wish, however, to correct any such impression at the start, for I fear it is not within my power to add much, if anything, to a subject that has been so thoroughly gone over by the most competent men in the profession, both here and abroad. The wonderful strides that have been made in pathology and bacteriology, within the past two decades have so thoroughly revolutionized matters that we are forced to disregard theories that only a few years since appeared tenable, as patient research and the aid of the microscope have removed many an obscurity. However, this does not seem to have been the case with typhlitis and perityphlitis, as the theories that were first accepted seem to have been the result of mere speculation. Most of us are familiar with the teaching of Albers, which he advanced about 1838, and which was accepted as the correct view by the majority of all writers of text-books for nearly half a century. About the same time Grissolle did his best to controvert these teachings, as he certainly perceived that they were groundless. He was by many of his confrères looked upon as a "crank," and, in reality, he was the one who set the wheel of knowledge revolving in the proper direction. He rightly asserted that inflammations involving the cecum were not accompanied by accumulations of pus and perforation of the appendix, which we find in the right iliac fossa, when even dysentery and ulceration of this part did not tend to involve the adjacent connective tissue. He again claimed that disease of the vermiform appendix, with its phlegmonous inflammation, pus formations and perforations, explained in a satisfactory manner the chain of events as they actually take place, and he thus gave us a fairly true picture of what we now know positively occurs. His theory was not speculative, but was the result of patient and careful research and actual post-mortem investigations.

The weight of evidence is so abundant that we must be led to the belief that the premises on which the other writers based their conclusions, with the exception of Grissolle, were erroneous. We are also forced to the conviction that the inflammations around the cecum take little or no part in the production of appendicitis; also that few cases of typhilitis exist as a primary disease, and that perityphlitis only takes place as a secondary complication. In fifteen years I have never seen a case of primary typhlitis or perityphlitis, and the literature of recent years shows that the majority of others have had like results.

Hawkins, in his book on diseases of the vermiform appendix, while referring to the inflammatory trouble found in the right iliac fossa, states that the cecal theory has undergone gradual modification until it is now quite extinct, owing to the fact that all evidence is opposed to this theory, both clinically and pathologically. It is very easy to understand how such men as Laennec, Ferrall, Burne, Albers and otners entirely ignored this little rudimentary offshoot when the great surgeon, Dupuytren, looked on the cecum as being the starting-point in the trouble, and it was probably owing to his support that the true cause of the disease was so long withheld from view.

Einhorn, of Germany, in 100 cases, found the appendix the origin in 91 per cent.; the cecum in only 9 per cent. Wallis, in 52 cases, found the cecum to be the cause of 10 per cent.; the appendix in 89.8 per cent. Renvers, in 586 autopsies after perityphlitis, found the appendix ruptured in 497 cases, and expressed as his view that five-sixths of all the fatal ones were caused by perforation of the appendix, and that perforation of the cecum occurred in 13 per cent. Agar, in 218 autopsies for a similar condition, found cecal perforation in but 29 cases. Volkmann stated that it was his belief that typhlitis and perityphlitis are due to perforation of the appendix, except in those cases of tubercular and typhoid ulceration of the cecum itself. Talamon says that early operation seldom, or never, shows the presence of inflammation or perforation of the cecum, and that we are, therefore, correct in ignoring the observations of the older writers. He, however, admits that it is secondary to the inflammation of the appendix; that the process takes place from without inward, owing to the proximity of the organ to the peritoneum covering the former. Hawkins, like Volkmann, believes that the cecum may be the seat of trouble in tuberculosis, dysentery and typhoid fever, but concludes that the process is then only part of the original disease, and that perforation under these conditions is not likely to occur. Stercoral accumulations in the cecum may very rarely produce a mild inflammation, but never give rise to ulceration and easily disappear on the administration of purgatives. Mynter, like all recent writers, states that the chain of events points directly to the appendix as being the primary seat of the trouble, and directs our attention to the predisposition of the affection to occur after one attack, whether that be mild or severe, and such, I firmly believe, must be the experience and conclusion of all of us.

Owing to the fact that the mucous membrane of the appendix is continuous with that lining the cecum, it would be a most natural assumption that inflammatory and ulcerative conditions involving the membranous covering of the latter would by extension spread to that of the former, but such does not seem to be its tendency.

The inner coat of the gastrointestinal tract is frequently the seat of varying degrees of inflammation during the periods of infancy and childhood, and we are all familiar with the different forms of gastro-enteritis and ileocolitis of the catarrhal, follicular and ulcerative types. If these ordinary inflammatory states played a major part in the production of appendicitis, we would frequently meet with this condition during early life, while statistics prove beyond question that the disease is rather infrequent before the fourth year, increasing between that period and the tenth, while the majority of cases take place between the tenth and thirtieth years.

---

*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

If any relation existed between these two conditions, we would naturally look for an increase in the number of cases during warm weather, when the above diseases are more prevalent; but there seems to be no difference whatever so far as the seasons are concerned, as appendicitis is just as frequent in the cold as in the warm months. It is a well-known fact that inflammations in the large and small bowel have little or no tendency to involve the peritoneum, and that the opposite is the rule with an inflamed appendix. With this in mind it is easy to understand how the inflammatory process can extend to the serous coat of the neighboring parts and the adjacent connective tissue.

ANATOMY.

Before proceeding further it might be well for us to view the component parts of the appendix with its blood-supply and mesentery anatomically, for in these parts, as we will later see, are to be found a few potent factors in the causation of the disease.

From within outward we find the mucous coat lined with cylindrical epithelium with its basement membrane, tubular glands and closed follicles. The reflection or folding of this membrane, when such takes place, at the cecal opening, forms what is known as the valve of Gerlach. The submucosa is made up of connective tissue, with spaces for the blood-vessels and lymphatic openings. The muscular coat is composed of a few nonstriated, longitudinal muscular fibers, with a varying amount of fibrous tissue, innermost to which are found some circular fibers that are not very numerous in the majority of cases, the combination of both forming the greater part of the entire wall of this organ. Some have gone so far as to state that no circular muscle fibers exist, but the majority rightfully claim otherwise, as the microscope has disclosed their presence on numerous occasions. The conformation of the fecal concretions so frequently found adds another proof of their presence, as the tapered ends and convex surfaces of these masses tend to show that peristaltic waves take place from either end of the appendix toward the center of these bodies.

Lastly, we come upon the serous coat, which, in the majority of cases, i. e., over 75 per cent., entirely surrounds this organ. While this membrane is in close proximity to the underlying structures of the appendix, and takes a more or less active part in all the inflammations involving it, it must not be forgotten that it is a distinct structure in itself, and is only a part of the general peritoneum.

The meso-appendix, which is triangular in shape, varies in size, sometimes accompanying the organ for its entire length; in other cases, and, in fact, in far the greater number of cases, it only extends part way; or, again, it is occasionally conspicuous by its absence.

The arterial supply, which consists of a single branch, passes along the free edge of the meso-appendix to the distal end of the organ; when no mesentery exists it passes beneath the peritoneum in the same direction. In the female an anastomotic loop is given off from the region of the right ovary.

The appendix varies more in size, position and general make-up than all the other structures of the human anatomy. The size seems to bear no relation whatever to the frequency of the disease, as a very large appendix is just as apt to become the seat of an inflammatory process as a smaller one. In childhood the organ is very rich in lymphoid tissue, has been compared to the tonsil, and, therefore, has been styled the tonsil of the intestines.

The appendix is an atrophied organ, or the rudimentary remnant of a lengthened cecum seen in nearly all mammalia except man. It is also found in the wombat, and is present in the different types of the higher apes, but in the latter, so far as our knowledge goes, it does not seem to become the seat of inflammation. It being an admitted fact that this organ is an atrophied, a functionless and rudimentary one, with a blood-supply that can easily be interfered with, and which at its best seems barely sufficient under healthy conditions, it must, therefore, be more or less susceptible to any inflammatory state. The physiologist up to the present time has not credited this little mischief-maker with any special function or assigned to it even a remotely-indirect part in our vital economy. Some have suggested that the secretion might act as a lubricant to the adjacent parts; but if such were really its office, the dwarfed condition which we find would not be the rule, but the exception. The fanciful ideas of some need not receive our consideration, as up to the present we know nothing of its good qualities, and have prudently learned to fear it. It, therefore, resolves itself into a useless and dangerous organ, and we may honestly classify appendicitis as one of the later additions to the ills that we are told man became heir to on the fall of Adam.

The first anatomic description of the appendix is credited to Capri, 1524. Videus, in 1561, applied to it the qualifying term "vermiform," which it holds to the present day, while the valve and the appendix were both described by Lieberkühn in 1739, but real accurate accounts did not appear until the present century. As early as 1759 a case of perforative appendicitis was described by Mestivier, and between 1827 and 1868 a number were recorded by English, French and a few by German writers. In these early cases, although the description points conclusively to the existence of true appendicular inflammation, all of them being of the perforative or suppurative varieties, the pathological conditions were not understood, and their views, necessarily, are not in accord with the knowledge which we possess at the present time. This offshoot from our alimentary canal can be looked on as unimportant, so far as its usefulness is concerned, but most important from a medical and surgical standpoint, owing to the fact that it is commonly the seat of pathologic changes. It did not attract much attention until within the past fifteen years, when the real importance of appendicitis became understood, its pathology disclosed and the different stages first described. Although the earlier writings of our foreign brethren first brought the subject to our notice, the credit for our present knowledge regarding the disease belongs to us, owing to the able contributions of Weir and McBurney, of New York, and Fitz, of Boston, which placed the disease within the proper focus, thus enabling us to intelligently understand the part the appendix played in the different conditions, as formerly described and as we see them today, our eyes being opened for the first time to a clearer insight into the sequence of events as they take place pathologically in this appendage. If I were to stop here I would be doing an injustice to one of the younger men in the profession, as it was Dr. Hodenpyl, of New York City, who first suggested that the bacillus coli communis played an important part in the production of appendicitis, and later observation by himself and others proved this to be correct.

ETIOLOGY.

Formerly the principal cause in the production of this disease was attributed to the presence or lodgment of foreign bodies in the lumen of the appendix, and an operation that did not reveal the presence of such a body was not looked on favorably by the laity, so forcibly was this impressed on their minds. Within the past ten years or less the disease of this organ has attracted so much attention that its true character has been better understood, so that the existence or absence of orange, grape or date seeds, etc., is looked upon as playing but a minor part in the production of this affection. When, however, they do exist, they, like fecal concretions, act in a mechanical way, and thus become pathologic factors in bringing about the trouble, either by occluding the lumen, by interference with the blood-supply or the normal peristaltic movement, or, finally, by acting as irritants. The knowledge within our possession leads us to classify our causes under two main heads—predisposing and exciting.

PREDISPOSING CAUSES.

The variations in the size, position, character of the lumen, and the anatomic structures in and about the appendix, call our attention immediately to the consideration of a few very important agents in bringing about this disease. The average size of the appendix, according to Ribbert, varies during the different periods, being longest during early adult life. At birth it measures 2 4/7 cm.; up to 5 years, 7 2/3 cm.; from 5 to 10 years, 9 cm.; from 10 to 20 years, 9.75 cm., and from here on it seems to decrease. With the length it may be well to take into consideration the mesenteric attachment. When the latter accompanies the organ in its entirety, or nearly so, it is apt to assume a position that is straight, or one that is nearly so; but where the mesentery is incomplete it may then become curved upon itself or twisted, which it actually does, thus interfering with the circulation and the free drainage of the normal secretion, which, when locked up for any length of time, may of itself, or by the addition of another factor, bring about a catarrhal condition. Again, the curve, or kink, would naturally retard the egress of any fecal material that might perchance gain admittance, and we then have added a new element of danger, as the conditions are then ripe for the formation of a concretion which may receive further additions of fecal material, and which may also become the seat of calcareous deposits.

The next point for consideration is that of position, and we are all well aware that the appendix is not exclusive in its choice. It, however, in about 60 per cent. of the cases, selects one of two positions; in the first the appendix takes an upward and inward direction, looking toward the spleen, and in the second instance it lies directly behind the cecum itself. Both these favor the complete emptying of the cavity of its normal secretion or any fecal matter that might possibly have gained admittance. If, on the other hand, the selection is in any way opposed to gravity, we have certain elements of danger added, as the ingress of material is facilitated and the egress is more or less hampered; thus an unusual amount of labor is put on the muscular coat, which we all must acknowledge is barely sufficient under normal conditions.

The appendiculo-cecal opening and the cavity itself are of some moment, and, therefore, must claim a share of our attention. The former being the common entrance for both incoming and outgoing material, an opening that would permit free passage is one that we would naturally select, and in the majority of cases this is not always what we find, as the door of communication is sometimes so narrow that a filiform bougie is passed with difficulty. Whether this state is congenital or more likely the result of one or more mild attacks of inflammation, or retrograde changes, does not concern us only so far as it obstructs the way. Along the canal itself constrictions are commonly met with, and act in a similar manner to the above. They are the result of cicatricial contractions following one or more inflammatory attacks, and vary according to the degree of destruction of the mucous membrane and the underlying tissues. The lumen varies considerably, a narrow pouch facilitating the complete discharge of mucus or fecal material, when no strictures or twists are present, while a large one adds to muscular effort, and, owing to the likelihood of its incomplete emptying, favors the production of fecal concentrations and inflammatory processes.

A very interesting table is one given by Ribbert, in which he tells us he found 99 cases of stricture in 400 bodies, and what is still more interesting, that the frequency varied with the age of the individual: At 1 to 10 years, in 4 per cent. of bodies; at 10 to 20 years, 11 per cent.; at 20 to 30 years, 17 per cent.; at 30 to 40 years, 25 per cent.; at 40 to 50 years, 27 per cent.; at 50 to 60 years, 36 per cent.; at 60 to 70 years, 53 per cent.; at 70 to 80 years 58 per cent.

The infrequency of stricture between the first and twentieth year leads to an important question: i. e., whether the lesions are the result of inflammation or retrograde changes. Fitz and others claim that the condition is pathologic, but Ribbert and Hodenpyl, while admitting the possibility of the former, state, however, that the majority are the natural consequence of the latter. Strictures have been found a number of times in the fetus, and Hodenpyl notes two cases found by him in the new-born.

Most of us are called on to treat children suffering apparently from some stomach or intestinal trouble, which usually responds to treatment in the course of three or four days, the cause being ascribed to some indiscretion in diet. It is my firm belief that if we were a little more careful in our examination we would often find the appendix the seat of a mild catarrhal inflammation, which later on may result in a constriction. As an exemplification of the effects of these mild attacks of inflammation, I will cite a very interesting case which lately came under my observation.

A little girl between 12 and 13 years old, according to her mother's statement, for several years had occasional attacks of what she called "biliousness"—two or three each year—during which time she suffered from nausea, vomiting, pain in the abdomen and headache. The child usually recovered in three or four days. A purgative was always administered with other home treatment, the doctor not always being consulted. The last seizure was more severe: about the fifth or sixth day the family physician was consulted, and the following day, through his kindness, I saw the patient. A few hours after my first visit I removed the appendix and found the proximal end of the canal nearly closed for about one-fourth of an inch; the minute communication that still existed was filled with broken-down material. The appendix was a little over three inches long, and three-fourths of an inch wide at its center. It was flattened upon itself, gangrenous, ruptured through both sides a little above the center, and still contained within its lumen a large fecal concretion. The cavity itself was considerably dilated, this being due to the long-continued retention of mucus and fecal matter. Firm adhesions walled in about two ounces of pus, detritus and feces. The stump was so rotten that it was sutured with difficulty, and finally gave way on the eighteenth day from incessant coughing, caused by a complicating double pneumonia. The patient eventually recovered.

The concretion in this case was evidently secondary to one or more attacks of catarrhal appendicitis, for had the opening been many times larger it could not have gained admission to the cavity. Healing by granulation near the opening resulted in the formation of cicatricial contractions, the fecal matter that entered was locked up within its walls, the watery constituents absorbed and the first stage of this condition was completed. The dilatation of the lumen followed from the retention of the normal, and, later, the exaggerated, secretion, the concretion acting as a ball valve at the door of communication. The subsequent attacks resulted from decomposition of mucus, the irritation caused by the presence of the concretion, interference with the circulation, and, lastly, from the invasion of microorganisms.

Comparatively speaking, the appendix is relatively larger in fetal life, infancy and childhood than it is in adults; and, according to Ribbert, it compares with the large bowel as 1 to 10, while in adults its relation is 1 to 20. It is also somewhat longer and wider in the male than in the female, and this holds good in the early periods of life.

With the diminishing ratio, which is nothing more than a retrograde process, the vascularity of the part must also be lessened, and, as the tissues receive their nourishment through this channel, I am firmly convinced that the slight immunity that exists in the earlier periods of life can be credited to the fact that these changes in the majority of cases are not sufficient to interfere with the integrity of the organ until after the fifteenth year, and statistics support this assumption, as only about 15 per cent. of all cases of appendicitis occur prior to the fifteenth year.

Mucous Membrane.—In early life the mucous membrane of the appendix possesses wonderful power of absorption, and this in itself becomes an active predisposing cause.

Sex.—All statistics prove beyond doubt that the female is less frequently the victim of appendicitis than the male, and the percentage does not seem to vary any more in the earlier periods of life than it does in later years. Some good reason evidently gives the female this advantage, and this is accounted for by the increased blood-supply, a small anastomotic branch being given off from the region of the right ovary, and passing along the appendiculo-ovarian ligament of Clado, and secondarily to the comparatively smaller size of the organ itself. In the male a single blood-vessel supplies the part, and all anatomists agree that no anastomosis exists. When for any reason the circulation is interfered with by kinks, twists, constricting bands, compression, etc., compensation can not take place, and the result is a lowering of the vital powers, an inability to resist even a mild inflammation, if such should attack the part.

Recurrence.—Mucous membranes that have once been the seat of catarrhal inflammations are predisposed to successive attacks. This is seen in that covering the tonsils, bronchi, air-vesicles, bladder, etc., and the lining of the appendix does not seem to be an exception to this rule. The following figures, taken from the work of Mynter, treat particularly of relapse, and are worthy of note, as they give the result of accurate observation, but, unfortunately, do not state the actual number of cases on which the percentage was based: Irish found that 50 per cent. of the cases tabulated by him suffered recurrence; Price, likewise, 50 per cent.; Richardson, 49.4; Ransohoff, 50; Knaussold, 23; Krafft, 22; Porter, 9.5; Bryant, 11-17; Sahli, 20; Gage, 33.5. Some place the ratio much higher, others consider it less. Although these cases were taken collectively, and, therefore, do not refer specially to early life, they are yet important, owing to the fact that 15 per cent. of all cases occur between the first and fifteenth year. My own experience, however, leads me to believe that recurrences are less frequent in infancy and childhood than they are in later years, although the first involvement may lay the foundation for attacks which occur later. At all events, it is true that one attack predisposes to subsequent inflammation, whether this be occasioned by secondary constrictions of the caliber of the appendix or a contraction of the orifice itself, by adhesive bands, the presence of concretion, or any condition that will in any way interfere with the circulation, and, finally, by a resulting subacute inflammation that sooner or later becomes active. Occasionally we find a complete occlusion of the entire canal in the adult. While such is possible during early life, I have never seen a case recorded.

Constipation and Diarrhea.—Either of these alone probably plays little or no part in the production of appendicitis, but when associated with any of the above enumerated predisposing causes, the result may occasionally be an inflammation.

If the observations of Maicaigne be true, namely, that the bacillus coli communis found in diarrheal discharges is much more virulent than that found in the healthy bowel, diarrhea might then become a potent factor in the production of the disease.

Any inflammatory state of the membrane in this region may at times play a part in the causation of the disease, especially when the mucous coat at the door of communication is involved, as, owing to the devitalized condition of the structures, the epithelium lining with its basement membrane may undergo a destructive process, the repair of which results in the formation of cicatricial bands. These mild catarrhal inflammations may play a more important rôle in the etiology than we give them credit for, and the fact must not be lost sight of that the powers of absorption which the appendix possesses are greatly enhanced during early life on account of the abundance of lymphoid tissue; its power of resistance gradually diminishes as the retrograde metamorphoses advance—which retrogression may easily become pathological—and, therefore, when attacked, it must necessarily succumb to a gradual process of destruction on account of its lessened vitality, which destruction may be complete or otherwise.

Exposure.—Deaver notes three cases that are interesting: one caused by wet feet, a second due to a cold shower taken after a hot bath, and a third from being chilled shortly after taking a full meal. These are possibilities, but are so remote that few of us will ever be able to record such instances.

Typhoid and Tuberculosis.—Both are minor factors in the causation of the disease; the former more frequently than the latter, as the solitary glands are often the seat of ulceration, the healing process resulting in the formation of a stricture. Both are common occurrences post-mortem, but are seldom met with after operation for appendicitis.

Exciting Causes.—Micro-organisms are without doubt prime factors in the production of appendicitis; they may act independently, but the invasion is more frequently secondary to a twist, kink, constriction, interference with circulation, the presence of a concretion or a foreign body or any irritating material, or condition that will bring about an action or virulent state of the bacillus coli communis, a natural inhabitant of the intestinal tract, which, under normal conditions, seems harmless. Welsh believes that the germ is innocent, so long as the integrity of the mucous membrane is maintained, but becomes pathogenic when the same is the seat of inflammation or of traumatism. Others disagree with this view, and Hodenpyl found numerous bacilli on the walls of the appendix without any lesion of the mucous membrane. This bacillus is without doubt a most important etiological factor in appendicitis, as Hodenpyl records its presence 34 out of 35 times; Hawkins, 57 times in 61 cases, and the experiences of many others have given like results.

Traumatism.—This occurs much less frequently than we are led to believe. It is of two kinds, direct and indirect: the former due to a pin or sharp foregn body that might enter the lumen of the appendix, causing an injury or abrasion of the mucous membrane, by penetrating a part of or the entire wall itself, while the latter is caused by violence directed through the abdominal wall. Instances of direct injury have often been recorded, and while it is possible for indirect violence to become an etiological factor, I feel positive that the appendix is already in a receptive state—from one or more of the predisposing causes mentioned—and, therefore, that the traumatism, while it may seem the active agent, is in all probability only a minor factor in the causation of appendicitis.

Foreign Bodies and Concretions.—Both, when they exist, can be credited with bringing about an inflammation. The former are introduced from without—seeds, gall-stones, pins, buttons, etc.—and may become a nucleus for the latter, which are always found in the appendix. Foreign bodies occur less frequently than is generally supposed and therefore do not play the important rôle with which they were formerly credited.

Concretions are of more frequent occurrence, and act first as irritants to the mucous membrane, producing catarrhal inflammation, facilitating the invasion by micro-organisms, and then by mechanical interference, either by occluding the lumen, acting as a ball valve at the opening itself or at the seat of a stricture, causing retention of secretion, with its consequent dilation and thinning of the walls of the organ, also by obstructing the circulation even so far as producing gangrene, and bringing about necrosis from pressure.

Actinomycosis.—Kelynack reports one case caused by this, Lange another; both, however, were in adults, and even here the instances are rare. The parasite has not been charged with producing appendicitis prior to the fifteenth year.

Although the case which I am about to relate does not come within the scope of my subject; it is a very interesting one and records the first attempt—successful or otherwise—to expel a fecal concretion by digital manipulation.

April 15 I was called to see a boy of 10 years, who for five or six days previous had suffered from constipation, nausea and general malaise. On the 13th, after an attempt to force a movement, he was taken with a slight pain about the region of the umbilicus, which continued at irregular intervals. The family noticed his condition, but did not attach any importance to it, and he was therefore permitted to take a horseback ride on the afternoon on the 14th. He returned in a short time, stating that the jolting increased his abdominal pain. After returning home he went to bed, and on the following morning visited Sunday-school, where he was seized with severe vomiting, the pain becoming so intense that he finally had an attack of syncope. I saw him a few hours later; he was on his side, with his thighs flexed, and stated that this was the most comfortable position; temperature was 101, pulse 114; he complained of continuous pain in the umbilical region, with rather frequent spasmodic seizures so severe as to cause him to cry out. The entire abdomen was found to be somewhat sensitive, but the tenderness was most marked in the right iliac fossa.

On careful digital examination the appendix was found in a perfect state of erection and in a somewhat unusual position, i. e., on the outer side of the gut, directed upward and outward toward the crest of the ilium. The abdominal wall was exceedingly thin, the muscles not very tense, and it was therefore exceptionally easy to make out the parts.

I judged that the appendix was about three inches in length, and about one inch from its distal end I discovered one small, but rather hard, concretion which I was able to dislodge and pressed toward the gut. A purgative was administered and an ice-bag applied.

April 16: Temperature, 101; pulse, 104; pain still present; tenderness in right iliac fossa more marked; appendix could be no longer made out distinctly. I suggested an operation, and while the father appreciated the condition, he preferred to wait till after my visit the following morning.

April 17: temperatnre, 99; pulse, 84; complained of no pain; tenderness still present, but greatly diminished. The appendix could be made out, but the concretion was no longer in evidence. The boy said he was perfectly well and complained of extreme hunger.

April 19 he was permitted to sit up, and passed out of my hands, as the parents considered a recurrence the main indication for an operation.

The expression of hardened fecal masses by digital manipulation, to my knowledge, has never before been referred to, and although the cases where this mode of procedure would be applicable must necessarily be few, yet I could not refrain from calling your attention to the manner in which this very satisfactory result was accomplished.

TRAUMATIC INSANITY.*

WITH REPORT OF A CASE.

E. G. CARPENTER, A.M., M.D.
Superintendent Columbus State Hospital; Professor of Nervous and Mental Diseases in Ohio Medical University; Neurologist to the Protestant Hospital.
COLUMBUS, OHIO.

The absence of sufficient clinical, pathologic and histologic data often give rise to mooted medical questions. Any evidence brought to view, having the semblance of fact, is grasped with avidity as an addition to the fabric of truth. As long as a medical question remains undefined, open to all contributors, so long is there an opportunity for error to hold sway, and thus lend perpetuity to its obscurity. The truth-seeker, therefore, must still busy himself in combating the false and vagarious, and not permit them to foist and fix themselves upon that which is in most need of truth and clearness.

In the light of to-day's science, moral causes figure more lightly in the etiology of insanity, and more stress is being laid on such physical causes as heredity, degeneracy, the diseases causing malnutrition, infectious diseases and autointoxication. Surgery has been strongly suggesting the participation of pelvic diseases, postoperative influences and traumatism as causal factors. In this eagerness to explain much of the obscurity in the cause of insanity, injuries to the cranium have been given some prominence. Believing it to be one of the rarer causes, I wish to offer the following report of a case, with some added observations:

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Case.—F. B., male, age 39, native of United States, single, musician; no family or personal history obtainable, except that patient habitually used alcohol to excess; not epileptic, sleep irregular, but general health and appetite good. Regarding his mental condition, the physician making out his commitment papers said of him: "No evidence of mentality since January 29, 1898. On that date he was struck by a motor car and sustained a fracture at the base of the skull."

The following statement was given by Dr. T. C. Hoover, visiting physician to St. Francis Hospital, where the patient was taken immediately after his injury:

The patient and his brother were street musicians and were struck by an electric car. As a result of the injuries received, the brother, who was blind, died, and our patient was an inmate of St. Francis Hospital from January 29 until March 14, when he was brought to the Columbus State Hospital. When received at St. Francis Hospital he was in an unconscious condition, and remained so for about a week. During this week he developed ecchymoses about the eyes. He had no hemorrhage from the ears, but presented in other ways signs of fracture at the base of the skull. As he gradually regained consciousness and was able to speak, he showed evidence of mental disturbance, which was characterized more by a condition of dementia than by any active mental symptoms. Before he left the hospital he expressed delusions, especially concerning his brother, whom he would not believe was dead. At the time of leaving the hospital he was able to be up and to walk about, and to perform some of the feats to which he had been accustomed on the streets. On March 14 his mental condition had not changed. He remained demented and held to his delusions, and in this condition he was sent to the Columbus State Hospital. Aside from the mental symptoms described, there had been no symptoms of cerebral or meningeal disease.

At the Columbus State Hospital: From the date of admission he was in fair physical condition, ate and slept well, and the functions of all his organs appeared to be physiologic, excepting that he complained of severe and almost constant frontal headache and pain in the right ear, which was quite deaf, but at no time was there any discharge from the ears. His mental condition changed very little, however. It was characterized by extreme loss of memory for both old and recent events, a lack of appreciation of his surroundings—in short, a case of advanced dementia. About the first of August these symptoms became more marked, and three weeks later he developed fever, went rapidly into a comatose condition, had frequent and prolonged attacks of convulsions in which all the extremities were involved, and died on August 28. His temperature during the last few days was in the vicinity of 103 F.

Autopsy twelve hours after death: Well-nourished male, apparently 35 years old, rigor mortis marked, no special marks on body. Internal organs in normal position, no exudates or other foreign substances in the various cavities.

Lungs: Both have old adhesions at apices and posteriorly, are edematous, especially in lower lobes; no consolidation.

Heart: Marked hypertrophy of left ventricle, valves throughout in good condition, muscle rather soft and shows streaks of fat, especially plain on the papillary muscles.

Spleen: Slightly enlarged, capsule thickened and opaque, pulp soft, rich in blood, with stroma well marked.

Kidneys: Capsule adherent, tearing off kidney substance on removal; substance markedly yellow, in spite of the abundance of blood it contains.

Ureters and bladder show no change.

Liver: Large; weight, 1600 gm.; very light in color and soft; fatty, rich in blood.

Gall-bladder: Normal size; contains a quantity of light-colored bile.

Gall-ducts: Pervious.

Stomach and intestines present no abnormal conditions, nor does the pancreas.

The aorta, both at the arch and in the descending portion, is rough, with elevated yellow patches and calcareous patches, especially in the ascending portion of the arch.

Brain: Skull-cap thin; longitudinal sinus contains fluid blood; dura thick, opaque; vessels distended. Two large dark-red patches over the parietofrontal region of the right side, caused by comparatively recent hemorrhage confined between the dura, and a thick well-organized exudate extending on the inner side of the dura over both hemispheres. Under the pia-arachnoid is a large amount of yellow pus, enveloping the entire brain, especially thick over the base, and extending the entire length of the cord. The vessels of the pia engorged. Weight of brain, 1500 gm. Ventricles filled with the same kind of pus as that under the pia. Bacteriologic cultures made from this pus gave a pure culture of a short, thick, straight bacillus, which is also seen in the stained sections of the brain and cord, lying in the pus that fills the subpial spaces and the central canal of the cord. A slight scratch on our pathologist's finger, unnoticed at the time of the autopsy, caused a severe infection, accompanied with high fever and rapid enlargement of the axillary glands. Microscopic sections of the cortex and of the cord showed the blood-vessels to be unusually numerous, prominent and distended with blood, and a diffuse infiltration of round cells with well-stained nuclei.

On stripping off the dura from the floor of the cranial cavity, an old fracture of the left side of the occipital bone was disclosed, which had been faultily repaired. At the left posterior quadrant of the foramen magnum a lens-shaped piece of bone, 5 cm. long by 2.2 cm. wide, and slightly elevated above the surrounding parts, was broken loose, having been attached anteriorly by the narrow strip of bone lying between the posterior condyloid foramen and the margin of the foramen magnum, and attached posteriorly for a distance of 2.5 cm. where the fracture had completely united, leaving a curved line 3 cm. in length between these two points, ununited and open. This line of fracture crossed at a very acute angle the inferior curved line of the occipital bone, and ended in the median line, one-third of the distance from the inferior curved line to the occipital protuberance. Here it met with another very distinct line of fracture, extending from the posterior median edge of the foramen magnum, backward and upward, across the middle of the occipital bone almost to its upper margin, where it made an abrupt curve to the left across the parietal bone, becoming less distinct, and finally being lost near the posterior edge of the temporal bone. This line of fracture, 16 cm. long, was united except for a distance of 2 cm. at its lower extremity, where there was a wide gap, with thick, well-rounded edges, forming part of the plane side of the before-mentioned lens-shaped piece of bone broken from the surrounding part. The bone about these lines of fracture was intensely injected. The dura was thickened over these parts, but shows no scars, nor were the sinuses involved.

Further preparation of the base of the skull showed other fractures. The apex of the petrous portion of the right temporal bone was cut off 3 cm. from its tip by a line of fracture which ran on the anterior aspect from the foramen spinosum upward and outward, crossing the superior ridge just internal to the eminence for the superior semicircular canal, then downward on the posterior aspect to the outer extremity of the foramen lacerum posterius. The articulation behind with the basilar process of the occipital bone, as well as the articulation in front with the great wing of the sphenoid, were both distinctly separated, and show evidences of the absorption of bone. The articulation of the left petrous portion with the basilar process of the occipital was also somewhat loosened.

The pathological findings in this case, then are: An extensive fracture of the base of the skull, a traumatic pachymeningitis hemorrhagica interna, with recent hemorrhages into the organized membrane, and an acute purulent meningo-encephalitis, all these superimposed upon a chronic alcohol poisoning, as shown by the arterial changes and the fatty degeneration of heart, liver and kidneys. Our explanation of the fracture is this: Severe mechanical violence, applied to left side of the occiput directly, caused the fracture of the left occipital bone. The strong bridge formed by the petrous portions of the two temporals and the basilar process of the occipital wedged in between them transmitted the force of the blow to the right side of the skull, where it expended itself in loosening the articulations with the occipital bone and in producing the transverse fracture of the petrous portion of the right temporal bone at its point of least resistance, and at the same time damaging the structure of the internal ear on that side. The avenue of infection of the subsequent purulent encephalitis was undoubtedly this last fracture, as there was no focus of suppuration elsewhere in the body from which infection might secondarily have taken place.

The sudden onset of the acute symptoms six months after the injury, and the character of the findings leave no doubt that the meningo-encephalitis was a terminal accident and had nothing to do with the causation of the insanity in this case. Alcohol as the predisposing cause, and the concussion of the brain and pressure of hemorrhage caused by the severe trauma—a motor car fracturing the base of the skull—as the direct exciting causes, present much more probable claims for recognition as etiological factors in this case.

I think the multiplicity of cause in insanity can be distinctly enunciated from common ground. From the same point of understanding, complexity of cause must be admitted. It is this complexity which makes it questionable whether we are justified in allowing singleness of cause in any given case. A number of preparatory conditions, if present, would explain the ease with which a single incident, like traumatism, might be a determining factor. These conditions may be:

1, The neurotic temperament; 2, hereditary predisposition to insanity; 3, acquired predisposition; 4, operation of some great moral stress.

Regarding the first, I can do no better than refer to Duret's well-known essay, "Sur les Traumatismes Cerebraux," to show how in the neurotic type injury might give emphasis to the nervous phenomena resulting from irritation to the dura mater. His conclusions are as follows:

1. That the dura mater is abundantly supplied by sensory nerves from the fifth pair, by anterior, middle, and posterior branches. He suggests the possibility of special terminal organs, which increase the delicacy of the sensibility of the membrane and account for the marked "physiological" troubles ensuing on their irritation.

2. That irritation of the dura mater, especially of its inner surface, causes pain.

3. That irritation of its nerves causes reflex movements in both voluntary and involuntary muscles, but not so local or definite as those caused by irritation of the cortex. They are not more localized than those caused by irritation of peripheral sensory nerves.

4. His cases of purposely-produced depressed fractures of the skull in animals showed all the reflex results, as of irritation of the dura mater, both on the same and on the opposite side; and not as of direct cortical irritation. He made this clear by finding, post-mortem, the cortex uninjured. If a superfluous amount of violence was used, the symptoms were rather those of cerebral commotion.

5. That the secondary contractures, which follow injury, are due to dura mater reflexes, appearing almost indiscriminately on the same and opposite sides.

6. That reflex vasomotor disturbances are also the result of irritation of the nerves of the dura, consisting in spasm or paralysis of cerebral and ocular vessels, and that light is thus shed on the causation of secondary effects of cerebral traumatism, through the agency of cerebral vascular conditions.

From these conclusions of Duret, it can readily be seen that an injury producing such a degree of irritation to the membranes as to cause spasms, contractures, and paralysis could also cause such an amount of disturbance to the integral cell elements of the cortex as to induce a condition of insanity.

In predisposition both by heredity and that acquired, as by the taking of some toxic, such as alcohol, it must be admitted we have a cell tissue of lessened potentiality to resist and to inhibit. With such an established condition of the cerebrum, the commotion caused by either a direct impact on the brain, or that brought about by the reflex effect of some more distal traumatism, might be sufficient to establish a positive pathologic state, associated with symptoms of insanity.

The fourth possible predisposing condition includes those who at the time of the receipt of a cranial injury are suffering from some great moral stress. The depression of the vital functions, incidental to a bereavement, a loss, or a disappointment, should not be discounted. While moral causes should be weighed with allowance, we are forced to note their inhibiting effect upon the heart's action, as well as that upon the secretory functions. How this in turn harasses the whole digestive tract, and blocks the assimilation! Every organ of the body suffers from want of proper nutrition. The brain is among the earliest to succumb. Must we not grant that an impoverished brain is a most susceptible organ; and that an injury, though slight, under such conditions might prove a source of mental disturbance. The conclusion we can reasonably draw is that an injury to the cranium, received upon such a basis of predisposing conditions as above enumerated, should not be estimated as the cause itself, but as the final determining factor of the mental disorder consequent to it. The causes of insanity are so complex that I doubt if we are justified in saying that injury is a cause in itself.

Kiernan estimated that in 45 of the 2200 patients under his care, the disease was due to traumatism. Hay found 60 cases in 2500. Starr, in "Brain Surgery," says that 2 per cent. is a fair estimate. Clouston ascribes a few cases of insanity to blows on the head, falls, and other traumatic injuries to the brain. He says, "We have had twelve cases of traumatic insanity and the insanity of sunstroke sent to the Royal Edinburgh Asylum in the past nine years, which is only .33 per cent. of the admissions." Krafft-Ebing says traumatism is a common factor in the cause of insanity, and yet found but 1 per cent. out of 462 cases. It is doubtful if experience and close observation will bear out the truth of the statement as to its being a common factor. I find in the Columbus State Hospital, with 1400 patients, 10 cases, or .7 per cent., which might be regarded with some certainty as due to traumatism of the brain.

The question of interval of time between the occurrence of the injury and the insanity should be carefully considered. Dr. J. Christian[1], analyzing 100 cases of traumatic insanity, finds in 54 cases the interval was from 1 to 5 years; in 21 from 5 to 10, in 11 from 10 to 20, in 7 from 20 to 30, and in 7 more than 30 years.

In the ten cases in the Columbus State Hospital, the time between the injury and the initial symptoms of insanity varied from the time of the injury to fifteen years, often with no other evidence that the injury was a causal factor than that the mental disease followed it in time.

Two other considerations are now to be borne in mind: 1, the kind of an instrument producing the blow, and the kind of an injury received from a fall; 2, whether these agents produce a localized or a diffused effect.

From the analysis of twelve cases in the American War of the Rebellion, locality of injury is an important point.

In 3 cases the middle, in 4 the anterior, in 1 the posterior fossa was affected; in one case the anterior and posterior fossæ, in 1 the middle and posterior fossæ, in 2 cases the anterior and middle fossæ were affected.

From this it appears that injury to the base of the skull is most prone to yield subequent mental disturbance, and that the middle fossa is more frequently involved than the other parts.

SUMMARY.

1. Conditions already present may predispose to the causing of insanity by an injury.
2. The insanity should speedily follow the injury.
3. The extent of the concussion may be a determining factor.
4. The locality on the cranium may be an important consideration.

DISCUSSION.

Dr. Hough—It is the fortune of the general practitioner to see not infrequently cases of injuries to the head, which, while not making the sufferer necessarily an inmate of an insane asylum, to a certain extent incapacitate him for the subsequent following of his occupation. A typical instance is a carpenter of middle age who was struck by an electric car, producing fractures of the skull. He recovered from his injuries; there was no paralysis at the time, but a year afterward he came to see me, and told me—and his wife corroborated his assertion—that his memory was seriously impaired; that there was a certain amount of difficulty in using the left arm, and that he had been unable to do any work since the accident. That class of permanent result from head injuries is by no means uncommon.

Dr. Richard Dewey, Wauwatosa, Wis.—I was struck, while listening to the paper, with one fact which has arrested my attention before in traumatic cases; that was the association of alcoholic excesses. In a considerable number of my cases excess in alcohol was closely associated with the insanity or with injuries of the brain in some cases not associated with insanity, so much so that it has been questioned whether, without the added element of alcoholism, the condition of insanity would have developed. The fact that there are many cases in which very severe injuries of the head are recovered from without serious results, without insanity developing seems to indicate that this may be the case.

Dr. G. W. McCaskey, Fort Wayne, Ind.—I wish to refer to one case that came under my observation three or four years ago. The patient was examined with a view to securing a pension. During the Civil War he was in action and was supposed to have been killed. He was evidently left comatose upon the field. He disappeared and was not found for several years. During all this time he had forgotten his own identity. After four or five years he regained consciousness of his own identity. During this time, so far as could be traced, there was no great amount of aberration in performing the menial duties which he assumed. Very suddenly his identity returned to him, and he came home. The case was interesting to me because of the sudden loss of consciousness of his identity and its sudden return. Careful examination of the head showed no external sign of injury whatever, and I presume there was nothing more than concussion, although there may have been a fracture of the inner table.

Dr. T. J. Happel, Trenton, Tenn.—I am surprised at the statement that there are so few such cases. Within the last few months I have come in contact with three; one case in which trephining was done to relieve a weak-minded condition, which was the result of an injury. I know a man in active business, with an irritable mental condition, owing to cranial injury; and during the last few months I saw a man who had a history of having been struck with an iron on the head during the late war, and was recently again struck with a stick on the head and at once developed acute mania.

Dr. Drayton, New York—It is indeed fortunate that there are so few instances in which the results are serious. When we consider the free use of the club in some of our cities by those who are supposed to be authorized to use their batons of office, we can congratulate ourselves that in nearly all of these cases of severe injuries to the head there is prompt recovery. I can recall two or three instances in which there was very marked insanity of the acute order for several months. I gave a happy prognosis to those interested in the victims, and that prognosis was verified by a subsidence of the symptoms and the return of the individuals to their vocations and former ways of life. I therefore say that society should be congratulated on the very happy treatment by nature of these cases, and that we have so very few instances in which the results are chronic. Nevertheless, I am far from advocating a policy in the management of municipal affairs that is indifferent to the manner in which the policeman employs his club.

Dr. E. T. Carpenter—The fact of the case becoming insane by an accident, and being speedily operated on, does not argue that the case would have recovered without the operation, and at the same time does not argue really that the accident was the direct cause of the condition, notwithstanding I say in my conclusions that the insanity may occur speedily after the injury. The location of the injury has something to do with causing the insanity. I have a table of the cases during the War of the Rebellion which shows that injuries to the base of the skull are most apt to result in mental disturbances.

Plague at Glasgow.—Three persons, all in one family, are suffering from what is supposed to be the bubonic plague. They have been placed in the hands of the medical authorities.

---

[1] Arch. de Neurologie, viii.

MEASUREMENTS OF CHICAGO SCHOOL CHILDREN.*

W. S. CHRISTOPHER, M.D.

Professor Pediatrics, Medical Department, University of Illinois; Professor Diseases of Children, Chicago Policlinic; Chairman Child Study Committee, Chicago Board of Education.

CHICAGO.

For the past year measurements of children in the Chicago public schools have been made under my direction. The work was started March 6, 1899, and continued throughout the remainder of the school year with Mr. F. W. Smedley and Mr. C. Victor Campbell as operators. This corps was increased in September by the addition of Messrs. Donald P. McMillan and C. C. Krauskopf as paid assistants, and Miss A. Loesch as a voluntary assistant. Mr. F. W. Smedley, who heads the corps, had been engaged for a number of years in laboratory work in physiological psychology in the University of Chicago, previous to his appointment for this duty by the Board of Education of Chicago. He is a man of large experience, thoroughly scientific, and eminently qualified for the work. The remaining assistants were appointed after competitive examination; of these, Mr. McMillan and Miss Loesch had also previously had extensive experience in laboratory psychology, and Messrs. Campbell and Krauskopf were teachers of ability and standing. From the personnel of the corps of observers, I am justified in claiming for the results an unusually high degree of accuracy. My own part in the matter has consisted in determining the observations to be made, watching the work, and later, in discussing the results in conjunction with Mr. Smedley.

Last year the work included only the determination of the following points, with each pupil: Height; height sitting; weight; ergograph work; strength of grip, right and left; hearing, right and left; "vital capacity." The observations were limited to these few points in order that as large a number of pupils as possible could be examined. In all, about 1200 pupils were examined from March to June, inclusive, and the results obtained were so encouraging that the Board of Education agreed to continue the work and established as a permanent part of the school system a department of "Child-Study and Pedagogic Investigation," and appointed Mr. Smedley as director of the department. I believe this is the first instance of a municipal board appropriating money for research work, a fact which redounds greatly to its credit. During the present school year the same observations have been continued, in order to obtain sufficient number of observations to establish reliable norms; the total number now, April 22, 1900, amounting to 5636. In addition to these observations, sight tests have been made. Acuity of vision has been determined by Snellen's cards, and examinations have been made as to color-blindness. In addition to this, obvious developmental defects have been noted, and signs of fatigue and nerve-strain recorded.

DESCRIPTION OF INSTRUMENTS AND METHODS.

In measuring height, and height sitting, a stadiometer of the Bertillon pattern has been used. In taking heights, the height of the heels has been accurately calipered and subtracted from the gross height, giving a net height, which was found on trial never to differ from the height measured in stocking feet more than 2 millimeters, and to present an average error of about 1 millimeter.

The weights were taken with ordinary schoolroom clothing. Last year 121 children brought back their clothing to be weighed. This was in the latter part of the month of May, 1899, and it was found that the clothing ranged in weight between 2.8 and 8.2 per cent. of the gross weight of the child. The average weight of boys' clothing was 5.8 per cent. of the entire weight, and of girls' clothing was 5.5 per cent. of the gross weight of the individual. The clothing in the great majority of the cases ranged between 4 and 7 per cent. of the gross weight.

Strength of grip was measured until recently, by an ordinary two-spring dynamometer, graded in kilograms This dynamometer was tested from time to time to insure its accuracy. Lately an adjustable dynamometer, invented by Mr. Smedley, has been employed. This dynamometer is adjusted to the size of the hand. Each pupil is given several trials of strength, and the best result obtainable is recorded.

The old term "vital capacity" is employed to designate the amount of air which can be forcibly expired. Two wet spirometers were employed, one made especially for this work and one purchased from the Narraganset Machine Company. As neither differs materially from the ordinary wet spirometers, a detailed description seems unnecessary. In using the spirometer each child tested was given several trials, and the best obtainable result recorded.

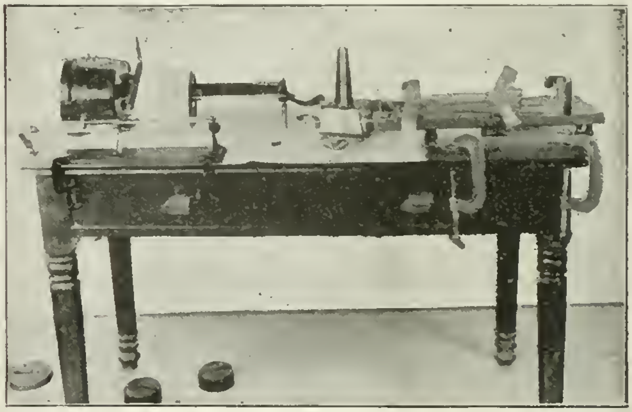


Fig. 1.—Ergograph.

Hearing was tested with the audiometer invented by Prof. C. E. Seashore, of the Iowa State University. This is an electric apparatus in which the loudness of the sound produced is definitely determined by resistance coils. It is graduated by an arbitrary scale ranging from 0 to 40. The normal point on the instrument used seems to be about 11. Numbers above this represent degrees of difficulty of hearing, while lower numbers indicate special acuteness of hearing. I am not yet ready to present the results of the tests on hearing.

Fatigue and endurance were tested with the ergograph shown in Fig. 1. The instrument employed was Mosso's ergograph, modified by Mr. F. W. Smedley.

DESCRIPTION OF ERGOGRAPH.

The apparatus consists of two parts, a fixing board, and a traveler mounted on a suitable frame. The forearm is placed on the fixing board in the prone position, and held in place by suitable straps and clamps. There are also clamps to hold down the index and third fingers, leaving the middle finger free. It is the design of the apparatus to hold the forearm so firmly in position that only the flexors of the middle finger can be brought into action. This it does not accomplish perfectly, but as the error is common to all those examined, the influence of the error is practically eliminated in comparative results. From the traveler two cords extend, one toward the fixing board, carrying a clamp to attach it to the free middle finger of the subject examined; the other, extending in the opposite direction over a pulley, is provided with a device for holding weights. Attached to the traveler and extending laterally, is an arm which carries a pen, which, in its turn, bears upon the surface of the drum of a kymograph. Attached to the side of the frame is an endless tape, which is carried forward with each return movement of the traveler, and thus sums up the total height which the weight is lifted. The ergograph was operated in the following manner: The child's forearm being clamped in position, the cord from the traveler was clamped to its middle finger, and the pulley-cord loaded with a weight equal to 7 per cent. of the weight of the child. On flexing the finger the weight was lifted, and the pen made a corresponding mark upon the kymograph. On extending the finger the traveler dropped back to its original position, the measuring tape was advanced a distance equal to the height the weight had been raised, and the return stroke on the kymograph was made. By the aid of a metronome these flexions and extensions of the finger were made each second, so that in ninety seconds, the time employed in each experiment, the weight should be lifted forty-five times. The actual number of lifts, however, varied occasionally from this number, reaching forty-eight or forty-nine in some instances, and not quite equaling forty-five in others. In all cases, however, the work was continued for ninety seconds, and the amount of work done in centimeter-kilograms recorded. In the case of very obese pupils it is to be noted that 7 per cent. of the total weight, including as it did 7 per cent. of the weight of the fat, as well as 7 per cent. of the weight of the active tissues of the body, proved to be excessive, and they were unable to continue to move the weight throughout the whole period of ninety seconds. Nevertheless the actual work done came out in centimeter-kilograms, and was suitable for comparisons.

---

* Read before the American Pediatric Society, Washington, D. C., May 3, 1900.

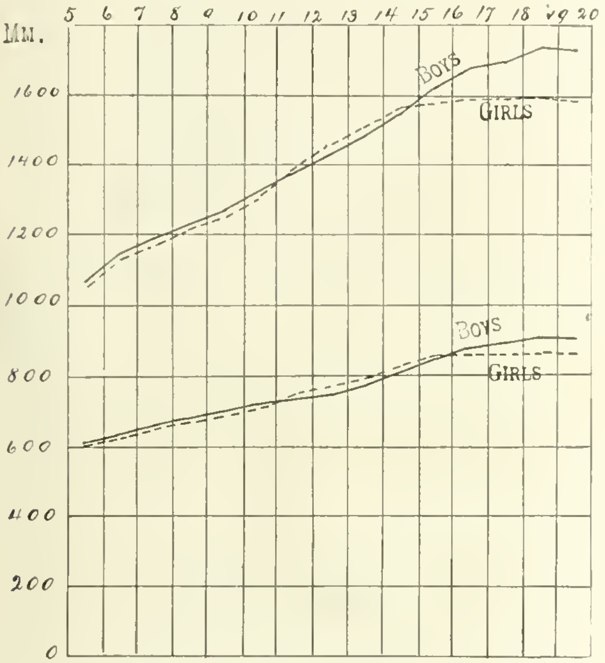


Fig. 2.—Growth in Height—Standing and Sitting.

Note.—The stature of girls is less than that of boys up to the age of 11, when the girls surpass the boys and remain greater in stature up to the age of 14. After 14 girls advance in stature very slowly and very slightly, while boys continue to increase until 18. This fact is in harmony with the common observation of the earlier occurrence of puberty, with its greater activity, in girls than in boys. The lower lines representing height sitting, show that in this measurement girls also surpass boys at the same age, as in stature. But they maintain this superiority in this measurement for one year longer than they do in stature, which means that the more rapid growth of the boy at this age is in the lower extremities rather than in the trunk.

From these measurements a table of norms has been computed. In these tables, the ages refer to the age at the last birthday. The number of each age examined is also given. In accordance with the general practice, the norms are expressed in medians instead of averages. In other portions of this work where small numbers are dealt with, averages are employed in the belief that they are more correct with small numbers. These tables of norms are based upon the examination of 5636 children, 2537 boys and 3099 girls, which include all examined to April 22, 1900. They consist of the pupils in the Alcott, Kozminski, Andersen and Tennyson grammar schools, together with the eighth grade and kindergarten pupils in the Hoyne school, the kindergarten pupils in the Burr school, and also the pupils in the Lake View High School, and about half the pupils in the Englewood High School, at which latter school the work of examination is now going on. In all of these

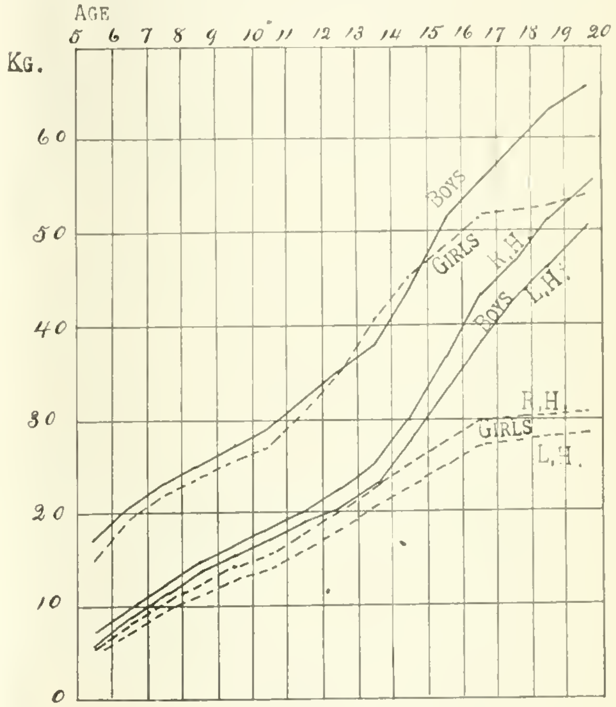


Fig. 3.—Weight and Grip.

The upper lines show the weight-curves of boys and girls. On comparison with Fig. 2 it is seen that the weight of the girl surpasses the weight of the boy, something over a year later than her stature surpasses his; and the curves recross at the same age in weight and height, so that the girl holds her superiority in weight over the boy for a shorter period than her superiority in stature. The curves also show that while the stature of girls increases very slowly after 14, the weight continues to increase rapidly to 16 and less rapidly thereafter. The grip-curves shown also in this figure indicate marked increase in the rate of gain in grip in boys commencing at the age of puberty—a gain which continues, at least as far as our own observations go. In girls, no such acceleration in muscular strength at puberty is shown, and after 16, practically no increase in strength of grip occurs. This chart, therefore, exhibits the period of life at which, and the extent to which, the well-known muscular differentiation of the sexes occurs.

schools, with the possible exception of the Andersen school, the pupils are largely of American parentage, and are the children of parents in comfortable circumstances and are uniformly well fed and well clothed. They therefore may be taken to represent normal American children in comfortable circumstances. The children at the Andersen school, about 1600 in number, are less favorably situated, and the medians obtained from that school alone, are, as a rule, less than those from the other schools. In the medians given in the tables all of the schools mentioned are included.

Table 1. Norms for Boys.

Age.	Number examined.	Height. mm.	Height Sitting. mm.	Weight. kg.	Work. cm. kg.	Grip. R. kg.	Grip. L. kg.	Vital Capacity. c.c.
6.	224	1134	636	20,550	103.8	10	9.5	1100
7.	230	1190	658	22,550	135.9	11·5	11	1250
8.	225	1234	675	24,550	169.1	13	12	1350
9.	228	1283	699	27,513	201 6	16	15	1550
10.	255	1328	714	29,600	233.1	18	17	1625
11.	228	1372	728	32,213	259 6	20	19	1800
12.	255	1419	747	35,400	302.4	22	20	1950
13.	230	1476	770	38,688	345 8	25	23	2200
14.	234	1545	805	44,150	406.2	30	28	2500
15.	176	1620	839	51,113	524.4	36	33	2825
16.	122	1678	881	55,838	578 9	43	38	3375
17.	78	1684	897	59,175	649.6	46	43	3550
18.	26	1742	920	63,400	715 6	51	46 5	3600
19.	20	1733	918	66,000	705 2	54.5	52	3850
20.	6	1709	906	68,050	809 1	58.5	49	3500

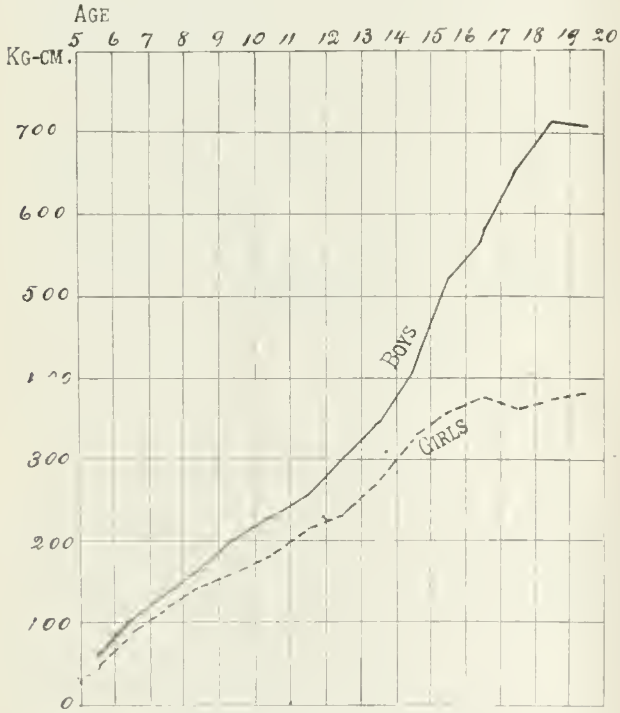


Fig. 4.—Ergographic Records.

Ergographic work is an index of general endurance. The chart shows that up to the age of 14 the girls' power is a fairly constant percentage of the boys'. From 14 years on the girls' endurance remains practically stationary, while that of the boys not only continues to increase, but increases at even a greater rate than it had previously.

The accompanying charts, Figs. 2, 3, 4 and 5, illustrate graphically the facts given in the foregoing table of norms.

ERGOGRAPHIC WORK.

The ergograph gives two kinds of information concerning the individual tested. 1. It shows the amount of energy which the individual exerts in a fixed time, and under fixed conditions. This energy may be, and in this work is, expressed in centimeter-kilograms, which affords a means of comparing the ergographic work of different individuals. 2. The ergographic tracing, or ergogram, made coincidentally on the kymograph, exhibits the manner in which this energy has been exerted.

In operating the ergograph, as previously described, loaded with 7 per cent. of the gross weight of the individual, it was found that some time between 90 and 150 seconds of work, such fatigue was produced as to render it impossible to move the weight at all. After working the ergograph to complete exhaustion, the flexors involved remained sore for several days. Inasmuch as it would be unwise to submit large numbers of school children to such inconvenience the limit of ninety seconds of work was adopted. In this limit the strongest pupils would begin to show fatigue, and very obese pupils would become completely exhausted before the time had expired. With kindergarten pupils, the ergograph can not be used, and, indeed, it can hardly be considered reliable with children under 7 years. At this age and above, however, its use is very satisfactory.

The normal ergographic work at the different ages is illustrated graphically in Fig. 4.

Table 2. Norms for Girls.

Age.	Number examined.	Height. mm.	Height sitting. mm.	Weight. kg.	Work. cm. kg.	Grip. R. kg.	Grip. L. kg.	Vital Capacity. c.c.
6.	203	1127	626	19,900	93	9 3	8.5	1000
7.	238	1180	655	21,850	114	10.5	10	1100
8.	232	1231	674	23,913	141.8	11.5	11	1200
9.	221	1276	690	26,300	168 6	14	13	1350
10.	240	1321	709	28,488	182.7	15	14	1450
11.	225	1383	736	31.225	218 4	18	16	1600
12.	248	1441	762	35,725	237	20	18	1700
13.	256	1522	798	40,700	277.8	23	21	1900
14.	278	1563	830	46,312	336	26	22	2063
15.	328	1571	841	48.925	349 2	28	25	2225
16.	284	1596	849	51,988	374 6	30	27	2300
17.	198	1597	850	51,838	358.8	30	27	2300
18.	105	1600	863	52,675	368	30	28	2350
19.	30	1595	851	53,788	376 9	31	28 5	2400
20.	13	1581	834	49.175	352 8	29.3	25.5	2300

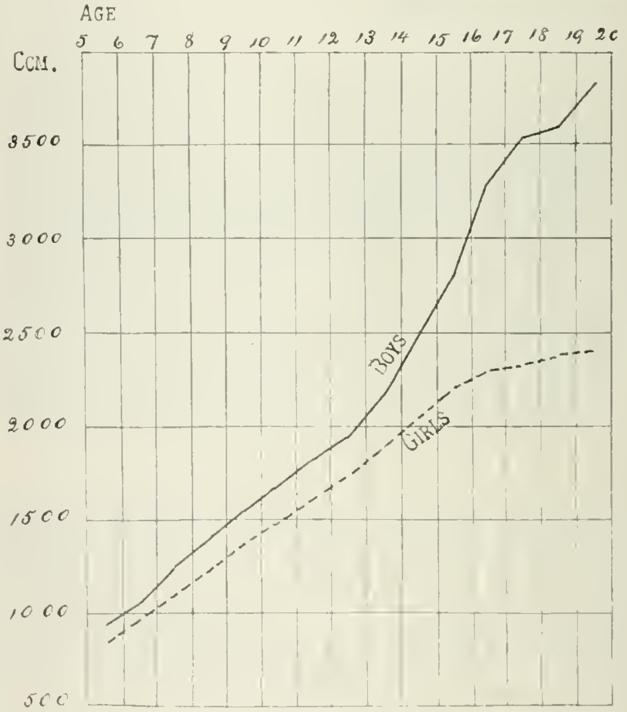


Fig. 5.—Vital Capacity.

The term "vital capacity" is here used in its old sense of volume of air emitted in forced expiration. The curves in Figs. 4 and 5 appear on comparison to be almost duplicates of each other, indicating a remarkably close relationship between "vital capacity" and endurance as shown by the ergograph. Which of these is cause and which effect, I have no means of determining.

On examining this chart, it is seen that at all ages girls exhibit less endurance than boys, but that up to the age of 14 the girls' power is a fairly constant percentage of the boys'. After 14, however, a marked change occurs. From 14 years on, the girls' endurance remains practically stationary, while that of the boys not only continues to increase, but even increases at a greater rate than it had previously.

Such a fact seems of prime importance. It must have some bearing on the development of the growing girl, and especially on the development of the reproductive organs. It is a factor which ought also to be taken into account in school work.

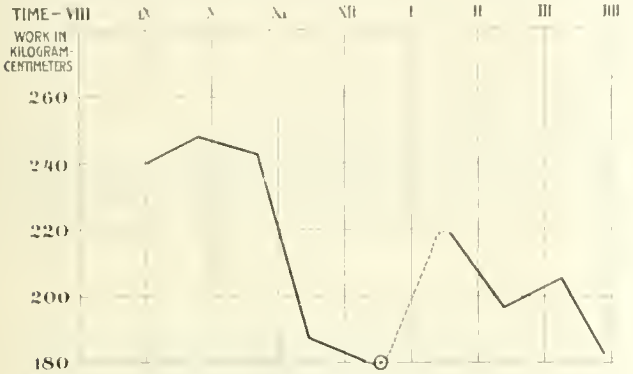


Fig. 6.—Course of power throughout the school day, as determined by the ergographic records made by R. H.

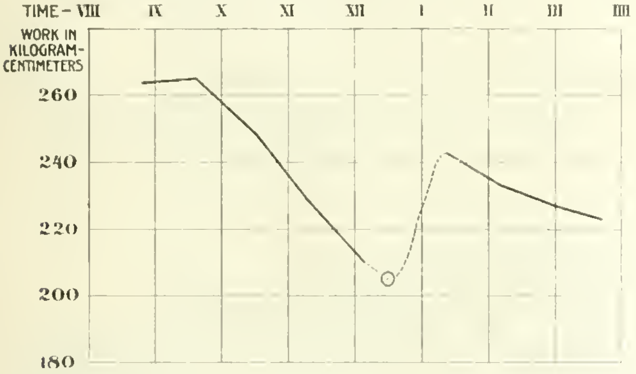


Fig. 7.—Course of power throughout a school day as determined by the average ergographic records of eight pupils of the Alcott School.

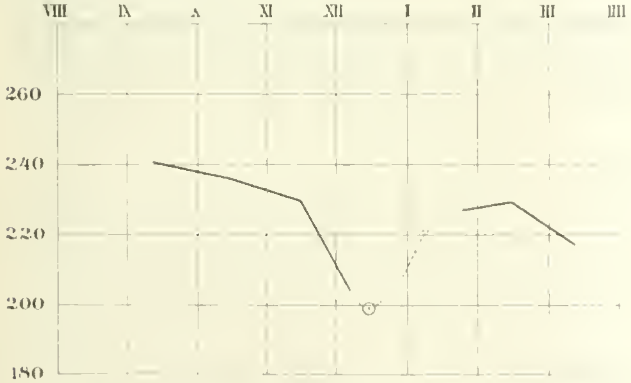


Fig. 8. Course of power determined from the ergographic records of 1127 pupils of the Alcott School.

In determining the variation in the course of power during the day, observations were made on one individual at the Alcott school, at intervals of about forty minutes, and also on eight pupils at about the same intervals the latter results being grouped and averaged. In addition, the results by hours of the whole school, obtained through the three months of examination, were charted. In examining the school, all the children in one room were taken one at a time until all had been taken, and inasmuch as not more than twenty could be examined in the course of a school day, children of all ages were found very evenly distributed throughout all the hours of the school day. The results obtained are shown in the accompanying charts, the resemblance of which to each other is certainly striking. (Figs. 6, 7 and 8.)

Fig. 6 shows the course of power during the day of the single pupil, R. H. Fig. 7 shows the course of power during the day of the eight pupils. Fig. 8 shows the course of power during the day of all the pupils in the Alcott school. At the time these observations were made the pupils of this school did not have the usual morning recess.

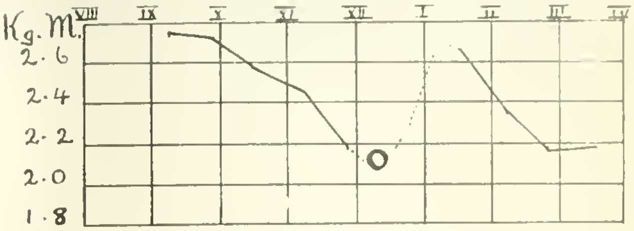


Fig. 9.—Course of Power during the day—Tennyson School—of all the pupils tested.

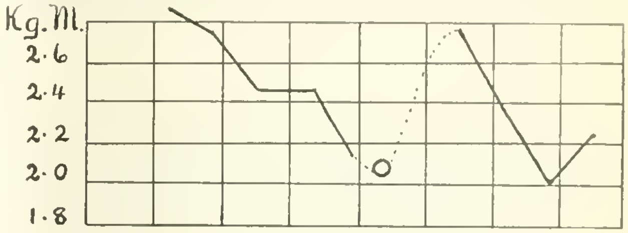


Fig. 10.—Of those Irregular in their Work.

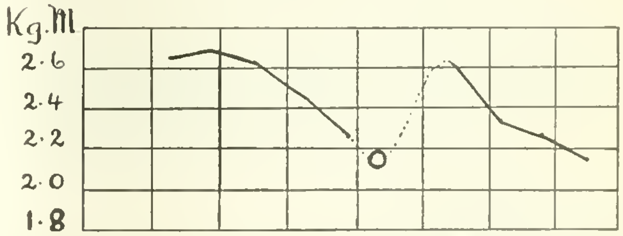


Fig. 11.—Of those Doing Regular Work.

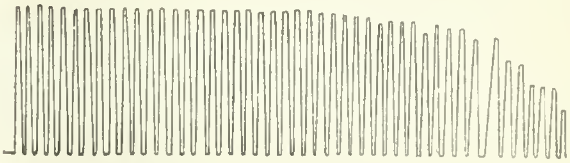


Fig. 12. 2:00 p.m. 3.7 kg. 150 cm. 46 lifts.

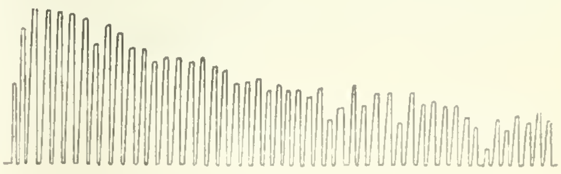


Fig. 13.—2:20 p.m. 3.9 kg. 92 cm. 49 lifts.

The charts show that the child is at its best during the first morning hour, and that after 10 a. m. its power decreases somewhat rapidly. They also show that in the afternoon the power does not reach the maximum shown in the morning, but it is better maintained, the curve not decreasing so rapidly.

An interesting confirmation of this matter was unexpectedly obtained at the Tennyson school. At that school it was decided to take the course of power, during the day, of twelve pupils. In the case of four of them, the results did not tally at all with previous experience, these four showing unusual power in the afternoon. Upon investigation it was found that the teacher of these four had been called from school in the afternoon, and that they had had no work, but had employed themselves, as they said, in having a good time.

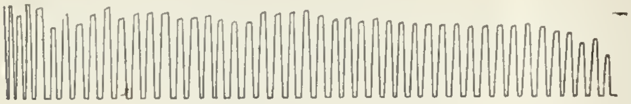


Fig. 14.—9:00. 80 cm.

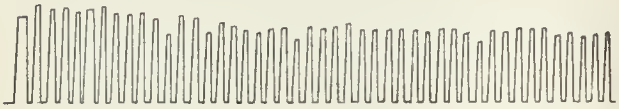


Fig. 15.—9:47. 83 cm.

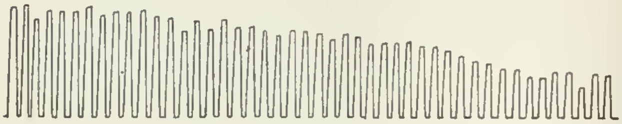


Fig. 16.—10:40. 81 cm.

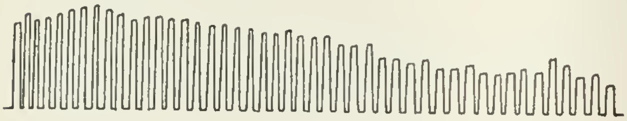


Fig. 17.—11:30. 63 cm.

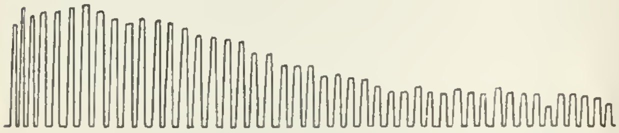


Fig. 18.—12:18. 60 cm.

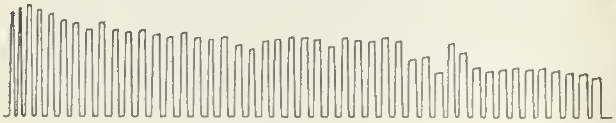


Fig. 19.—1:34. 73 cm.

The charts illustrating these facts are shown in Figs. 9, 10, and 11.

The ergogram, illustrating the manner in which the energy is exerted, often gives most interesting information. In Fig. 12 is shown an ergogram produced by a robust man, whose muscles are well controlled, and whose strength is good. In Fig. 13 is shown the ergogram of a so-called "nervous" child, one whose inhibition is defective and whose efferent nerve impulses are erratic. The want of muscular control is shown by the irregularity in the heights of the lifts, the uneven spacing, and the excessive number of lifts, showing the failure to keep time with the metronome. The ergograms of R. H., whose course of power throughout the day is shown in Fig. 6, are given in Figs. 14-22, inclusive. With each ergogram is given the time at which it was taken, and also the total height the weight was lifted. Fig. 23 shows the best woman's record. Fig. 24 shows best boy's record for height lifted. Fig. 25 is the ergogram of a sprinter. This ergogram, which is unusually strong at the beginning, shows sudden dropping off, with complete exhaustion at the end of thirty-four lifts, or seventy-eight seconds. This boy, 18 years old, says he runs distances up to 300 yards, but can not run 330 yards. Fig. 26 is one of especial interest to medical men. It was made by a girl, aged 14, who was suffering from chorea. The tracing is certainly typically choreic in its irregularities, but the great interest lies in the exhibition of endurance. The work was continued for three full minutes without any evidence of approaching exhaustion. It was stopped at this point because the end of the paper on the kymograph had been reached. The output of energy is enormous.

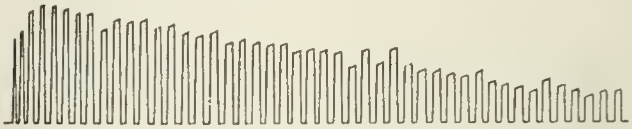


Fig. 20.—2:20. 66 cm.

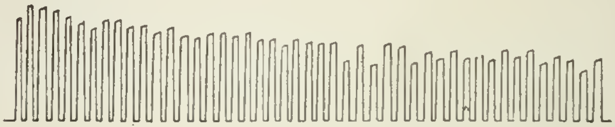


Fig. 21.—3:13. 69 cm.

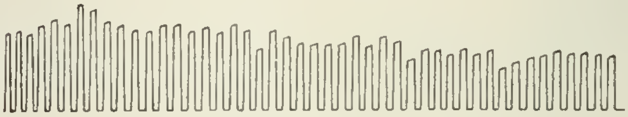


Fig. 22.—3:55. 61 cm.

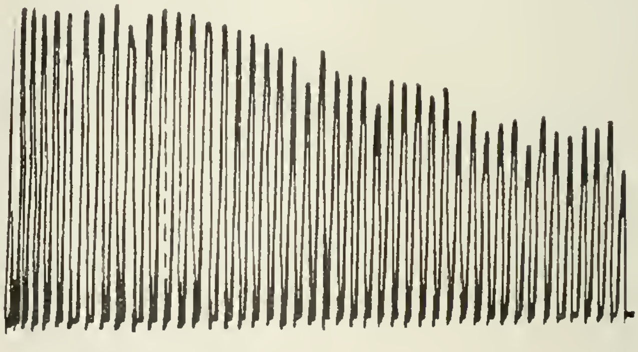


Fig. 23.—Best Woman's Record. Age 17. Plays piano very little. 2:30 p.m. 3.7 kg. 231 cm. 44 lifts.

From *La Fatigue Intellectuelle*, by Binet and Henri, I take Figs. 27 and 28. Fig. 27 shows four ergograms taken by Mosso from Dr. Maggiora, professor of hygiene in the University of Turin. The weight used was 2 kilograms. What relation it bore to the weight of Prof. Maggiora is not stated. The first of these tracings was taken while Maggiora was in a state of rest and before holding an examination. This examination commenced at 2 p. m., lasted three and one-half hours, and was very trying; besides the labor of the examination, there was also the "emotion of feeling the responsibility of his own teaching in the presence of competent colleagues, who assisted as members of the examining commission and who were capable of judging him." The second tracing was made at 5:45 p. m.; the third at 7:30 p. m., and the fourth at 9 p. m. The last three indicate very slow recuperation. In Fig. 28 are shown three ergograms made by the left nand of Maggiora on the same occasion, the weight used being 500 grams. The first of these was taken at 9 a. m., the second at 5:30 p. m., and the third at 7 p. m. The two experiments, however, differ in a very important particular. The tracings shown in Fig. 27 are voluntary tracings, presumably made with the right hand, although that fact is not specifically stated in the only account of the matter at my disposal. The tracings of Fig. 28, however, were not made voluntarily, but instead the muscles were excited to action by electricity. The marked similarity in the curves indicates that the fatigue is not entirely central. Kraepelin and Hoch[1] have arrived at the conclusion that the height of the individual lifts in the ergogram depends on the state of the muscles, while the number of the lifts depends on the state of the central nervous system. Important as is this part of the subject, I can not occupy your time with it further, but must proceed to another phase of my work.

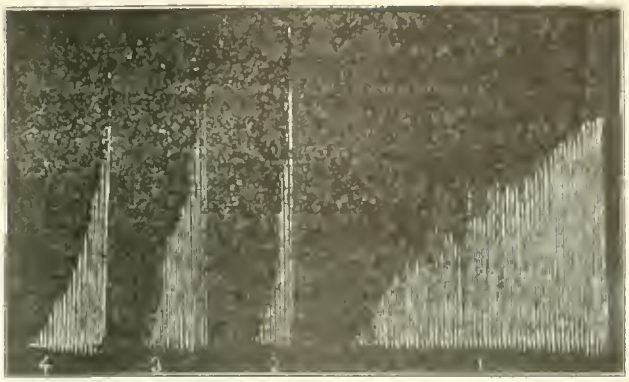


Fig. 27.—Ergograms of Maggiora—Voluntary.

Fig. 27 illustrates ergographic tracings taken by Mosso from Professor Maggiora, of Turin. Tracing No. 1 was made with the right hand while in a state of rest before conducting an examination. Tracing No. 2 was made 15 minutes after the conclusion of the examination; tracing No. 3, two hours after the examination, and tracing No. 4, three and one-half hours after the examination. The last three tracings indicate the intense fatigue produced by the work, and slow recuperation. The greater height to which the weight is lifted in this tracing indicates apparently less nervous control during the fatigued state.

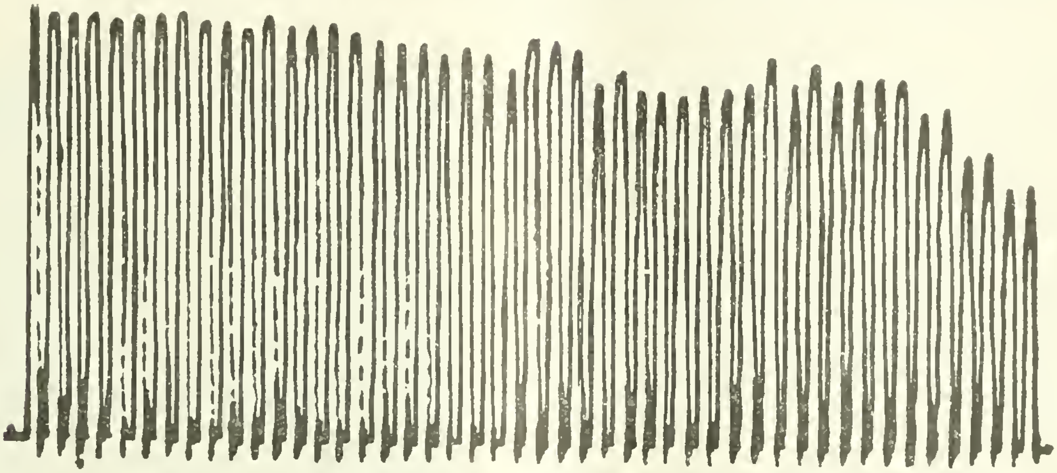


Fig. 24.—Best Record for Boys, for Height Lifted. Age 18. 9:55 a.m. 3.7 kg. 266 cm. 47 lifts.

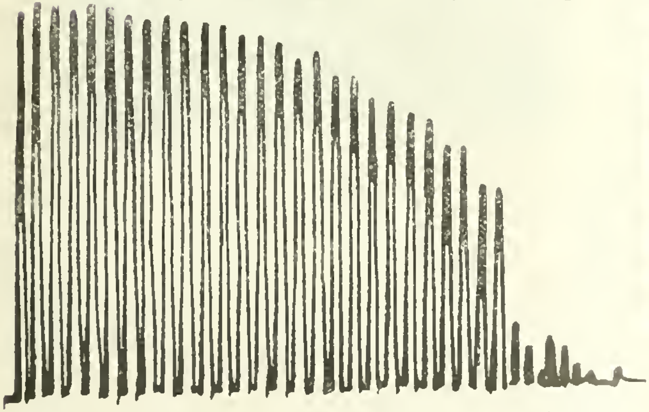


Fig. 25.—Ergogram of a sprinter—18 years old. Runs distances up to 300 yards. Said he could not run 330 yards. 2:45 p.m. 4.8 kg. 114 cm. 34 lifts.

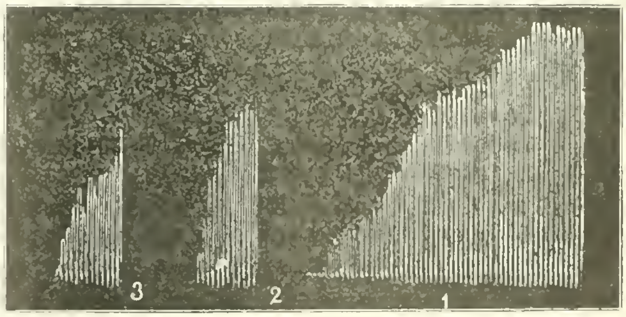


Fig. 28. Ergograms of Maggiora—Electric Stimulation.

Fig. 28 illustrates ergograms of Professor Maggiora made with the left hand upon the same occasion as shown in Fig. 27. In this experiment electrical stimulation was substituted for voluntary action.

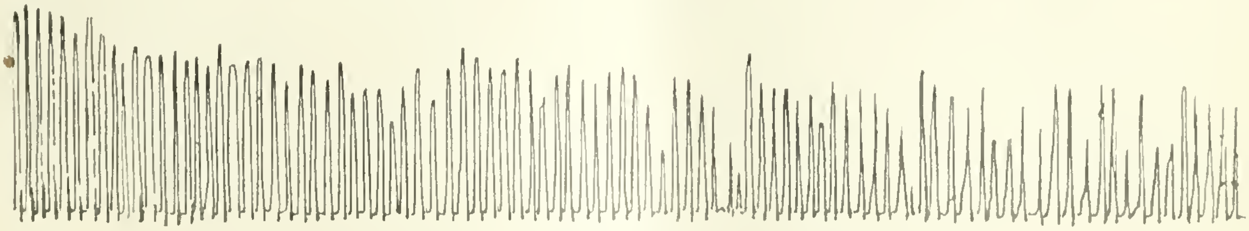


Fig. 26.—Kitty S. Age 14. Chorea. 2:00 p. m. 2.6 kg. 3 m [illegible]

(To be continued.)

---

[1] Psychologische Arbeiten, i, 1896. Binet and Henri, loc. cit., p. 187.

EXOPHTHALMIC GOITER.*

F. W. HIGGINS, M.D.
CORTLAND, N.Y.

This is one of those puzzling and tantalizing diseases which will baffle a full explanation. All disease is mysterious, but we are beginning to feel that the pathology if not the treatment of diphtheria, Bright's disease, or tuberculosis is somewhat satisfactory. Many diseases of the nervous system have a beautifully exact anatomical lesion. But exophthalmic goiter, one of the most striking entities of them all, is most elusive.

The symptoms are fairly definite and yet I believe that the disease often remains unrecognized. This is so for the reason that one or more of the main symptoms may be absent or slightly in evidence. The rapid pulse is the most constant and easily detected. A pulse above one hundred, when the patient is not excited or under exertion, should arouse suspicion of this disease. Still, this marked symptom is absent in a certain percentage of cases.

The enlarged thyroid, which gives its name to the disease, if looked for carefully by deep palpation, is present in probably 90 per cent. of all cases. It is not generally so large as in simple goiter, nor so hard. It more resembles a vascular fullness. Sometimes a patient will present herself complaining most of the large neck, but very often this member of the tripod of symptoms must be searched for. This is especially so since from 95 to 97 per cent. of the cases occur in women. One side is frequently decidedly larger than the other.

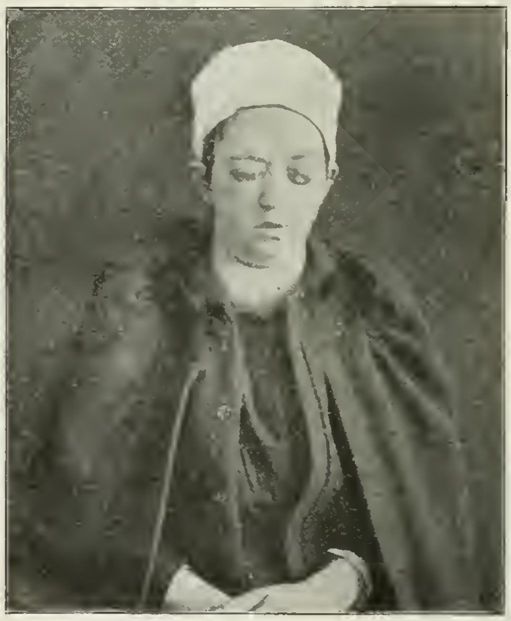
The exophthalmos is perhaps the most variable of the three cardinal symptoms, but may be the most striking. This was true in a case recently under my care. I present a photograph as she appeared in my office for treatment for the eyes. They had protruded to such a degree that the lids could not cover any portion of the cornea. As a result of exposure both had ulcerated. The extreme chemosis of the ocular conjunctivæ had pressed the lids still farther apart until they were immovable. At this point she had come under the care of a physician, who had recommended poulticing the eyes. The result was that the eye first affected resembled a prolapsus ani. The cornea had sloughed and its location was manifest only by a sulcus in the middle of the edematous conjunctiva over the shrunken, protruding ball. It may be mentioned that the worst eye was on the side opposite to the side of the thyroid most enlarged. This is contrary to the rule, but the exceptions seem to predominate.

The right eye had been painful and ulcerated only a few days, but was evidently going the way of the other. I enucleated the eye totally destroyed. The other was treated by the patient resting in bed, by the application of frequent hot boracic solutions, atropin, and multiple scarifications. It made a good recovery, although there had been a marked hypopyon, and it was about two weeks before the lids could cover the cornea.

This amount of exophthalmos is rare and extreme, but it is in many cases a very noticeable symptom. The sclera may be visible above the cornea. Stellwag's sign is the increased distance between the margins of the upper and lower lid. Graefe's sign is the lagging, jerking downward movement of the upper lid as it attempts to follow a downward rotation of the eyeball; either sign may be absent. Various learned explanations of these phenomena exist, which include the innervation of Müller's muscle. The fact, however, remains, that the mechanism of the signs or of the proptosis itself is not understood. The only imaginable factors are a relaxation of muscle tone, an overfilling of orbital veins, and an increase of orbital fat. My own opinion is that the first factor is the most important, since, in the case just detailed, an artificial eye could not be retained in the socket from the relaxation of the lower lid.

There are other evidences of weakness of muscle fibers. The sweating, diarrhea, weak, rapid heart action, throbbing arteries, and flaccid skin must depend upon a loss of tone in the involuntary muscles; while the trembling and general weakness is due to the same condition in the striped muscle.

It is certainly remarkable that the description of a person in terror should apply so exactly to the chronic condition found in this disease, said to be generally due to fright. The staring eyes, palpitating heart, trembling and weakness, not to mention the rarer symptoms of both, as relaxed bowels, sweating, abundant urination, and mental break-down are found in each. This has led to it being included among the nervous diseases. Because no organic central changes are found present it has been called a functional disease. Certain experimental lesions on the medulla have produced exophthalmos, and we all know that the vagus controls the rapidity of the heart's action. Other functional complications, as anesthesias and paralysis, are described by Gowers. All these considerations make out a strong case for placing it in the catalogue of nervous diseases. The prevailing treatment a few years ago by galvanization of the cervical sympathetic was due to this supposed pathology.



During the last few years there has been a trend in a different direction. While admitting that the manifestations of the disease were largely that of a neurosis, it was thought that some causation beyond the depressed nerve-centers must exist. The most natural cause, reasoning from analogy, would be some form of toxemia. Thompson's explanation of the disease as an intestinal autointoxication is a marked example following this etiology. So far as I know, this theory does not find general acceptance. I must admit, however, that I do not give phosphate of soda to my patients, following his recommendation.

---

*Read before the Third District Branch, New York State Medical Association, at Binghamton, N. Y., June 21, 1900.

The asserted fact that over half the cases of exophthalmic goiter have been greatly benefited or cured by removal of the thyroid has had a most marked influence on our ideas of its character. If this is true, as is asserted by most competent authority, it must be that one of two explanations obtains.

Possibly the operations by reflex on the adjacent sympathetic or other nerve-centers modifies the general symptoms. Those who still hold to the purely nervous pathology claim this is true and cite the fact that a section of the cervical sympathetic is often beneficial. The other possibility is that the secretions of the thyroid entering the blood are of great importance normally, and that an over-action or perverted action of the gland by poisoning is the cause of all the other symptoms. This has been the controverted point during the last ten years. Most writers, I believe, admit that removal of the thyroid may be expected to cure the disease. The theories constructed on this fact, however, are most varied, and some of them appear fantastical.

The simplest of all the etiologies given is that the thyroid secretion is a complex poison to the organic nerves, that the rapidly growing gland with its increased function overwhelms those centers, and that its removal removes the cause of the disease.

Further study rather tends to dissatisfy us with this simple explanation, and presents at least four factors that should be considered. These are the physiological experiments on the thyroid, the contrast between this disease and myxedema, the possibility of recovery from the disease under other forms of treatment, and the etiology. It is impossible in the limits of this paper to enter into a discussion of each of these. I will simply try to illustrate the statement that the pathology is still complex.

Blum[1] gives careful experiments to show that the function of the thyroid is not to furnish a poison but to supply the antitoxin; that from imperfect assimilation, albumoses are produced, which it is the constant function of the thyroid to destroy by combination with an organic iodin product as iodothyrin. This emphasizes the importance of the normal thyroid, but just why an increased function of the thyroid should cause disease is not made clear. We must supplement this physiological explanation with the supposition that the antitoxin itself has an effect on the nerve-centers or that some other substance is secreted by the gland which does have such an effect.

Myxedema is a disease supposed to be due to the absence of the thyroid or a suspension of its functions. The reasons for believing this are quite cogent. Entire removal of the gland brings on the disease. Feeding the gland mitigates its manifestations.

Now, the symptoms of this disease and exophthalmic goiter are almost opposite. One has dry skin; the other moist. The first tends to a drooping of the upper lid; the second to widening of the palpebral opening. The body temperature is lowered in myxedema; in Graves' disease it is frequently raised subjectively or even objectively. In one the pulse is too slow; in the other too rapid. So the contrast in a general way holds good. But it must be added that some symptoms are common to both. Weakness, mental hebetude, insanity, expressionless face, anemia, and lessened sexual desire are examples of this. Indeed, cases are on record where the two diseases existed in the same patient at the same time. This is impossible to understand unless the functions of the thyroid are complex, or unless exophthalmic goiter is more than overaction of the thyroid.

The most common cause of the disease being a sudden fright, is also a puzzle in its pathology. One can imagine the mammary secretion being turned to a poison for a day by emotion; but that a chronic disease should be due to a sudden mental influence is not so easy to comprehend. The fact that cases have recovered under many forms of treatment besides that directed to the thyroid further complicates the question. Removal of nasal abnormalities is said to have cured the disease. Return to a healthy condition of the alimentary tract has also been followed by a recovery from the tripod symptoms.

From all these considerations it must be that underneath the lesser truths of the influence of the cervical sympathetic and of the thyroid gland and of the terror there must be a deeper cause. I am not able to give this deeper cause and shall not attempt the task. Before this can be done we must know more of the complex physiology of the thyroid. We ought also to know what set of nerve-centers are involved to give all the gross physical manifestations of a man or an animal in the extreme of terror.

My own feeling in regard to the disease is that we must now, perhaps always, attack its secondary manifestations; that there is a fright center as well as a speech center or a vasomotor center, and that this may be congenitally weakened. Last week I heard of a young wife who always felt that she should die if a burglar came into the house, and did die because she supposed her husband was one as he carefully came at two in the morning. In such a predisposed person—a woman in nine cases out of ten—sudden emotion produces changes in the heart, digestion, action of the kidney, circulation of the thyroid, size of the pupil, character of the breast milk, trembling of the limbs, flushing of the face, and so through a long list. Suppose some one of these physical manifestations, such as a disturbance in the thyroid, assumes a permanent character from an inherent predisposition. Then a vicious circle would be established in which the other temporary symptoms tend to be constantly reproduced. I know this appears to be a return to the nervous pathology, in contrast to the prevailing explanation as a disease of the thyroid. If I have made myself understood, it will be seen that the thyroid is recognized still as a prime factor, but only as one in a chain. Our treatment is influenced by this idea only to the extent that we attempt to break the chain at its most vulnerable point. If we are prepared to do this by excision of the thyroid wholly or in part, well and good. If we detect some other weaker link, or one we feel more competent to solve, our treatment may be directed there with a fair hope of success.

Significance of Tardy Adenopathy in Scarlet Fever.—Early nephritis in scarlet fever, accompanying the fever and eruption, is usually slight and transient, but nephritis occurring later frequently assumes a serious form. It usually appears insidiously with a few clinical manifestations, but the *Semaine Méd.*, of June 20, quotes Stembo to the effect that an invariable pathognomonic sign in the incipient stages is the abrupt tumefaction of the glands below the maxilla or at the back of the neck, or both combined, appearing during convalescence, after cessation of the fever and of other symptoms. The temperature rises slightly, but albuminuria and other indications of the nephritis may not appear for one to four days.

---

[1] Virchow's Archiv, 1898.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, SEPTEMBER 8, 1900.

MEDICAL LITERATURE AND MEDICAL WRITING.

Virchow's recent advice to writers for medical periodicals, upon which we have already commented,[1] is attracting considerable attention in American and English journals. The points he makes in favor of brevity in non-essentials; in favor of comprehensive summaries of the previous literature bearing on the subject discussed; and in favor of a judicious limitation of the number of illustrations are all well taken. They have been urged before on various occasions, both by Virchow himself and others.

There are certain general rules for good medical writing that can not be urged too often. There is the title of the article, to begin with the beginning. The indefinite, meaningless title is still entirely too frequent, especially in American medical journals. Many a valuable observation, conscientiously recorded, is buried forever because the title does not clearly and explicitly indicate the scope of the article. What a bugbear to the index makers and cataloguers are such titles as the following, selected at random from the table of contents of recent journals: "Notes from Clinics"; "Two Obstetric Cases"; "Practical Surgical Notes"; "An Interesting Case"; "A Rare Case"—the last two continue to appear in spite of repeated protests—"A Reply"; "A Reply After Two Years," etc. Let the title state as briefly as possible the main subject of the article, so that "he who runs may read" and learn at a glance whether the article is likely to be of interest at the present moment. Medical libraries constitute the classified and indexed storehouses of available knowledge, and authors should, in the interests of the survival of their mental offspring, give it such distinctive appellation that it be not overlooked and neglected by the student. That the article is brief, laying perhaps no claim to originality, being merely a statement of a few facts of interest, is no reason why it should be sent into the world a nameless child. The sum total of our knowledge is made up to a large extent of the summary of more or less isolated observations scattered through numberless journals, but brought within the scope of reference by index catalogues and indexes in general.

A table of contents, indicating more fully the nature of an article, is certainly a valuable addition. It is an amplified title, and shows the order in which the various topics are taken up in the body of the article. It induces to system and clearness in presentation. Unfortunately, medical periodicals have not adopted this plan as extensively as it has been adopted in current biological literature. It is also regrettable that a uniform system of classification, such as that of Dewey, has not been generally adopted in our libraries, public, institutional, and private. In that case the number under which an article should be classed might be printed at the top of the table of contents.

Much annoyance and loss of time are caused by errors in the references to the literature cited in articles. Every reference should be verified carefully. Bibliographic references are inserted as part of the evidence adduced and weighed by the author. They are not ornamental and do not necessarily indicate great learning and patient study and search. Lists of references may be bought; and in a recent review there occurs the damaging statement: "The bibliography is the best that money can buy"—damaging because true. Indeed, is not the matter of bibliography somewhat overdone of late? "Many authors are mere antiquarians, gathering up the chaff with the wheat, and choking their readers with the dust of their own tedious research." In giving a reference, the name of the author, the name, year, volume, and page or pages of the journal should be cited always. In case a book is referred to, its title, the year of publication, and the page must at least be stated.

At the present time illustrations are in great demand. Good illustrations are exceedingly helpful, but the blurred smutches often seen are certainly not desirable. Reproductions of X-ray photographs are frequently unintelligible, and there is nothing to be gained by the indiscriminate use of illustrations.

Finally a word concerning the long article. The merits of a scientific contribution are not to be determined solely according to its extent. A careful, conscientious study of an important problem in medicine may require a great deal of writing for the full exposition of the results, and yet the article may be brief in the sense that no words have been wasted by unnecessary minuteness of detail and tiresome discussion. Articles of this character may be classical, and it is the function of the medical press to furnish the medium of publication for work of this sort. We have as yet but few, if any, publishers whose liberality prompts the publication of scientific medical monographs. Let not the popular taste for the brief and the pointed and the easily grasped stifle the adequate and thoughtful presentation of the results of scientific investigation. On the other hand, it is well not to forget that long articles are not necessarily scientific, strange as this may seem to some whose names appear quite often in medical prints. Quality, not quantity, counts here as well as in other spheres of action The majority of articles submitted for publication could be cut down one-half, and not a thought be eliminated in so doing. The repetition of well-known facts, padding with abstracts from text-books, and words, words,

---

[1] The Journal, July 21, p. 164.

words, too often constitute the papers that appear as "original" in medical journals. And if the editor presumes to use the blue pencil in the least, the majority of authors consider it an insult. If medical writers would but appreciate that the unnecessarily long article is just as unpopular with the reader as it is with the editor, there would be fewer written.

LITHOLAPAXY IN INDIA.

The August issue of the *Indian Medical Gazette* is a special one, devoted to the subject of East Indian experience with operations for stone in the bladder. This appears to be a common affection at all ages amongst some of the Indian populations, and the experience of Indian surgeons is therefore of value, the more so since their hospital opportunities are large. The papers published in this special number do not throw very much light on the etiology of the condition, the main point in all is the method of surgical cure. One thing stands out prominently in all the communications, namely, that Bigelow's operation of litholapaxy is the one that has become the operative mainstay of the British surgeons in India, and is the best and safest resource in all ordinary cases, regardless of age. One surgeon, Capt. H. Smith, I. M. S., analyzes nearly 8000 cases of operations for vesical calculi made in the Punjaub and in a few hospitals in the adjoining provinces since 1890. Of these 6918 were litholapaxies, with an average mortality of 3.81 per cent.; 980 perineal lithotomies, with 10.71 per cent. mortality; 29 suprapubic lithotomies with 41.37 per cent., and 27 of Keith's operation of perineal litholapaxy, with 7.4 per cent. death-rate.

Further, the figures given show the comparative harmlessness of the operation in children, as 1802 of the litholapaxies were done in subjects under 6 years of age with a mortality of only 2.55 per cent., and a total of 2615 under 12, with a total mortality of 45, or 1.72 per cent. Above this age the death-rate increased according to age, being 3.43 per cent. from 18 to 55 and 5.73 above the latter age. Keegan, who is claimed as the originator of the practice of litholapaxy in young children, would certainly seem to be vindicated by these figures. Indeed, they are better than his own statistics of 2.09 per cent. mortality in 239 boys averaging 6.4 years of age, as reported in the *Lancet,* July 28, 1891, to which he refers in reply to a criticism in the recent work of Dr. Lydston. In fact, Dr. Keegan has expressly disclaimed any pre-eminent dexterity or success in the operation, though his results as given above are creditable.

The history of litholapaxy in India, where hospitals have, in some cases, hundreds of operations for calculus annually, though dating back as it does less than twenty years, would seem to put the operation easily ahead of all others for the relief of the condition, and especially in the young, if there is distinction or preference as regards age. As Keegan says, however, and in this, others of the Indian surgeons agree with him, it is an operation that requires skill, and especially experience, as well as ample appliances for the best results. It may therefore be slower in winning the favor with European and American surgeons that it has with those of India, whose clinical opportunities as regards this operation seem to be so much greater.

Forbes Keith's operation of perineal litholapaxy has also its indications and advocates in this review of the subject in the *Indian Medical Gazette:* the Indian surgeons appear to desire to extend the use of the crushing methods and the statistics they give are not unfavorable. It is probable, however, that to some extent the popularity of these has, as our East Indian contemporary suggests, affected the statistics of the cutting operations, which are not there selected in a way that makes for high-class statistical results. Be this as it may, however, the figures given appear to fairly establish the pre-eminent utility, in that country at least, of Bigelow's operation and its modifications, without regard to age conditions originally deemed of importance.

DIPHTHERIA, LARYNGITIS AND LARYNGISMUS.

While it is true that membranous laryngitis may be due to other exciting causes than the diphtheria bacillus, in actual practice almost all cases have this specific bacterium. Laryngeal obstruction, with the complex of symptoms known as croup, may, however, be due to other causes, such as spasm of the glottis, the presence of new growths or of foreign bodies in the larynx. The differentiation is, obviously, of the greatest importance, as on it will depend the appropriate treatment to be instituted. Croup, it should be borne in mind, is but a symptomatic designation, and it may be due to any one of a number of causative influences. Symes,[1] in a recent communication, describes the features of croup as follows: laryngeal stridor, cough, with a barking, "croupy" sound, a nocturnal paroxysm, great restlessness, and recession of the chest; and he considers briefly the clinical characters of the three principal varieties of disease that are attended with these phenomena, namely, diphtheria, laryngitis, and laryngismus.

Membranous croup and diphtheria are to be looked on as essentially the same disease. The condition is characterized by its gradual onset, enlargement, induration, and tenderness of the cervical lymphatic glands, increased area of cardiac dulness, the presence of albumin in the urine, the detection of membrane in the pharynx, and the presence of diphtheria bacilli, the long duration, the slow recovery, and the transmissibility. A septicemic rash may be present, and the knee-jerks are occasionally absent.

Acute laryngitis may be attended with swelling and edema of the larynx and croupy symptoms. In addition, there will be hoarseness of voice, the respiration has a hissing character, the lymphatic glands are not enlarged, the onset is more rapid, albuminuria is not present, and the attack does not occur especially at night. The knee-jerks are not altered, the heart is not dilated, and there is no history of infection.

---

[1] Dublin Journal of Medical Science, July, 1900, p. 221.

Spasmodic laryngitis is differentiated from diphtheria by its abrupt onset, its occurrence at night, its recurrence, its appearance in more than one member of the same family, the rapidity of recovery, its association with enlarged tonsils or adenoids, its development in children between the ages of 3 and 15 years, and the relief afforded by vomiting.

Laryngismus, on the other hand, is a spasmodic neurosis of early infancy, occurring almost exclusively in rachitic children and unattended with cough. The spasm causes sudden arrest of breathing in expiration, followed by a crowing inspiration. The disorder is most common between the age of 6 months and 3 years. It is unattended with fever, there is no hoarseness, and the child appears to be well in the intervals. Recovery occurs, as a rule, although the spasm may terminate fatally. In addition to its rachitic origin, it may also be of congenital or reflex origin.

THE INFLUENCE OF ALCOHOL UPON SUSCEPTIBILITY TO INFECTION.

It is not long ago that alcohol enjoyed a wide range of therapeutic usefulness. It was given to reduce fever and it was taken to produce warmth; it was prescribed for sleeplessness as well as for the purpose of arousing the flagging mental activities; it was supposed to stimulate the appetite and to furnish food, and it was used accordingly; and in the treatment of infections and certain intoxications, acute as well as chronic, alcohol has long played a very prominent part. In not a few instances the treatment of infections with alcohol in its various forms has been carried to such an extent that "heroic" is the most popular term to describe the doses given.

But the rôle of alcohol as a panacea is being rapidly curtailed. The light of exact investigation has shown that the therapeutic value of alcohol rests on an insecure basis, and it is constantly being made clearer that after all alcohol is a sort of poison to be handled with the same care and circumspection as other agents capable of producing noxious and deadly effect upon the organism. In reality, practically nothing is known concerning the influence of alcohol on the susceptibility and the course of infections in man. Clinical observation can not solve such questions properly. The basis for final judgment must be found in experiments, but so far little has been done in this line. It has been shown by Abbott[1] and others that alcoholic animals are more susceptible to infections with various organisms than normal animals. And Laitinen,[2] after having studied the influence of alcohol upon infections with anthrax bacilli, tubercle bacilli, and diphtheria toxin in dogs, rabbits, guinea-pigs, fowls, and pigeons, reaches the same general results, and this with certainty and directness.

Under all circumstances alcohol causes a marked increase in susceptibility, no matter whether given before or after infection, no matter whether the doses were few and massive, or numerous and small, and no matter whether the infection was acute—anthrax—or chronic—tuberculosis—or more of the nature of an intoxication—diphtheria. The alcoholic animals either die while the controls remain alive, or in case both die, death is earlier in the alcoholic. Without going into details in connection with the experiments—and there is room for further work here—it may be said at this time that the facts brought out by the researches of Abbott, Laitinen, and others do not furnish the slightest support for the use of alcohol in the treatment of infectious diseases in man.

TRADE UNIONISM IN MEDICINE.

An association of physicians is being formed in Detroit on apparently regular trades-union principles, exclusion of all non-members from any professional recognition, "business agents" under the name of ward governors, and all the other essential outfitting of a regular trades union. The Journal is an advocate of organization of the medical profession on legitimate ethical lines, but we trust the report of the proposed action in Detroit is incorrect, at least in some of its details. It is not necessary to imitate the objectionable features of a laborers' or mechanics' organization, nor is it dignified or worthy of a learned profession. If our judgment is correct, and we have no reason to doubt it, the plan as proposed will hardly succeed and will not help the profession as a whole. There is ample opportunity for an organization of physicians that will protect their own interests without sacrificing their self-respect as members of a learned and honorable profession. The proposed plan does not do it, it seems to us, and there are still other features than those mentioned that may be open to objection.

UNGUARDED RHETORIC.

What we must regard as an unfortunate expression in Dr. Jacobi's address at the International Medical Congress[1] has caused some resentment, as will be seen in the correspondence published in this issue, as might perhaps have been anticipated. The speaker undoubtedly referred to certain extreme conditions, but it is unfortunate that he used the terms as applying to any special sections, only partially qualifying his remark by saying that the boundaries of most states include the most various degrees of culture and the contrary. It would have been better had he said all states, for no section of our country has a monopoly of culture or of its opposite. The highest culture and refinement are least obtrusively self-conscious, and of this kind the East has no exclusive supply, any more than has the South of "abject animalism," or the West of any peculiar qualities. Our correspondent may be unduly sensitive, but we ourselves can not but regret the semi-apologetic accent of some portions of the address in regard to our national standing in medicine and science. Foreigners are condescending enough at present, and we naturally prefer such an utterance as that of Osler, who saw in the future of America a scientific Mecca, rather than even an equivocal admission of real or fancied national defects, in such an address. Nevertheless, we do not feel so badly hurt as we might were the implications better based on facts in this special case.

---

[1] Journal of Experimental Medicine, 1896, i, 147.

[2] Ztft. f. Hyg. u. Infektionskr., 1900, xxxiv, 206.

[1] The Journal, August 18, p. 427.

DEATHS AND ACCRETIONS IN THE MEDICAL PROFESSION.

The State Board of Health of Illinois has just published a list of the physicians, licentiates of the Board, whose deaths have been reported since 1877. This gives a total of 2266 deaths, or an annual average of about 100. This is not a large number, considering the fact that there are between 8000 and 9000 licensed physicians in the state, and indeed it is small when account is taken of the large output of new physicians each year. Last spring Chicago institutions alone graduated 676, and Illinois is fairly surrounded on all its borders with medical schools. With the increasing prevalence of state examinations, the tendency will probably be more and more to stiffen the requirements, but it is still difficult to see how all the newly-fledged physicians are to be accommodated with a practice and a living. The chances are that more will be inclined to settle down in their native state or in that in which they have studied and where it might seem to them that any prejudice or allowance in the examinations would be in their favor. With all possible restrictions to entrance in the profession, however, the death-rate among physicians in Illinois is far from being adequate to make room for its share of the annual crop of graduates. Undoubtedly the figures are too low, if anything, and there must also be a large defection from the profession in other ways than death. The figures point clearly to one thing: We are overdoing medical education as regards numbers. This, however, has long been known. The workings of the new medical-practice laws, that are all the while becoming more rigid and general, will be watched with more interest hereafter, and the relative standing of the different colleges before the boards may possibly have a salutary effect in ultimately weeding out some of the poorer ones. At present the evil is in full blast and though the subject is a hackneyed one, it is well to utilize every available fact as a text for the utterance against the modern multiplication of medical colleges with their competition, consequent laxity as to standards, and indigestible output of semi-fitted or unfitted candidates for medical practice.

THE RELATION BETWEEN URIC-ACID EXCRETION AND EPILEPTIC SEIZURES.

The attack of epilepsy may be looked on as a manifestation of the activity of the motor cells of the cerebral cortex, induced by abnormal stimuli. In the absence of positive evidence, there may be reasonable discussion as to the nature of the latter. Sometimes the irritant is grossly mechanical, as a spicule of bone or a clot of blood or a new-growth—hyperplastic or neoplastic—or an inflammatory or traumatic lesion of the brain; at other times it may consist in a poison circulating in the blood. Convulsions due to the influences named are, however, commonly designated epileptiform, in contradistinction from seizures due to less tangible causes, and the latter alone are considered epileptic. The distinction is rather one of convenience than exactitude, and as time goes on, the first group may be expected to expand, while the second grows progressively more restricted. Uric acid is one of the substances that has been thought to be responsible for the occurrence of epileptic seizures, as it has also been held accountable for numerous other derangements of function. Without attributing the epileptic seizure directly to the action of uric acid, it has further been contended, on the basis of experimental observation, that the excretion of uric acid is invariably diminished before each paroxysm of "idiopathic" epilepsy—sometimes immediately before, and at other times at an interval of a day or two; while the excretion is believed to return to and even to rise above the normal, after the paroxysm. The variations in the excretion of uric acid are considered as corresponding to other chemical changes through which the real poison, carbaminic acid, is formed. For the purpose of testing the validity of this proposition, Putnam and Pfaff[1] made a study of 29 specimens of 24-hours' urine from two cases of epilepsy, in the one during a period of three months, with five seizures, and in the other during two periods, each of a month, and each with one attack. The results, however, failed to show that there was any relation between the occurrence of the epileptic attack and the amount of uric acid excreted.

RAPID GROWTH OF THE TUBERCLE BACILLUS.

The tubercle bacillus grows but slowly upon our usual culture-media, a circumstance that causes delay in diagnostic and other investigations. Not long ago, Hesse advanced the claim that by adding a certain nutritive substance, called *Naehrstoff Heyden,* to agar or glycerin-agar, instead of the usual peptone, a medium is presented upon which the bacillus of tuberculosis grows with unexpected rapidity, characteristic growth being evident in two or three days. Indeed, the souring of tuberculous sputum upon this medium was said to be followed by multiplication of the bacilli in six to seven hours, as determined by microscopic examination of the surface inoculated. Hesse, on this account, leans to the opinion that all bacilli thrown off with the sputum have the power of multiplication—a fact of interest and importance if generally corroborated. Ficker[2] and Römer[3] have tested the results reported by Hesse. Both agree with Hesse, that on the medium prepared according to his directions the tubercle bacillus shows greater proliferative energy than on any other artificial subtratum. The exact substance in the *Naehrstoff Heyden* that induces the rapid growth can not be stated as yet. As regards the rapid multiplication of bacilli, in sputum placed upon Hesse's medium, Ficker and Römer reach a different conclusion from that of Hesse. In the first place, the impression preparations from the surface of the cultures showed that in certain flocculi of the sputum, growth had taken place, whereas in others it was evident that no multiplication had commenced. In the second place, careful study of inoculations of tuberculous sputum upon the usual media showed evidences of increase in the number of the bacilli just about as early as on Hesse's medium. It was also learned that in their growth the bacilli seemed to confine themselves to flocculi of sputum; when the limits of the flocculi were reached, a standstill in the multiplication was noticeable. This observation led to the thought that the mucus in the sputum was the stimulating factor. and Römer found that bacilli inoculated on cultural surfaces with non-tuberculous mucous expectorate carefully washed in sterile water grew much faster than on control plates without mucus. The difficulty in obtaining sterile mucus placed heavy obstacles in the way of extensive investigations along these lines. Enough results have been obtained, however, to show that the tubercle bacillus uses to great advantage the materials present in the mucus surrounding it in the sputum. Mucus alone is not sufficient for growth—and this is perhaps fortunate—because there is no rapid increase in the number of bacilli in tuberculous sputum kept in a moist chamber.

---

[1] American Journal of Medical Sciences, August, 1900, p. 119.

[2] Centralbl. f. Bakt., Abtheil. i, 1900, xxvii, p. 500.

[3] Ibid., p. 705.

INTERNAL HEMORRHAGIC PACHYMENINGITIS.

The nature of that peculiar form of inflammation of the dura mater, known as pachymeningitis interna hemorrhagica, has long been a subject of discussion and study. But the process or processes are so unique and so different from other inflammations that most questions in regard to this disease still remain unsettled. The description of the microscopic structure of the dura by Key and Retzius twenty-five years ago remains true now. The membrane is composed largely of collagenous fibers mixed with more or less elastic tissue which, according to Melnikow-Raswedenkow,[1] increases in amount with advancing years. According to the recent investigations of this author the external and internal surfaces of the dura are covered with elastic lamellæ or limiting membranes. Upon the internal surface of the inner of these layers we have the epithelial lining of the dura. There are capillary networks near both the limiting membranes. It will be recalled that the external layer is closely applied to the inner surface of the skull and plays the rôle of periosteum for the skull. Melnikow-Raswedenkow examined a number of examples of hemorrhagic pachymeningitis. It begins as an inflammation of the inner or epithelial layer; a superficial exudate forms, capillaries grow into the exudate from the network below the inner elastic layer, and a layer of vascular connective tissue develops. . From this a scar may result, but the characteristic feature is the hemorrhagic extravasations from the new capillaries. This process may become chronic, and thick layers of vascular and hemorrhagic or pigmented connective tissue in various stages may form, the oldest parts being nearest the internal elastic layer. It is the advanced forms of this process that give us the clinical picture of internal hemorrhagic pachymeningitis, encountered perhaps oftenest in the insane. The principal point in this sketch of the histogenesis is that the inflammation is the first step, the hemorrhage being secondary and complicating. This corresponds to one of the two current views of the pathogenesis of pachymeningitis; the other view holds that the hemorrhage is the primary event. The earlier stages of pachymeningitis are observed especially in various infectious diseases and do not give rise to recognizable symptoms; undoubtedly the process frequently heals spontaneously; but under some conditions the inner elastic layer grows in thickness and thus the communication between the old capillaries on the outside and the new capillaries on the inside of the elastic layer is greatly hindered, and the organization of the exudate and the return flow are delayed; hence the liability to hemorrhages and to continued inflammation. Great stress is thus laid on the mechanical rôle of the inner elastic layer in addition to the primary toxic agent. The toxic agents give rise to the earliest changes, the inflammatory, which are situated on the surface of the dura; the disease is to be looked on as a complication of general diseases; the peculiar mechanical conditions under which the new-formed vessels engaged in the absorption of the exudate are placed favor circulatory disturbances and extravasations into the new tissue. This view of the genesis of pachymeningitis is ingenious and helpful because it brings into prominence certain etiologic factors as well as the structural peculiarities of the dura.

Medical News.

The University of Athens has founded a chair of hygiene and bacteriology, and appointed Dr. Savas, staff officer in the Greek army, to the place.

The number of persons who graduated last year in the learned professions was 16,448, and of these 5597 were graduates in medicine, 3065 in law, and 1673 in theology.

The Plague in Glasgow.—The recent reports from Glasgow, up to September 5, show that an additional case of plague has been discovered, making a total of thirteen. Three doubtful cases are isolated and 103 are under suspicion and observation.

A Cuban Medical Journal.—Dr. John Guitéras, formerly professor of pathology in the University of Pennsylvania, and who now holds a position in the teaching faculty of the University of Havana, has established a medical journal there, entitled *Revista de Medicina Tropical.*

Food of the Poor in the United States.—As a result of the examination of the comparative nutritive quality of food obtained from nine states and one territory of the United States, Professor W. O. Atwater finds that the American people could get twice as nutritive food for about half the money they now pay. In his opinion three times as much food is wasted as is eaten.

School Hygiene in Germany.—The Minister of Public Instruction for the German empire has ordered that all public schools should be dismissed with a maximum of four hours of consecutive instruction whenever the temperature is 25 C.—77 F.—in the shade at 10 a.m., and that no afternoon session shall be held. The school hours must likewise be shortened even at a lower temperature, if the rooms are small or overcrowded. Children who have an unusually long, unshaded walk to school must be excused from the second session.

---

[1] Ziegler's Beiträge, 1900, xxviii, 226.

A Good Fee.—Dr. J. N. McCormack, Bowling Green, Ky., is to receive the very handsome fee of $10,000 for professional services rendered William Goebel, the murdered governor-elect of Kentucky. At the time the shooting took place, Dr. McCormack, an old friend of Goebel, happened to be in Frankfort, and the wounded man asked that he be called. It was important that the patient be kept alive until he could be sworn in as governor, and the doctor not only remained with him until this had been done, but until the governor had died. There is no objection made by the family to the fee charged, in fact the amount was suggested by a brother of the deceased, a devisee under the will. Dr. McCormack is well known to the profession, and especially on account of the lead he has taken in the successful fight against quackery in Kentucky. He is secretary of the Kentucky State Board of Health.

Koch's Latest Report on Malaria.—Dr. Koch has concluded his malaria research in German New Guinea, after a six months' stay. His experience included the rainy season and the transition periods in which malarial affections are most prevalent. He claims that they confirm his previous announcements and anticipations that the only practicable and effective method of exterminating malaria is the radical cure of every case. He deems the extinction of the infecting mosquitoes impracticable, and observes that the protection afforded by netting is good as far as it goes, but that no substance applied to the skin to drive away the insects has proved of more than transient benefit, while some are directly injurious to the bearer. It is possible, he adds, that some means may yet be devised to artificially hasten the immunization, which naturally is not attained until after four or five years and many attacks of malarial infection, but at present the prospects in this line are slight. He considers his malaria mission accomplished, and now leaves for Herbertshöhe to study the subject of the spread of malaria in a "safety zone." His latest communication is published in the *Deutsche Med. Woch.* of August 23. No new cases occurred at Stephansort during May and June, and only four relapses, all of quartan fever, which he regards as the mildest but the most obstinate form of malaria.

ARKANSAS.

A sanatorium for the Knights of Pythias is to be established by the order at Hot Springs. Congress has donated five acres of land for a site, and a fund of $500,000 is to be raised for the purpose of erecting, equipping and endowing a suitable building.

CALIFORNIA.

Dr. Thomas E. Cummane, of Santa Paula, has located in Ventura.

Mrs. Phoebe Hearst has given $1000 toward the new free hospital at Berkeley.

The county hospital at Riverside is now almost ready for occupancy. It is located on a triangular plot of ground eleven acres in extent with one side facing Magnolia avenue.

San Jose had a death-rate of 12.04 per thousand for the year 1898-1899 and of 12.12 per thousand for the year 1899-1900. The birth-rate for the same years was 9.06 and 9.64 per thousand respectively.

An emergency hospital is urgently needed in Golden Gate Park, San Francisco. This need has been emphasized by the recent death of a San Francisco teacher near the Cliff House, whose life might have been saved had efficient medical aid been at hand.

A hospital to provide for the needs of sick or injured students at the University of California has been established at Berkeley. The president of the university is honorary president of the association, Dr. F. H. Payne, president, and Dr. J. S. Eaton, secretary. The board of directors in addition contains four physicians and five laymen.

Oakland's annual health report shows the lowest death-rate, with one exception, for eighteen years. During the year, 40 deaths from zymotic diseases occurred; 59 died in 1899 from this cause. The annual death-rate per thousand for July was 12.48. Seven died from pulmonary tuberculosis and 7 from apoplexy. Violence caused 9 deaths, including 3 suicides.

CONNECTICUT.

The investigation of the condition of affairs at the New Haven Hospital, which has been demanded by the New Haven Medical Society, is to be made. The committee appointed for the purpose consists of Gen. Samuel E. Merwin, president of the hospital, Judge Simeon E. Baldwin, Prof. Morris F. Tyler, Eli Whitney, Dr. W. H. Carmalt, Dr. W. G. Daggett and Joseph Porter.

DISTRICT OF COLUMBIA.

Dr. J. F. Kemp, who has been for six months an interne at the Georgetown Hospital, has been appointed acting assistant-surgeon in the army.

Dr. Charles C. Marbury, of Washington, has been appointed police surgeon, vice Dr. J. Ramsay Nevitt, appointed coroner of the district.

The Casualty Hospital, Washington, during the month of July treated 97 emergency cases; 83 surgical operations were performed and 17 patients were placed in the wards. During the same month the Eastern Dispensary reports 279 applications for treatment and 6 surgical operations.

HAWAII.

Typhoid fever is reported to be epidemic at the Kapiolani Home for Girls at Kalihi.

The Honolulu board of health, at its August meeting, was appalled to find 12,000 bills arising from the plague epidemic awaiting its action, with many outlying districts to hear from. Although about $20,000 was left in the fund, it seemed likely that it would be only a drop in the bucket toward payment of these bills.

The mortality among Hawaiians is excessive. The report for July shows that 114 died during that month, 80 males and 34 females; 53 were Hawaiians, 25 Japanese, and 12 Chinese; 28 were under 1 year of age and 15 over 60. The mortality for the month for the last six years is as follows: 1895, 51; 1896, 48; 1897, 59; 1898, 75; 1899, 93, and 1900, 114. The annual death-rate per thousand was 30.74. Consumption was the cause of death in 18 cases and typhoid fever in 17.

ILLINOIS.

Dr. Roy Williams has opened an office for the practice of medicine in Rockford.

Dr. Max F. Clausius, of Barrington, has been appointed acting assistant surgeon in the army.

Dr. Ethan P. Allen, who has practiced in Stillman Valley for twenty years, has moved to De Kalb.

Dr. Charles E. Crawford, of Rockford, has been re-elected supreme medical examiner of the Sons of St. George.

A new monthly medical journal, the *Southern Illinois Journal of Medicine and Surgery*, has appeared. This newest aspirant for professional favor is published at Metropolis.

Cass County commissioners have elected as physicians for the coming year, Dr. John W. Porter, Virginia; Dr. Howard B. Boone, Chandlerville; Dr. Joseph D. Lyons, Ashland, and others.

The Evanston Hospital endowment fund is rapidly increasing. The directors report that $25,000 has been subscribed already. It needs still $20,000 before the remodeling can be completed and the desired contagious-disease ward constructed. A training school for nurses is to be one of the improvements undertaken.

The pure food law is not understood by the public at large. It is intended to protect the buyer against imposition. If he wants to buy oleomargarin for butter, chicory for coffee or dilute acid for vinegar he is at liberty so to do, but the law requires that such articles shall be labeled. The *Chicago Chronicle*, in a concise and timely editorial, commends the work of the Illinois Pure Food Commission and shows what it is endeavoring to accomplish.

Chicago.

Dr. Nicholas Senn has returned from his summer vacation, most of which was spent in Texas and Colorado.

Dr. Thomas Warloe has decided to remain in Trondligen, Norway, give up the practice of medicine and go into business.

The Trinity Diet Kitchen for infants at 3213 Wallace street during the last two months has cared for 700 babies, with only one death.

Dr. J. B. Murphy has severed his connection with the College of Physicians and Surgeons—medical department University of Illinois—and has accepted the position of professor of surgery in the Chicago Medical College—medical department Northwestern University. At the same time he assumes the position of chief surgeon to Mercy and Wesley Hospitals.

INDIANA.

Dr. Samuel L. Kilmer, of South Bend, whose eye became infected by sputum from a diphtheric child, is seriously ill and is reported as likely to lose the affected eye.

Two Logansport physicians, Dwight C. Powell and Harry C. Gemmill, Jr., recently appointed acting assistant-surgeons in the army, have started for China via San Francisco.

South Bend must care for its own diphtheria, says Dr. J. N. Hurty, secretary of the state board of health. He has informed the local authorities that they should be fully conversant with their duties and should be able to handle the situation. His duty is to go to places where officials do not understand how to attend to these matters.

IOWA.

A new pest-house is to be provided for Des Moines, as the detention hospital is too near the heart of the city to satisfy the citizens or the city council.

Dr. James R. Wedel, of Vincennes, was accidentally but dangerously wounded on August 13 by a pitchfork thrown from a straw-stack by a farm-hand.

Titusville is to have a hospital costing $14,500. The board of directors of the hospital association has made a contract for the erection of a pressed-brick building two and one-half stories high, 90x47 feet, to be completed and ready for occupancy in six months.

KANSAS.

SMALLPOX STATISTICS.

Dr. W. B. Swan, of the State Board of Health, reports that there are fifteen cases of smallpox at present in Kansas; eleven in Crawford and Cherokee counties, two in the southern portion of Sumner county and two in Topeka. Most of the cases from southern Kansas are among the miners in Crawford county. The eleven cases from Crawford and Cherokee have been reported within the past two weeks. Prompt measures will be taken to stamp out the disease so far as lies in the power of the board. The state law provides that the county commissioners of the several counties shall act as local boards of health for their respective counties. Each local board thus created shall elect a physician, preference being given to an adept in sanitary science, who shall be ex-officio a member of the local board, and the health officer of the same. The county commissioners of Crawford county have been urged to take up the matter of smallpox at once and adopt vigorous measures to stamp it out. The epidemic began last December. Most all, if not all, the county health officers were puzzled as to the origin and nature of the disease and very few cases were reported to the state board of health in that month. The record from the first of the present year is as follows: January, 29 cases, 1 death; February, 437 cases, 10 deaths; March, 456 cases, 5 deaths; April, 370 cases, 1 death; May, 116 cases, 8 deaths; June, 37 cases, 1 death; July, 5 cases and no death.

KENTUCKY.

Dr. Henry E. Tuley, Louisville, returned from his vacation, September 7.

Dr. Thornton Perkins, of Elkton, a graduate of Bellevue Hospital Medical College, has been appointed acting assistant-surgeon in the army.

Suit against the Louisville and Nashville Railroad has been entered by Dr. Dudley S. Reynolds, of Louisville. He claims $10,000 damages for permanent injuries received at Glasgow junction, by the falling of a piece of coal.

MAINE.

Two Biddeford physicians, Dr. John S. Fogg, who has recently resigned after two years' service in the army, and Dr. F. S. Warren, have gone to Europe for a short trip.

MARYLAND.

Dr. Alvin H. Price, of Baltimore county, had a second stroke of paralysis on August 27.

An effort is being made to build a hospital at Annapolis. Numerous accidents occur there, and large numbers of strangers go there for business or pleasure. Dr. William S. Welch is in charge of the project.

Baltimore.

Dr. James Bosley, health commissioner, has been spending his vacation at Rehoboth Beach, New Jersey.

A negro suffering with confluent smallpox was found in a local hospital August 29 and removed by order of the health department to the quarantine hospital. He stated that he had left Elkins, Va., nine days before. The crew of the vessel on which he came were at once vaccinated, but the passengers had disappeared.

Preparations for the coming session are being made at the Baltimore Medical College. The pit of the amphitheater has been enlarged, a new sexagonal tile floor has been laid, new operating tables and new basins have been provided. The operating-rooms have been renovated and a room has been provided for use as a surgical dressing closet.

For the week ending August 26 there were seven deaths attributed to sunstroke, and 76 of children under 5 years of age. Among the deaths were: Cholera infantum, 39; consumption, 24; typhoid fever, 8; consumption, 24; typhoid fever, 8; pneumonia, 7; and drowning, 5. The death-rate for whites was 17.30; for colored, 30 per thousand.

August, 1900, goes down as the hottest month on record here. The daily average was 89.30 F. There were more than 30 heat prostrations, and many more deaths indirectly due to the heat. For 17 days the thermometer reached 90 or over, and for the six days, August 7 to 12, the average was 99.3. The excessive humidity, the unusual dryness and the absence of winds have made it a season never to be forgotten by Baltimoreans.

The health commissioner is not satisfied with the reports of births sent in to his department by physicians, parents and midwives. It is so incomplete as to be of little value. The matter is of such pressing importance, especially in its legal relations, that he proposes this fall to have an ordinance introduced into the city council prescribing a penalty for failure to report births. At present the reports show a greater number of deaths than births.

MASSACHUSETTS.

Dr. A. C. Doten, of Worcester, has been appointed ambulance surgeon to succeed Dr. Francis Shaw, resigned.

Dr. Arthur Fournier has removed from Three Rivers to Gardner, and has taken the office and practice of Dr. J. N. Roy.

Charlton celebrated on August 19, the 81st birthday anniversary of Dr. William T. G. Morton, the discoverer of ether.

Dr. C. A. Sturtevant, West Somerville, has been appointed acting-assistant-surgeon in the army and is already on his way to San Francisco.

Dr. Luke B. Peck, Brookline, has been appointed acting assistant-surgeon in the army and assigned to duty with the United States forces in the Orient.

Union Hospital at Lynn has secured its charter. The incorporators and first board of directors are: Dr. Frank L. Judkins, president; Dr. Charles E. Jenkins, treasurer, and the remainder, physicians from recognized schools of medicine. The hospital will have an immediate capacity of 20 to 30 beds.

MICHIGAN.

The matron of the Jackson City Hospital, Mrs. Flora A. Stickle, who has held that position for eleven years, has resigned, and Miss Minnie West, of Grace Hospital, Detroit, has been appointed her successor.

Dr. John L. Burkart, late city physician of Grand Rapids, and assistant-surgeon of the 32d Michigan infantry, U. S. V. during the Spanish-American war, has been appointed acting assistant-surgeon in the army, and has been ordered to China.

The health officer of Kalamazoo reports that the health of the city is menaced by the unclean vaults, many of which have not been cleaned for more than ten years; by the drive-wells, many of which are close to these unclean vaults, and by the poverty of provision for the health department. He recommends that the city fit up a laboratory at an initial cost of about $500, and that it also erect a garbage crematory.

A free hospital with a well-equipped laboratory is urgently needed for the care of the sick poor of Detroit. Dr. W. F. Metcalf claims that at present the poor of the city are not taken care of in the best way, speaking from a medical standpoint. Their cases are not studied and tabulated as they should be to secure the best results to the patients themselves and to the progress of scientific medicine.

MINNESOTA.

Dr. and Mrs. T. W. Villiers Appleby have returned to St. Paul from an extended tour in Europe.

Dr. Reynaldo J. Fitzgerald, of Minneapolis, who served as surgeon of the 13th Minnesota Infantry, U. S. V., in the Philippine campaign, is seriously ill with appendicitis.

The Postmaster-General has confirmed the appointment of Dr. Walter R. Ramsey as official physician to the post-office department in St. Paul, to take effect September 1.

The State Board of Defectives has decided upon plans for the cottage to be built at the state farm for the use of epileptic boys. The building will cost about $14,000, and will accommodate thirty-five patients.

Smallpox, during the present epidemic in Minnesota, has occurred in 114 different localities in 48 counties and now exists in 32 localities in 16 counties. Up to July 1, 1900, there had been 1164 cases, with 28 deaths.

The Lumberman's Hospital, Brainerd, has been sold by Dr. James L. Camp to the Benedictine Sisters, of Duluth, for $9000. The transfer includes twenty acres of land and the hospital, which will be remodeled by the new owners.

The State Board of Health has sent a circular to presidents of school boards and school superintendents and principals throughout the state urging that especial precautions be taken to prevent infectious diseases at the opening of the school year. To this end it recommends that a salaried inspector be selected by each school board, who should make a daily inspection of schools and pupils, and take all necessary steps to prevent the spread of disease.

MISSOURI.

St. Louis has $258,000 in hand and will proceed at once with the erection of a city hospital to accommodate about 300 patients. The bill passed by the city council August 7 was signed by the mayor August 15 and became a law August 25.

NEBRASKA.

Dr. John M. Neely, of Elmwood, has been appointed local surgeon for the Missouri Pacific railroad.

Dr. Frederick J. Wearne, of Omaha, county physician of Douglas County, has been given opportunity by the county commissioners to resign so that his place may be filled by a new man. No charges are made against Dr. Wearne, but the commissioners desire "to pass the honors around." It is claimed that this is outside of politics, but it "hath an aged and fish-like smell."

NEW JERSEY.

An epidemic of typhoid fever threatens the town of Trevorton, owing to polluted water and defective drainage. Two persons have died and several are now ill with the disease.

The Camden Commission of Public Instruction has decided that persons wishing positions as teachers in the public schools must be healthy and applicants must show certificates from reputable physicians as proof that they are free from tuberculosis, before receiving appointments.

NEW YORK.

Dr. George B. Broad, of Syracuse, is dangerously ill, as a result of infection.

Resolutions of respect regarding the late Dr. John F. Burns, of Long Island City, were passed by the Long Island City Medical Society August 19.

Parks Hospital, Glens Falls, has now an attending staff, consisting of Drs. R. Jerome Eddy, Howard S. Paine, William J. Hunt, David J. Fitzgerald, Fred G. Fielding, Thomas I. Henning, Charles S. McLaughlin, Claude A. Horton and others.

Promotions are in order at the State Hospital, Binghamton. Dr. W. A. White becomes first assistant physician, and Drs. H. Wardner Eggleston, Cecil McCoy and Edward Gillespie are each advanced a step, while Dr. Irving L. Walker, Waverly, recently graduated from the College of Physicians and Surgeons, New York, has been appointed medical interne.

The lay press chronicles the wonder of medical men over a patient in Copenhagen who has been operated on fifty times and has had 2918½ pounds of fluid taken from her body. This reminds one of the epitaph on Dame Mary Page in Bunhill Fields burying-ground, who "in 66 months was tapped 67 times, and had taken from her 496 gallons of water without ever repining at her case or ever fearing the operation."

New York City.

Dr. Henry Koplik has returned from his vacation trip to Europe.

Fast riding on automobiles is not allowed even physicians on emergency calls. Dr. Wallace C. Clark, 113 West 34th street, was fined $3 and costs for this offense.

OHIO.

Dr. Agnes Gardner, of Toledo, has been appointed assistant physician at the Northwestern Ohio Hospital for the Insane in that city.

OREGON.

Twelve out of sixteen physicians who were examined by the Oregon State Board of Medical Examiners were granted licenses to practice. The board held its annual meeting and election of officers, which latter resolved itself into a re-election of officers.

PENNSYLVANIA.

Dr. William B. Ulrich, of Chester, has resigned his position as chief surgeon of the Pennsylvania Military College. He recently celebrated his golden anniversary as a practitioner of medicine.

Philadelphia.

Dr. Albert Woldert has gone to the Pocono Mountains for a short vacation.

The will of Dr. John H. W. Chestnut, recently deceased, bequeaths the sum of $3000 to the Presbyterian Home for Widows and Single Women.

The new morgue has been completed and will be turned over to the city within the next few days. Arrangements have been made at this building so that the funerals may be as private as possible.

Through the bequest of Edward T. Parker, the erection of a hospital has begun, to be known as the Parker Infirmary, which will be an addition to the Home for the Aged and Infirmed Colored Persons. It is to be three stories in height, will be finished in oak and will contain all the modern hospital appliances. The cost of the building will be about $13,000.

Dr. D. Braden Kyle, who has just recently returned from abroad, was tendered a complimentary dinner at the University Club on the evening of August 29 by numerous friends. Those present were Drs. A. B. Kirkpatrick, William H. King, Justus Sinexon, C. C. Royce, Carle Lee Felt, Thomas W. Tait, T. D. Taggart, William Corson, E. L. Meyers, Leon Van Horn, and George Doyle.

Mr. J. Lewis Good, Chief of the Bureau of Health, announces that the city has never had a cleaner bill of health, so far as contagious diseases are concerned. For several successive days there were no admissions to the municipal hospital. There are, as a rule, between 200 and 300 patients, but at this time there are only 131. He considers this state of affairs as due in part to the energy of the health inspectors.

The number of deaths for the week ending September 1 was 413, an increase of 41 over last week and an increase of 77 over the corresponding period of last year. The principal causes of death were: Apoplexy, 11; nephritis, 26; cancer, 17; cholera infantum, 42; tuberculosis, 49; diabetes, 5; heart disease, 34; pneumonia, 19; marasmus, 24; septicemia, 3; suicide, 2. Contagious diseases were reported as follows: Diphtheria, 61 cases, 13 deaths; scarlet fever, 20 cases, 3 deaths; typhoid fever, 60 cases, 8 deaths.

SOUTH CAROLINA.

Cisterns, tanks and water receptacles must now be placed above ground by a decree of the city council of Charleston. It is contended that the soil is contaminated and that the water in underground cisterns is easily pollutable. The vote of the council was almost unanimous.

TENNESSEE.

Dr. Edwin Williams was appointed by the Memphis city council, at a recent meeting of that body, to the position of chief sanitary officer of the Memphis board of health, vice Dr. J. L. Andrews, resigned.

Several cases of smallpox have been sent into Memphis recently from Mississippi. The Memphis board of health sent its secretary, Dr. Haase, to Jackson, Miss., to confer with the state authorities with a view to preventing this practice, but no relief could be offered other than general vaccination.

Tuberculous cattle have been shipped by a Memphis dairyman into Louisiana, and the health authorities of the latter state have been notified accordingly. Thirty-six cows were quarantined on the farm of the dairyman as tuberculous suspects, autopsies made on five of this herd showing tuberculous lungs. The milk from these cows was found also to be literally alive with tubercle bacilli, and injections of tuberculin gave the customary reaction. The cattle were condemned by the city and county boards of health, and were shipped by the dairyman during the night to New Orleans in order to prevent the loss of his herd.

VERMONT.

The resignation of Dr. A. P. Grinnell, of Burlington, from the chair of practice of medicine in the medical department of the University of Vermont, after twenty-five years of faithful service, was accepted, after he had declined to consider the emeritus professorship.

WISCONSIN.

"Dr." O. L. Ellis, of Clark County, the proud possessor of a diploma from the "Independent Medical College," of Chicago, has been fined $25 and costs at Tomah for practicing medicine without a license, and in default of payment now languishes in jail.

The committee on county hospital for Milwaukee has recommended the erection of a new building to cost $60,000, the remodeling of the old building to bring it up to the requirements of modern medicine, and that an isolation cottage be constructed.

CANADA.

The Western Medical College at London has been obliged to provide new buildings, owing to the increase in the number of its students.

A hospital is expected to be built in White Horse, Yukon, and in operation before cold weather sets in. Of the $2500 required to build and equip the hospital, about $800 was subscribed on the first appeal and the rest is in sight.

CANADIAN MEDICAL ASSOCIATION.

The profession throughout Canada has just received the provisional programs of the coming meeting of this association in the city of Ottawa on the 12th inst. Together with these has also been sent each member of the association a neat brochure containing the constitution, by-laws and ethics of the Canadian Medical Association, with a supplementary history of the respective officers of the association since its inception in the first year of the confederation, in 1867. A perusal of the program shows that many eminent men in the profession in Canada and the United States are to be present and take part in the proceedings, among others being Professor Shattuck, of Harvard, who is to deliver the address in medicine; Nicholas Senn and Webster, of Chicago; Gerster and Allan McLane Hamilton, of New York; Gairdner, of Montreal, and McPhedran, of Toronto. The address in surgery will be delivered at 8:30 p.m. the first day by Mr. Edmund Owen, the distinguished surgeon of London, England. On the evening of the second day the distinguished visitors and the members of the profession throughout the Dominion will be banqueted at the Russell House by the profession of the city of Ottawa. Dr. R. W. Powell, the president, and Dr. W. H. Klock, the local secretary, have all the arrangements well in hand and it is expected that the 1900 meeting will eclipse all previous gatherings. The premier, Sir Wilfred Laurier, will deliver an address of welcome on behalf of the Dominion, and Sir Charles Tupper, the leader of the opposition in the House of Commons, is also expected to be present and deliver an address. During the first three years of the association's existence Sir Charles was its executive head. Intimation has already been received by the local committee that every province of the Dominion will be fully represented, and Toronto and Western Ontario promise to send down a large delegation.

CONCERNING TORONTO'S WATER-SUPPLY.

During the hot wave the taste of the city water became very unpalatable and numerous were the complaints from the citizens of the quality of the water-supply and the temperature thereof, which had reached to 66 degrees. Consequently the medical health officer requested Professor Shuttleworth to make an analysis of the city drinking water. It is certainly gratifying to learn from this report that there need be no apprehension of an outbreak of typhoid, as Professor Shuttleworth reports that the quality of the water is first-class, and from a bacteriological standpoint is excellent. During the month of July the average number of colonies per cubic centimeter was 128, which compares favorably with that of previous years.

WILL THE PLAGUE REACH CANADA?

Since the report of the outbreak of the plague in Glasgow, this is a question which is uppermost in the minds of many Canadians. The secretary of the Ontario board of health has been interviewed in the matter and has given his opinion on the subject. Whilst Dr. Bryce is of the opinion that the disease may possibly invade some of the coast cities of the United States, the danger to the Canadian Atlantic ports is not so great, as being essentially a wharf disease, it spreads with fearful rapidity in the closely-populated dock districts of great cities. Toronto, without slums and with plenty of open spaces, would not afford a good foothold for the plague, but Montreal, with its closely-built districts, is not so favorably situated, and if the disease should once pass the quarantine station and reach Montreal it might be serious. He considers, however, that Canada's greatest danger lies in the Chinese quarters in the British Columbia cities, where they have four thousand Chinese within a few blocks.

SICK AND WOUNDED IN WAR.

Surgeon Major William Nattress, of Toronto, has just published in pamphlet form a lecture delivered by him last March before the Canadian Military Institute of this city. It appears at an opportune time, when the country has such vital interests at stake in the South African campaign. In the introductory remarks, Dr. Nattress deals with the sentiment of the fifteenth and the early part of the sixteenth centuries, and then follows a review of the facilities which an army in the field has at the present day for the removal of the sick and wounded. He referred to the practical, though perhaps novel, method by which the military surgeon would utilize the traffic of a great city like Toronto in case an emergency should arise for so doing. Whilst our military surgeons sometimes deplore the absence of ambulance wagons in the service, he views this with less alarm when he sees the numerous and countless milk-wagons and vans.

LONDON LETTER.

COMMISSION OF INQUIRY INTO THE SOUTH AFRICAN HOSPITALS.

The government has appointed a commission of five members: Judge Power, Dr. Church, president of the Royal College of Physicians; Professor Cunningham, of Dublin; Sir D. Richmond, and Mr. Frederick Harrison, to inquire into the arrangements for the care and treatment of the sick and wounded during the South African campaign. At first Mr. Balfour proposed to have only the first three members, but the cry was raised that the medical profession, which it was felt was incriminated by the charges of Mr. Burdett Coutts, should not have a preponderating voice on the commission. The evidence taken in England has disclosed the deadly influence of red tape and the effete prejudices which dominate that stronghold of British conservatism, the War Office. I venture to prophesy that it is here the weak point will be found. The medical staff of the army has done its work manfully and in the face of difficulties and dangers, but it is subject to an obsolete system which discipline absolutely prevents it from criticizing. General Sir H. Brackenbury, director-general of ordnance, said in his evidence that the reserve of hospital equipment at the outbreak of the war was inadequate. Just before the outbreak there was a reserve of only one base hospital of 520 beds, and two stationary hospitals of 110 beds each. The under-secretary for war said that the army medical department had no executive authority, but whatever was required in the field had to be granted by one of four high military officers of the war office: adjutant-general, quartermaster-general, inspector-general of fortifications or director-general of ordnance, and while, speaking generally, all its applications were granted, they were usually referred to the army board! This is a beautiful specimen of the spirit in which the war office treats the medical department of the army. Another defect of the same kind, pointed out by Mr. Watson Cheyne, is that the army medical department is not provided with its own independent transport. Application must be made for wagons and animals in all cases when any movement is to take place, and the result is that frequently such transport is not available, or if available can only be supplied to a limited extent. To be thoroughly efficient in the field the army medical department should have their own transport. They have been urging this on military authorities for some years. Indeed, a great deal of difficulty at Bloemenfontein would have been avoided if the department had marched with its own transport from the Modder River. The field hospital which did the best work in the field was the New South Wales ambulance, which had its own equipment. The fact is, the whole system of the military clique at the war office is and has been to treat the medical department as an inferior caste. The evidence of Mr. Rudyard Kipling on this serious subject was rather amusing. He went to a hospital at Cape Town and asked the physicians if they wanted anything. The reply was: "No, we have everything." He then interrogated the nurses, telling them that he could get anything they required out of the "Absent Minded Beggar Fund." One replied "We want pajamas very badly, but don't bring them to the store-issue department, or they will never come out. Bring them to the back door." In this manner he smuggled 98 pajamas into the hospital. The same thing occurred in two other hospitals. The commission has now sailed for South Africa, where they will continue their inquiry.

SCANDAL AT THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC.

A serious scandal has arisen in connection with the management of the greatest hospital in the world for nervous diseases, The National Hospital for the Paralyzed and Epileptic. For ten years grave differences have existed between the staff and the board of management, which has always refused the very moderate request of the staff for two seats on the board. In all except two of the metropolitan hospitals, having 100 beds or more, the staff is represented on the board. The staff alleges that various details in the hospital management are unsatisfactory; the diet is insufficient and the nursing staff deficient in numbers. The board appointed a sub-committee to inquire into these charges, and it reported that there was no defect in the hospital management of any importance. It has absolutely refused the request for representation by the staff on the grounds that the conduct of a member of the latter might be questioned and that it would not, therefore, be proper for him to sit in judgment on himself. Matters have now reached an acute stage. The staff declares that further representations to the board are useless and has appealed to the public through the press, demanding an independent inquiry into the hospital management.

TUBERCLE BACILLI IN RAILWAY CARRIAGES.

At the Public Health Congress in Aberdeen, Professor Hamilton read a very remarkable paper on the dangers of spreading disease by vehicles of transport. He remarked that although this country had always been in the van of scientific progress, it had not awakened to the danger of disseminating contagion by dust impurities. It was impossible to say to what extent the spread of influenza, diphtheria and tuberculosis was due to insanitary vehicles. The so-called cleaning of railway carriages only meant the stirring up of disease germs. A number of experiments made with the dust taken from the floors of twelve railway carriages showed that two, which were both smoking carriages, contained tubercle bacilli. To prevent the broadcast dissemination of disease the flooring of railway carriages should be removable, the cushions detachable, and the carriages so constructed that they could be periodically cleaned and disinfected.

MOSQUITOES A CAUSE OF ELEPHANTIASIS.

The second malarial expedition of the Liverpool School of Tropical Medicine has telegraphed from Bonny, in Nigeria, an important discovery, viz., that the filaria which causes elephantiasis, like the malarial organism, is found in the proboscis of the mosquito. The same discovery appears to have been made in England by Dr. Low, of the London School for Tropical Medicine, in mosquitoes brought from Australia.

INOCULATION AGAINST CHOLERA AND TYPHOID FEVER.

A parliamentary paper, recently issued, contains some interesting facts on this question. Anticholeraic inoculations were practiced by Haffkine in Bengal in 1896. According to his statistics, among 654 uninoculated cases there were 71 deaths—10.8 per cent.—whereas in 402 inoculated there were only 12—3 per cent. In the British army in India over 2000 men have been submitted to the antityphoid inoculations devised by Professor Wright, of Netley. Of these only a few—5 or 6—contracted typhoid fever subsequently. Typhoid fever is a matter of serious concern to the government of India. The admissions of British soldiers to hospital have risen from 18.5 per 1000 in 1890 to 32.4 in 1897, and the death-rate has increased from 4.9 to 9. The government has come to the conclusion that antityphoid inoculations have been shown to provide an immunity equal to or greater than that obtained by an attack of the disease, and that the operation is not attended with risk. It therefore recommends a more extended trial, which is now being carried out.

Marine Hospital Notes.

The commissioned medical corps of the Marine-Hospital service has been considerably added to during the past two years and now consists of 107 medical officers—1 supervising surgeon-general, 29 surgeons, 21 passed assistant-surgeons, and 56 assistant-surgeons.

A great many inquiries are being received in the office of the Surgeon-General from physicians desiring to take the examination for admission to the medical corps. Twelve completed applications are on file, and the medical profession will be duly advised through the columns of THE JOURNAL when the date and place of meeting of the next examining board are determined.

ACCESSO PERNICIOSO BERIBERI IN RIO JANEIRO, BRAZIL.

An interesting report has been received by the Surgeon-General of the Marine-Hospital Service from Acting Assistant-Surgeon W. Havelburg, on duty at the port of Rio Janeiro, Brazil. The report is dated July 16, 1900, and gives a general summary of the mortality in and about the city of Rio Janeiro for the six months ended June 30, 1900. He speaks of the disease "accesso pernicioso," which term is used so frequently in the reports from Spanish-American countries, and states that it is a disease of uncertain classification, which may embrace yellow fever, malaria, sunstroke and others of which there is no diagnosis, the term being used in spite of all criticism by physicians. He states that beriberi was formerly not an important factor in the death-rate of Rio Janeiro, but that during the six months for which report is made there occurred in that city 75 deaths from this disease.

NATIONAL QUARANTINE IN HAWAIIAN ISLANDS.

The quarantine service in the Hawaiian Islands is now under the control of the Marine Hospital service. The island and buildings formerly used as a quarantine station at the port of Honolulu have been turned over to the Marine-Hospital service and are being repaired and remodeled in accordance with modern ideas. Honolulu will ultimately have a complete and extensive quarantine plant. Inspection stations have been established at the parts of Hilo, Kahului and Kihei. The commissioned officers of the Marine-Hospital Service in Hawaii are Surgeon D. A. Carmichael and Assistant-Surgeons J. W. Kerr and John W. Amesse. Congress has appropriated $75,000 for the quarantine service during the present fiscal year.

PRECAUTIONS AGAINST YELLOW FEVER.

On account of the appearance of a few cases of yellow fever at Bocas del Toro, Colombia, one of the fruit ports of Central America, the city of Mobile has declined to receive passengers from any of the Central American fruit ports. The city of New Orleans requires detention of fruit vessels bringing passengers from such ports. This has led to a cessation of all passenger travel by water from the fruit ports of Central America to the southern cities of the United States, and has thereby lessened, in large measure, the danger of introduction of yellow fever to such cities.

STATUS OF BUBONIC PLAGUE AT RIO JANEIRO.

A report received from Acting Assistant-Surgeon W. Havelburg, U. S. Marine-Hospital Service, stationed at Rio Janeiro, Brazil, dated July 24, 1900, states that from July 16 to July 24, inclusive, a period of nine days, there occurred in that city forty-one cases of bubonic plague, with nineteen deaths.

HAFFKINE'S AND YERSIN'S SERA.

The Surgeon-General of the Marine-Hospital Service has received from Surgeon Rosenau a copy of a paper by Dr. A. Calmette, read at the International Congress of Hygiene and Demography, this month, entitled "Prophylaxis of Plague by Preventive Inoculations." In this article the author goes into detail as to the difference between Haffkine's prophylactic and Yersin's antipest serum, dwelling especially on the fact that the Haffkine prophylactic, while giving a larger period of immunity, is not to be used after the patient has been exposed to plague, or in any case in which it is probable that infection has taken place. On the other hand, after the disease has appeared, Yersin's antipest serum is the only efficacious remedy that may be employed, and it may also be used as a preventive, but does not confer so long a period of immunity as the Haffkine prophylactic. However, on account of its safety in all cases, it is recommended especially for use on boats, in lazarettos, hospitals and posts of observation.

MARINE-HOSPITAL SERVICE IN ALASKA.

The Marine-Hospital Service has just established a hospital for the relief of seamen at Dutch Harbor, Alaska, on Unalaska Island, with Assistant-Surgeon Dunlop Moore in charge. Dr. Moore has also been detailed, under executive order, to establish a national quarantine there, and has Assistant-Surgeon Carroll Fox as his assistant. Under the same executive order, Assistant-Surgeon B. H. Earle has been made national quarantine officer for Cape Nome, Alaska, with Assistant-Surgeon Bolivar J. Lloyd as his assistant. The latest report from Cape Nome, Alaska, is contained in the following telegram:

> NOME, ALASKA, Aug. 6, 1900, via Port Townsend, 18th.
>
> Six cases smallpox here in isolation. All convalescent. Systematic inspection last week found 12 cases measles, 18 pneumonia, no typhoid, no smallpox.

QUARANTINE STATION AT HAVANA, CUBA.

The former Spanish quarantine station near the village of Mariel, Cuba, twenty-one miles from Havana, has been transferred by the military authorities to the jurisdiction of the Marine-Hospital Service, and extensive repairs and alterations have been made, with a view to perfecting the efficiency of the station. It is situated on a small, land-locked harbor, capable of admitting deep-draft vessels. There is salt water on two sides of the reservation, while at the rear it is separated from the mainland by a stone wall eight or nine feet in height. The reservation contains eighteen buildings and can accommodate 800 persons. If necessity demanded, this number could be increased to 1500. Modern steam chambers and other disinfecting machinery have recently been shipped to Havana for installation at the Mariel station. A force of attendants is kept constantly at the station, so that vessels may be referred there for disinfection from Havana or other ports of Cuba. This station forms a valuable adjunct to the equipment in the harbor of Havana.

YELLOW FEVER IN CUBA.

Yellow fever has not been widely prevalent in the island of Cuba the present season, but there have been a considerable number of cases in the city of Havana and at Santa Clara. A few cases have occurred at Pinar del Rio. The chief quarantine officer for the island of Cuba, Surgeon A. H. Glennan, has been attached to the staff of the governor-general, and exercises supervision over all of the quarantine stations in the island. A very efficient system of quarantine has been established by Surgeon Glennan and his predecessor, Surgeon H. R. Carter, which undoubtedly has been of great benefit to the island of Cuba, and has also prevented, up to the present time, the introduction of yellow fever from Cuba into the United States. In the harbor of Havana the floating disinfecting steamer *Sanator*, the finest plant of the kind in the world, is anchored. In addition to this, a shore disinfecting plant is in constant use. All baggage leaving Havana for the United States is now disinfected, and all baggage leaving other ports of the island for the southern states is disinfected. A complete floating disinfecting plant is now in use at the port of Santiago and three other plants will soon be completed for use at the ports of Cienfuegos, Matanzas and Nuevitas, respectively. These several plants will be so disposed along the coast of Cuba that it will be convenient to refer infected vessels from any port on the coast to one or the other of the cities where the plants are located. Vessels disinfected in Cuba in accordance with the United States quarantine regulations, and receiving a certificate to that effect from the medical officer of the Marine-Hospital Service, are, upon arrival at ports of the United States, considered as having been under observation during the time which has elapsed at sea since disinfection, provided no illness of suspicious nature has occurred on board, and thus their time of detention at the quarantine stations of the United States is much lessened. This lessening of detention at quarantine stations of the United States has been a great help to commerce, while at the same time affording as great or greater protection to the United States than under the former methods.

PLAGUE IN SAN FRANCISCO.

The summary of the plague situation in San Francisco, to and including August 18, is as follows: On June 14, Surgeon Kinyoun reported that from March 7 till June 2 there had been in San Francisco 11 deaths from plague, in 10 of which the diagnosis was confirmed by bacteriological investigation. There were at that time three cases of plague under observation, one of which he was positive was genuine, and which bacteriological investigation conclusively proved to be genuine. July 7, another fatal case was reported as having been admitted to the city hospital under the diagnosis of typhoid fever. Cultures from these cases have been made by the board of health of San Francisco, the State Board of Health of California, and the quarantine officer of Victoria, B. C. On August 18 one more case was discovered, in which the microscopical examination gave confirmatory results. By this summary it may be seen that there were 9 cases in the months of March, April and May, 4 cases in June, 1 in July, and 2 in August, 16 cases in all. This week's "Public Health Reports" contains a very interesting article entitled "The Haffkine Prophylactic and Anti-Pest Serum, the Haffkine Prophylactic against Plague and a comparison of its Action with Antiplague Serum," by P. A. Surgeon H. D. Geddings.

INFECTIOUS GASTROENTERITIS IN CONSTANTINOPLE.

The surgeon-general of the Marine-Hospital Service has received a report from the representative of the service in Constantinople, Dr. Spiridion C. Zavitziano, dated August 6, 1900, in which mention is made of a widespread epidemic of infectious gastroenteritis in that city. The disease is almost exclusively confined to children, and the writer makes the statement that not a single child has escaped the epidemic. Many adults have also been affected. The disease is known generally as "cholera nostras." During the month of May eleven deaths occurred from this disease, and during June, ninety-nine. Fifty-six deaths occurred from July 1 to 15. The cases treated by Dr. Zavitviano included about sixty foundlings, and no death occurred among them. The treatment was confined exclusively to the giving of cold baths, as many as twelve a day. In consequence of this treatment, the diarrhea is said to stop in ninety cases out of a hundred, without medication.

PLAGUE SITUATION IN GLASGOW, SCOTLAND.

On receipt of the first rumor concerning plague in Glasgow, orders were issued by the surgeon-general of the Marine-Hospital Service to P. A. Surgeon A. R. Thomas, on duty in London, England, to investigate the rumor and report. Dr. Thomas immediately proceeded to Glasgow and cabled, under date of August 30, 1900, that there had been one suspicious death and several suspicious cases in Glasgow; that the bacteriological examination had not yet been completed; that all contacts had been disinfected and were under medical observation, and that the disease existed in the crowded tenement district. The source had not been traced. On the following day another telegram was received, stating that the local board of health had declared that Glasgow was infected with plague, there having been eleven cases and one suspicious case. Dr. Thomas has been detailed for duty in the office of the U. S. Consul at Glasgow, to inspect the shipping leaving that port for the United States and to issue bills of health in conjunction with the consul. Acting Asst.-Surgeon Hough has been ordered from London to Glasgow to assist Dr. Thomas, and Asst.-Surgeon John F. Anderson has been ordered from Vienna, Austria, to London to assume Dr. Thomas's duties during his absence. At present (September 4) there are reported to be ninety-two persons in Glasgow, either sick with plague or suspected and isolated.

Influence of Menstruation on Gastric Functions. Elsner has been investigating the influence of menstruation on the functions of the stomach and finds that, while the motility is not affected, the chemistry varies from deficient to excessive acidity in many cases. In only five out of the fourteen cases examined were the gastric functions the same during menstruation as at other times. He concludes his communication in the *Arch. f. Verd.* V, 4, by calling attention to the possible source of error in investigating the chemical functions of the stomach during the menstrual period.

Correspondence.

Why Do the Quack and the Faith Curist at Times Succeed.

Cleveland, Aug. 31, 1900.

To the Editor:—An exhaustive answer to the above query is not contemplated, as it would greatly transcend the limits of this note, but it is proposed to draw attention to two very chief factors in the success of the irregular, of the "christian scientist," and of others of the prolific breed of "curists." One of the causes is wholly without the influence of the medical profession, being deep-rooted in the inherited mental processes of all mankind, while the other is entirely within the power of the profession to eliminate.

First, as Ratzel, in his "History of Mankind," well says in speaking of the Chinese: "Superstitious medicine is one of the deepest-seated disorders of the human mind, of which perhaps it will never quite be cured." This ingrained, often subconscious, but almost always alert, substratum of belief in the intervention of supernatural agencies in the cure of disease and in the relief of suffering is honestly inherited from our savage forefathers, who made night hideous with the din that was to drive away the evil spirit which had caused the sickness, and whose barbarous attempts to aid the sufferer frequently contributed to the fatal ending, even as now does the neglect of the "faith" devotee. Until knowledge of the natural phenomena of the human body is much more widely diffused—slightly prior to the millennium—the mass of mankind will have an unreasoning and implicit trust in the efficacy of the occult in healing disease. During the next two eons physicians perforce will continue to exercise charitable sympathy with the foibles of the public in matters of health. The thorough study of the life-processes thus far known to us is already so intricate that large numbers of physicians have but a smattering of it, and really make their diagnoses and administer their drugs in a fashion but little removed from that of the "medicine man" of ancient days. However, this class is steadily being superseded by men trained in true physiology.

In the second place, there is a matter that lies to our hand every day and that tends constantly to add recruits to the clientèle of the "healers" of various descriptions and of incongruous designations. Stress of financial need and thirst for reputation lead some of our younger surgeons and gynecologists, together with a few of the older ones, all too often to recommend an operation for the relief of conditions that might well be cared for otherwise; and sometimes, be it said in sadness, for the promised cure of lesions whose existence is apocryphal. What is the result? The patient feels that the occasion does not warrant the danger and expense of an operation, and so drifts along unaided to finally fall into the hands of a "curist" of some breed, to receive the necessary stimulus to renewed mental, and consequently, bodily vigor. This patient then naturally becomes an opponent to scientific medicine, even though he may subsequently relapse and require the aid of a physician. While this is happening every day, it is unnecessary. Physicians who recommend radical methods before giving a thorough trial to gentler means administered with common sense and along with hearty encouragement to the patient, are heedlessly doing their profession, and so themselves, a very great injustice. We must make a living out of our profession, but if we do it at the expense of exact honesty to our patients, we shall have done very badly by the profession to which we owe our education. Slipshod ways of practicing medicine are responsible for a very great deal of the quackery and voodooism that steadily flourishes in our midst.

In our wrathful characterization of those who prey upon the superstitious gullibility of people who are not very sick, let us not forget that most dramatic scene when it was said: "He that is without sin, let him first cast a stone." If we persist in indiscriminately recommending the removal of ovaries for the cure of idiopathic epilepsy, in doing ventrosuspension for the relief of headaches, in curetting every case of leucorrhea, and in advising the opening of every belly that aches, we must not be surprised if some of our patients find a temporary relief in the gentler hands of the irregular. All of these operations and radical procedures are of inestimable value in their proper place, but we must have a care to advise them only when the conditions imperatively demand it.

In this no disrespect is intended toward the most progressive branch of modern medicine—surgery. On the contrary, it is not the trained surgeon who is at fault in this matter, but the doctors of medium education and limited experience, whose self-confidence leads them to the belief that they are competent to make a surgical diagnosis and to operate. It is the amateur operator, if the expression is permissible, who is chiefly responsible for an unduly large proportion of the best material of the irregulars. The man of lesser experience has not yet learned, or else forgets, that to a very considerable proportion of the laity the word "operation" is in itself possessed of unknown terrors. This dread of radical procedure, even in cases in which it would very probably be beneficial, often is responsible for the drift of the ill-informed and unfortunate patient into the arms of the irregular. Great care should be exercised in recommending radical measures, especially if the physician or surgeon has not known the patient sufficiently long to have fully obtained his confidence. Especially is this true of the younger man, for in the case of the surgeon of well-established reputation his advice, even to a strange patient, comes freighted with the full power of suggestion, and the recommendation of even extreme methods is received with due respect.

It is hoped that these statements will not be received as an indication of a propensity for fault-finding, for they are meant simply to point out one observed manner in which many of us are furnishing recruits to the army that follows the quack and the faith-curist and the patent-medicine man.

P. Maxwell Foshay, M.D.

Dr. Jacobi's Address and Sectionalism.

Greenville, S. C., Aug. 23, 1900.

To the Editor:—As a Southerner I may be excused for taking exception to an altogether gratuitous comment on the South, which appeared in your issue of August 18 last—this, too, by one whose eminence, not to say years, should have put him beyond the pale of provincialism. I refer to the words of Dr. A. Jacobi, the venerable and, I doubt not, venerated source of much that has contributed to the advancement of our science. On page 427 is the following: "The greatest refinement of the East, the wild naturalism of part of the far West, the abject animalism of part of the South, are covered by the same flag." Now, there is, of course, great refinement in the East; and there is also "abject animalism," and plenty of it, in the South. But anyone who knows both peoples knows it is equally true that there is "abject animalism," and plenty of it, in the East, and "great refinement," and no lack of it, in the South. It is not, then, the actual expression to which the Doctor gave tongue that is objectionable, but the inferential and insinuating quality of his remarks addressed to those good people across the water who know us not, save as existing, and who quite naturally accept the imputations and inferences of an eminent American as authoritative and indisputable. To say the least, it was an unfair advantage for the Doctor to take—to contrast the highest stratum of society in his own section with the lowest in his brother's section, and give the impression to his hearers that that difference constitutes the difference of the two sections—and no one present to deny his insinuations.

It may be that I am doing the learned gentleman an injustice in thus alleging a "no fair" play, but in that event his remarks were the outcome, then, of carelessness, or of ignorance of existing conditions, either of which is reprehensible under the circumstances. J. Wilkinson Jervey, M.D.

Mailing of Sputum.—The Belgian postoffice department has issued an order that all sputa and such substances to be sent by mail for bacteriologic examination must be put up in thick glass bottles, sealed and inclosed in strong wooden or tin boxes, filled with sufficient soft material to absorb the contents if the bottle should be broken. It is also suggested that the nature of the contents should be indicated on the label.

Book Notices.

The Law in Its Relation to Physicians. By Arthur N. Taylor, LL.B., of the New York Bar. Cloth. pp. 550. Price, $2.00. New York: D. Appleton & Co. 1900.

This little volume has appeared largely as separate articles in the *New York Medical Journal*, but in its collected form its publication is a service to the profession. The author takes up the various subjects that interest the physician in their relation to the law and gives in clearly stated, perfectly intelligible form what we must consider the accepted legal views in regard to them without obscuring them by any unnecessary phraseology or technicalities. The subjects of the rights of the physician and the rights of the patient are fully discussed and the general trend of the law is on the whole one that is somewhat comfortable for the physician to appreciate. It is commonly said that human law is the perfection of wisdom; as medical men we often have reason to see applications of it where this statement is practically reversed, but this fact is due largely to the idiocy of judges and especially jurors. In this country it would seem from recent decisions that we are better off than in Great Britain, and this book bears out this view. It is small, convenient, condensed, and in every way handy, and if, as we assume, correct in its legal statements, a very valuable and convenient hand-book for the average practicing physician on its subject.

Forty Years in the Medical Profession. 1858-1898. By John Janvier Black, M.D., member of the College of Physicians of Philadelphia. Cloth, pp. 498. Price, $3.00. Philadelphia: J. B. Lippincott Co. 1900.

This book is a disappointment; it is not exactly what one would suppose it to be from its title. The author starts out as usual with personal history, reminiscences of different prominent physicians he has met in his student life and since, but as the book progresses he covers nearly every subject in medicine, hygiene, etc., that could possibly be brought in. It shows a wide range of knowledge, or reading, and is, on the whole, entertaining and likely to interest the average layman, though, for the reason stated, it will not be so directly edifying to the physician, who should already know a large part of the information the book contains. As might be expected, the author uses the easy narrative style, without special attention to perfect accuracy in minor points, and once in a while his grammar slips. His facts also, though mainly reliable and accurate, suffer somewhat in the same way, as for example when he states that gaultheria procumbens and mitchella repens are identical plants, probably because both are popularly called wintergreen. He gives a large amount of valuable dietetic information and is very full in his remarks in regard to the adulterations and sophistications of wines and alcoholic drinks, but he seems to omit the similar possibility in beer, since he says all lager beer is made of malt. Such inaccuracies as these appear throughout the book and to some extent mar its value. However, it will be found interesting reading and one could pick it up and pass a little time with it without suffering ennui. The information he gives in regard to pomology and kindred subjects will probably be new to many of his professional readers, while the layman will acquire a considerable superficial knowledge of many points in medicine from the perusal of the doctor's book.

A Memoir of Henry Jacob Bigelow, A.M., M.D., LL.D., surgeon of the Massachusetts General Hospital, etc. Price, $4.00. Boston: Little, Brown & Co. 1900.

Surgical Anesthesia, Addresses and Other Papers by Henry Jacob Bigelow, A.M., M.D., LL.D. Price $4.00. Boston: Little, Brown & Co. 1900.

Orthopedic Surgery and Other Medical Papers by Henry Jacob Bigelow, A.M., M.D., LL.D. Price, $4.00. Boston: Little, Brown & Co. 1900.

I. The Mechanism of the Dislocation of the Hip. II. Litholapaxy; or, Rapid Lithotrity With Evacuation, by Henry Jacob Bigelow, A.M., M.D., LL.D. Price, $4.00. Boston: Little, Brown & Co. 1900.

The first of these four books contains a biography of Dr. Bigelow; a memoir by Dr. Oliver Wendell Holmes; a tribute by Dr. Reginald H. Fitz; an account of the memorial meeting of the Massachusetts Medical Society; obituary notices, and various papers eulogistic of the life and work of Dr. Bigelow.

The second contains seventeen papers on anesthesia, published at various times between 1846 and 1876, the initial one being the first public announcement of the discovery of surgical anesthesia, and the one which carried the important news to Europe. Dr. Bigelow was one of the first to recognize the truth and the value of the claim made by Morton, and he was most persistent in bringing these views forward until they were accepted. These papers brought together in one volume make most interesting reading, especially for those who are curious to know how this remarkable discovery was received. In this volume also will be found other papers and addresses of a miscellaneous nature, among them being "Fragments of Medical Science and Art," a scholarly address delivered before the Boylston Medical Society of Harvard University in 1846; "Medical Education in America," being the annual address before the Massachusetts Medical Society, 1871; "Vivisection," a subject on which Dr. Bigelow held views in opposition to those held by a majority of the profession at that time and now, and a short paper, now first published, on "Execution by Hanging."

The third volume contains a reprint of Bigelow's "Orthopedic Surgery," an elaboration of the dissertation which obtained the Boylston prize for 1844, and various other medical and surgical papers on a variety of subjects.

In the fourth is printed the treatise on the "Mechanism of Dislocations and Fractures of the Hip," which has long been out of print. Shorter papers on the same subject are also reproduced. His work on the hip-joint is what first brought Bigelow so prominently before the profession in Europe. It was in this paper that he described the Y-ligament and pointed out the influence it had in determining the position of the femur when the caput femoris is dislocated, and that the relaxation of this ligament is the key to the reduction of the dislocation of the hip by manipulation. This volume also includes all of Bigelow's papers on litholapaxy—rapid lithotrity—the first of which was published in 1878. The new operation for crushing and removing from the bladder a stone, no matter how large, was bitterly assailed for a time, especially in England by Sir Henry Thompson, but it was soon accepted by all, and hailed as one of the greatest advances made in modern surgery.

Each of the four volumes is complete in itself, but all are bound in uniform style and make a fitting memorial to one of the greatest of American surgeons.

A Text-Book of Practical Therapeutics. With Especial Reference to the Application of Remedial Measures to Disease and Their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., B.S., professor of therapeutics and materia medica in the Jefferson Medical College, of Philadelphia. Eighth edition, enlarged, thoroughly revised and largely re-written. Illustrated with 37 engravings and 3 colored plates. Cloth, pp. 798. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1900.

The previous editions of this work have a deserved reputation, and for this as well as many other reasons we need not say much in regard to the present volume; the fact that it has reached its eighth edition within ten years is sufficient evidence of its acceptability. A very large number of new facts have been added and it seems to us to be very full in the latest acquisitions to our knowledge. There is little doubt that it will retain the popularity which it so well deserves.

Transactions of the Kentucky State Medical Society, forty-fifth annual session held at Georgetown, May 9, 10 and 11, 1900. New series, vol. viii. Printed for the society, 1900.

The annual Transactions of the Kentucky State Medical Society, containing the papers, minutes, etc. of the meeting held in Georgetown last May, came to hand so much earlier this year than formerly that we unconsciously looked at the title-page to see if it did not bear the date of 1899. We congratulate the members on the radical change in this regard. The book contains some excellent papers, as it naturally must, since Kentucky is noted for having brilliant men in its medical profession. The society is in a prosperous condition, numerically, its membership exceeding 500. The book is a neatly gotten up volume.

Deaths and Obituaries.

Herbert Park, M.D., aged 23 years, born in Wigan, England, surgeon of the steamship *Granaense*, of the Red Cross line, died at sea on August 11.

Thomas Wall, M.D., late of Frederick County, Virginia, died in Carthage, Mo., August 21, aged 67 years. He was a surgeon in the Confederate Army during the Civil War.

Thomas J. Thorpe, M.D., of St. Louis, died August 11 from the effects of a gunshot wound accidentally received. He was graduated from Barnes Medical College, St. Louis, in 1895.

Eleazar W. Beebe, M.D., died at Elizabeth, Ill., August 25, at the age of 72 years. He was a graduate of Chicago Medical College in the class of 1867. He was a zealous prohibitionist and a prominent reform advocate.

William B. Waterman, M.D., died at his residence in Brooklyn, N. Y., August 20, aged 38 years. He was a graduate of the medical department of New York University in 1887, and on graduation received the Mott medal in anatomy.

George B. Mills, M.D., Pleasantville, Ohio, died at the Grant Hospital, Columbus, August 22, from shock following the removal of a malignant growth involving the entire superior maxilla, at the age of 75 years. He was graduated from Starling Medical College, Columbus, in 1871.

Francis Fenwick Smith, M.D., died in Frederick City, Md., August 26, aged 72 years, after several months' illness. He was graduated from the Jefferson Medical College, Philadelphia in 1854, and practiced at Bladensburg, Prince George's County, Md., from 1854 till 1863, when he moved to Frederick.

Ferdinand E. Chatard, M.D., of Baltimore, died at Atlantic City, N. J., August 27, from paralysis superinduced by heat exhaustion, aged 61 years. He was graduated from the University of Maryland School of Medicine in 1861, and after an interneship at the almshouse, he pursued his studies for three years in Europe.

Robert Alexander Randall, M.D., died at his home, Lewistown, Ill., August 19, from peritonitis, aged 42 years. He was a graduate of Rush Medical College in the class of 1881; and practiced for a time in Lewistown, but preferring a business to a professional life, he acquired an interest in a drug store, and for many years was at its head.

Charles E. Wehrle, M.D., died at the Toledo (Ohio) Hospital, August 21, from typhoid fever, at the age of 26 years. He was graduated from the University of Michigan medical department, Ann Arbor, had received an appointment as acting assistant-surgeon in the army and was awaiting orders to proceed to the Orient when he was taken ill.

David P. Chamberlin, M.D., died at his home in Toledo, Ohio, August 23, at the age of 75 years, from long-standing vesical disease. He was a graduate of the medical department of Western Reserve University, Ohio, in the class of 1847. He commenced practice in Hudson, Mich., but on the outbreak of war went to the front and served until he was invalided in 1863. He moved to Toledo and had since practiced there.

James Henry Robbins, M.D., Hingham, Mass., died suddenly August 22, aged 61 years, from neuralgia of the heart. He was a native of Calais, Me., a graduate of Amherst College in 1862, and of Harvard Medical School in 1867. He settled in Hingham in 1880. He was, in 1887, president of the South Norfolk District Medical Society.

Madison J. Bray, M.D., the Nestor of the medical profession of Vanderburg County, Indiana, died at Evansville, August 22, aged 89 years. He was born in Maine, attended lectures at Dartmouth Medical College and the Medical School of Maine (Bowdoin College), and was graduated from the latter insti tution with honors in 1835. He came to Evansville in 1835 and resided there until his death. He was president of the State Medical Society in 1856, for many years a member of the local board of health, and was a charter member of the county medical society. He was for a time surgeon of the Marine Hospital at Evansville, and at the outbreak of war relinquished practice and recruited the Sixtieth Indiana Volunteers, of which he afterward was made surgeon. After two years he was forced to resign on account of ill health. At the close of the war he was appointed surgeon to St. Mary's Hospital, and held this position for several years.

DEATHS ABROAD

Dr. A. Bor, professor at Amiens, France, succumbed to the heat in Paris, August 1.

Dr. Paul Lieven, formerly accoucheur to the imperial court of Russia, died recently in his native town, Riga, to which he had retired a year or two ago, after a life of exceptional activity and honor in St. Petersburg.

New Instruments

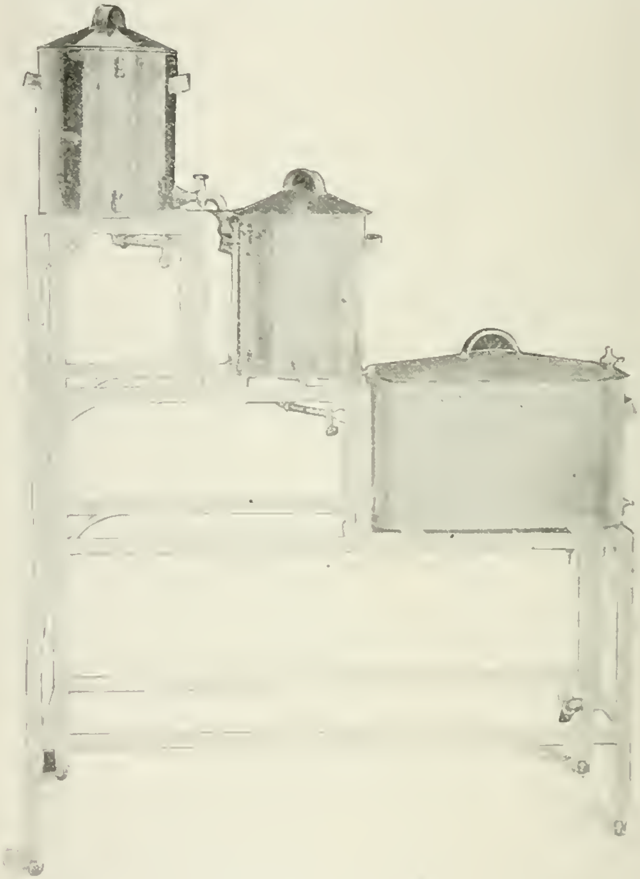
Combined Instrument and Sponge Stand and Sterilizing Apparatus.

F. F. LAWRENCE, M.D.
COLUMBUS, OHIO.

The accompanying photographs show two satisfactory additions to the operating-room. The first is a combined instrument and sponge-tray stand. It consists of an enameled-iron leaf or table on one side for the instruments, and on the opposite of two rings which support two porcelain basins of large size. One of these is used for small sponges, the other for large ones. At the bottom of the stand is another ring supporting a deep basin, which is also of enameled iron. To the surgeon, who operates with little or no assistance, this table will be of especial advantage; the basin at the bottom is a receptacle for soiled sponges. In my work I handle all instruments, sponges, in fact everything, using no assistant. I place my instruments either in trays on the solid leaf or on a sterilized towel spread over the leaf—the table standing at my right—with the small sponges in the basin nearest me and the large ones in the other. When I have used a sponge, instead of dropping it into the drainage pan or elsewhere, which would make it difficult to count them, I immediately drop it in the deep basin at the bottom of the stand, and when I have finished my operation the count of the sponges is under my direct observation. The stand would be equally useful to the surgeon who operates with an assistant, the only difference being that the stand would be next to the assistant instead of the surgeon. It is the most satisfactory piece of furniture that I have ever used. It occupies but little space and is easily kept sterile.

Instrument and Sponge-Tray Stand.

The sterilizing stand is made of white enameled iron. Two water boilers of five gallons capacity each are made of heavy copper, each boiler being fitted with a water-gauge, which shows at a glance the amount of water in the boiler without uncovering. This gives ten gallons of sterilized water for use on very short notice. Under each boiler is a gas-burner, regularly connected, arranged so that we can use one or both burners at the same time. The sterilizer, which also has a gas-burner for its operating, is the most satisfactory and at the same time the most inexpensive sterilizer that I have used. It consists of a double copper boiler, the outer one larger than the inner, and connected together at the top so as to leave an enclosed space between the outer and inner jackets, of one inch and a half on the sides, ends and bottoms. This also has a water-gauge at one end, which shows the amount of water in the boiler. A valve, to the right and on top of the boiler, is so arranged that when starting the sterilizer it can be opened and a large amount of moisture driven off. Turning the valve half around directs the steam into a tube connected with the inner jacket, which carries it down the end and across the bottom to the center of the sterilizer; hence, it escapes through an opening three quarters of an inch in diameter into the sterilizer and among the dressings. After sufficient sterilizing by steam the valve is turned back to first position and opened, permitting the steam to escape and dry out any excess moisture that may have accumulated from the steam. Sterilizing thus gives practically a double sterilization, namely, that by steam and that by dry heat. I have used a sterilizer made upon similar principles to these for a number of years and it has been most satisfactory.



Sterilizing Apparatus.

Forceps for Holding Slides While Preparing Microscopic Specimens.

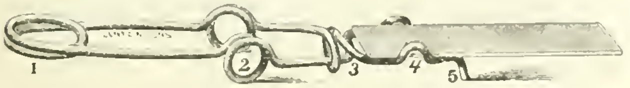
L. NAPOLEON BOSTON, M.D.

Bacteriologist to the Philadelphia Hospital and to the Ayer Clinical Laboratory of the Pennsylvania Hospital; Demonstrator in charge of Clinical Laboratory in the Medico-Chirurgical College.

PHILADELPHIA.

The rapid increase in the microscope's application to scientific study has necessitated that every microscopist collect specimens of all the interesting objects with which he may meet in laboratory work. Furthermore, it is far more satisfactory to preserve the original specimens as a referencce than to depend on notes, which, aside from the time employed in writing and reading, are always unsatisfactory. In the teaching of chemistry, botany, histology, pathology, bacteriology, and clinical microscopy it is necessary that the student prepare a specimen from each subject studied, both as a reference specimen and to demonstrate, beyond a doubt, that he has mastered this art. In board of health laboratories it is necessary to preserve specimen slides as an assurance against criticism, and for this reason most of the bacteriological work is now done by fixing and staining the specimen on the slides.

The leading objection to the staining of specimens on the slide has been that the management of the slide during the preparation of the specimen was difficult, often resulting in the staining of other structures. The need of a forceps to overcome this difficulty has been apparent to every laboratory worker, and such a forceps has been in use. by the writer, during the past year.



This forceps is made from a continuous piece of brass wire, which is nickel plated. The accompanying cut will serve to illustrate the forceps, with the slide locked in position. It will be seeen that the wire is so coiled (1) as to form a spring, which serves to hold the slide between the jaws of the forceps. The lateral coils (2) serve a double purpose, in that they are rests for the forceps and provide convenient places for the thumb and index finger during manipulation. The coil (3) at the base of the jaws is simply to hold them in position. The lateral clamp (4) seen on each jaw is provided with a groove so as to accommodate slides of various thicknesses; beyond this point the slide rests on the wire, which is bent (5) so as to support the forceps when the slide is locked in position.

By this forceps, slides are so held as to make their surface level, thus preventing liquid from changing its position when placed on the center of the slide. The forceps is also well adapted for holding the slide while fixing specimens and for staining with heat.

1524 Snyder Avenue.

Sterilized Dressing for Office Use.

D. H. GALLOWAY, M.D.

CHICAGO.

Every physician does at least a little minor surgery, and has in his office a quantity of dressings for this purpose. No matter how careful he may be to keep these dressings clean and antiseptic, they will at times become contaminated by handling and by contact with the outside of the container. This is inevitable if the doctor dresses his cases without the assistance of a trained nurse—as most of us do. Some doctors treat their dressings in a way the description of which would not look well in a medical journal. Surgical dressings should be kept in a box or jar which can be closed air-tight. A cheap container, which I use, is a half-gallon candy jar with a glass top fastened by a metal ring, which screws down upon it; a rubber ring between cover and jar makes an air-tight joint. In the bottom of this jar under the dressings I keep a small wide-mouth bottle, which is lightly stuffed with absorbent cotton and the cotton is saturated with a 40 per cent. solution of formaldehyde. This keeps the air of the jar continually saturated with the gas and thoroughly sterilizes the contents of the jar between the times of opening for use. No obviously soiled dressings should ever be returned to the jar, but dressings apparently clean may be contaminated sufficiently to infect any clean wound on which they may be used. When the jar is empty I pour a few drops of formaldehyde on the cotton in the bottle and then fill the jar with the sterilized gauze as received from the manufacturer. I am never afraid to use the contents on fresh wounds, though the jar is opened every day for the dressing of all sorts of cases.

Miscellany.

Tuberculosis in Norway.—Dr. Claus Hansen, of Bergen, recently delivered a lecture before the Storthing, at Christiania, on the causes of tuberculosis and the fight against it. He stated that in 1896, 54.5 per cent. of all deaths between 15 and 30 years of age were caused by tuberculosis, and that about 7000 of the inhabitants of Norway die every year of this disease. During the thirty years of his own experience consumption has increased in the Bergen district 80 per cent.

Tuberculosis in Hawaii.—Owing to the alarming increase in the number of cases of tuberculosis in Hawaii, especially among the native Hawaiians and Japanese, the Board of Health of Honolulu is discussing measures directed toward strict quarantine against all tourists who may suffer from this disease. In 1896 the number of deaths from tuberculosis was 48. The number has steadily increased, there being 59 in 1897, 75 in 1898, 93 in 1899, and 114 for 1890.

Havana, Cuba.—Under date of August 14, the report of yellow fever progress during July shows thirty days for the month. The average for the July mortality from 1885 till 1895 reached thirty-four. Last year upward of 25,000 immigrants came to Havana, or thrice the normal number. Non-immunism as a factor, therefore, plays an important part in the calculated gain in the life economy, reducing the mortality in the decade quoted from 4.2 per 1000 to 1.2 per 1000.

Open-Air Marine Treatment for Consumption.—This treatment has been practiced with success for several years in southern Brittany. The Pen-Bron Hospital is used chiefly by working people, the cost of maintenance being provided by the commune from which they are sent. The success of this enterprise has led to the construction of a magnificent private hospital for well-to-do patients, which is built of granite, is near the sea, and is surrounded by pine forests. The hydropathic department comprises hot and cold sea-water baths and sea-weed baths, together with vapor, douche, rain. shower and medicated baths.

Infectious Diseases in Manila.—Major Guy L. Edie, president of the Manila Board of Health, in his report to the Surgeon-General states that smallpox has been prevented from spreading seriously by rigid inspection and vaccination. He proposes to segregate the lepers, who number about 30,000, on one island, where hospitals and other suitable buildings can be erected for their use. Several cases of bubonic plague were diagnosed as typhoid fever, but as soon as the real nature of the disease was discovered active measures were taken for its eradication by a house-to-house canvass made by 100 inspectors, most of whom were Filipino medical students.

Medical Students in Italy.—The total number of students in the faculties of medicine and surgery of the Italian universities during the present academic year (1899-1900) is 6388. They are distributed as follows: Naples, 2009; Turin, 783; Rome, 530; Bologna, 504; Pavia, 496; Genoa, 358; Padua, 309; Palermo, 270; Pisa, 218; Parma, 175; Catania, 167; Modena, 152; Messina, 128; Cagliari, 95; Siena, 81; Sassari, 54. In addition to these, there are three free universities: Camerino, which has 35 medical students, Perugia, with 29, and Ferrara, with 15. In the faculty of medicine of the Royal Institution of Superior Studies at Florence there are 260 students.

New Appliance for Closing Wounds.—Bramson, of Copenhagen, exhibited at the International Medical Congress a little appliance which he finds extremely useful as a substitute for sutures in closing wounds. It can be applied in less than half the time and can be opened and the wound inspected at any time. It is merely a row of small trocars set in a small bar on each side of the wound, fastened with eyelets and buttons.

Prognostic Value of Iritis in Syphilis.—Trousseau's experience with forty cases of recurring iritis in syphilitics indicates that this complication renders the prognosis less favorable. The *Semaine Méd.* quotes his communication in the *Ann. d'Oc.* for May to the effect that in only 6 out of the 40 was the course of the syphilis benign. General paralysis appeared later in 3; tabes in 12; cerebral symptoms in 8 and fatal visceral or other severe symptoms not connected with the nervous system in the rest.

Ulcero-Verrucous Endocarditis.—T. Omeltshenko concludes from study of fifteen cases of acute endocarditis that the streptococcus is the chief agent, and that the endocarditis is only a secondary manifestation of the general streptomycosis. All the various types of acute endocarditis that have been described in literature are merely different phases of a single variety—the acute ulcero-verrucous deposits consist always of layers of fibrin and never appear elsewhere than on the ulcerated surface of the endocardium. The most rational treatment is with antistreptococcus serum.—*Russky Ark. Path.*, 3.

Resection of Upper Jaw With Imperceptible Scar.—Severeano exhibited at the International Medical Congress his method of incising the soft parts for extensive resection of the upper maxillary bone with the minimum disfigurement. The linear incision follows the outline of the nose where it joins the cheek, from the root to the median line of the upper lip, which is also incised perpendicularly. From the root of the nose a short horizontal incision is carried to the inner angle of the eye. It is extended inside the lower lid and continued outward on the same horizontal plane 3 cm. from the outer angle of the eye. The flap thus outlined turns back to an astonishing distance, while the line of sutures when it is replaced is comparatively invisible.

The Discoverers of Quinin.—A statue has recently been erected at Paris in honor of the French chemists, Pelletier and Caventou, who discovered quinin. They announced in September, 1820, the discovery of two essential principles in cinchona, to one of which they gave the name of quinin and established its therapeutic value on a scientific basis. It is interesting to note that Farr, of Philadelphia, was able to supply the American public with domestic manufactured quinin before the close of the year. The statue represents the two scientists in the faculty robes, and was erected by the subscriptions of the pharmacists of France. It was unveiled August 7 on the occasion of the International Congress of Pharmacy.

Extrauterine Pregnancy After the Fifth Month.—F. Jayle has observed in twenty-nine cases of tubal or intraligamentous pregnancy that the danger of serious complications diminishes after the first months of ectopic pregnancy. The death of the fetus at the ninth month is seldom followed by accidents. On the contrary, the patients who were not operated on at once, seemed to benefit by the delay, allowing time for retrogression of the placental circulation after the death of the fetus. In one of the instances mentioned in his article in the *Revue de Gyn*, for January-February, the pregnancy occurred in the middle portion of the tube, simulating the position of a normal pregnancy. In another case the nine-months' fetus had been dead six months before operation, but the extensive adhesions proved no obstacle to the total extirpation of the sac.

Papilloma of the Larynx in Children.—Boulay outlines the conduct to be observed, in an article published in *Arch. de Méd. des Enfants*, for May: the papilloma should be removed by the natural route if possible and the attempt should not be abandoned until every known measure has been tried in vain. If the respiration is not seriously affected, expectant treatment is indicated until the child has attained an age when confidence and docility may be anticipated. If there is dyspnea, tracheotomy should be done, a permanent tube inserted, and results awaited. The papilloma may disappear in consequence, but, if not, temporize if at an unsuitable age for operating, but if otherwise, thyrotomy should be done without delay.

Outdoor Life in Rocky Mountain Region for Incipient Tuberculosis.—A correspondent calls attention to the value of outdoor life for incipient pulmonary tuberculosis under such conditions as obtain in the Rocky Mountain region, and suggests that unfortunately a large majority of those who should avail themselves of the climate cure are unable to do so, chiefly for the reason that there is a lack of accommodations adapted to needs of tuberculous patients, and the expense, with no opportunity of self-support. It is true, he says, that there are a number of well-equipped and well-conducted sanitaria on the eastern slope of the Rocky Mountains, but the high rates charged virtually close their doors to the masses. Believing that there is great need of a practical plan by which those affected with beginning tuberculosis might avail themselves of this climate in combating the disease, he offers the following suggestions as a basis for such plan: 1. A system of stations, i. e., small, inexpensive farmhouses, at intervals of ten or fifteen miles, situated along the Rocky Mountain foothills, adapted to their intended use as stopping-places for patients who are to spend most of their time in leisurely and comfortably traveling up and down this system of stations. 2. Provisions of proper food and dietary for patients, chiefly fresh milk, butter, eggs, poultry, vegetables, etc. 3. Development of the plan of self-support for patients, such as gardening, fruit-raising, rabbit and poultry-raising, dairy produce, etc. 4. Development of a system of instruction and inspection that will thoroughly control all sources of infection from patients.

The International Medical Press Congress appointed a committee, consisting of de Maurans, Baudouin and Blondel, to open communication with representative editors, physicians and legislators in all countries to study the matter of literary property from a medical point of view. Baudouin remarked that illustrations can be considered as merely a series of printed characters arranged in a special manner, and consequently can be copied the same as the same area of printed matter, of course citing the name of the author or source. "The interests of science demand the reproduction of the illustrations with the article when required." The Congress devoted a long session to the question of the reproduction of articles and abstracts, formally passing a resolution to the effect that the name of the author, or of the periodical from which the article or abstract is taken, must always be cited. "This will stop the present piracy," Championnière exclaimed. It was particularly emphasized that every journal has the right to send a representative to the meeting of scientific societies and report the proceedings, but no journal has the right to copy the report from another journal, not even from the official bulletin of the society, without citing the source. Another problem pressing for solution is the competition with the journals issued by the manufacturers for free distribution, in which they laud their own wares and which it is to their interest to render as readable and entertaining as possible. In order to react against this condition of affairs the medical press must be established in its true rôle. The medical journal to-day has to contend with many difficulties, the lowering of the subscription price [we note, by the way, that the *Semaine Médicale* and the *Presse Médicale* have each reduced their rates since August 1 from 10 to 8 francs a year] and the increased expense of printing, publishing, editing, etc., but the chief difficulty of all is the transformation of medicopharmaceutic advertising circulars into pretentious, gratuitously distributed journals. The question of exchanges between medical journals was left to the discretion of the interested parties, with the proviso that they are always based on the absolute respect of literary property. The establishment of libraries in large cities where complete files of all the medical journals in the world can be kept for reference was "platonically" endorsed by the Congress, but also left to the discretion of the International Association. Another task entrusted to it is the unification of scientific terms the same for all nations, rejecting, as far as possible, the "proper name" terminology. The introduction of decimal classification of scientific subjects, as already exhibited in the new *Index Medicus*, published in Paris, is advocated by the young International Press Association, and Posner announces that after this year it will be formally introduced into the *Berliner Klinische Wochenschrift*. He observes, in an editorial, that it may at first seem complicated, but in reality it is extremely practical and has already stood the test of time in the libraries of the world. It enables a person of any nationality to grasp at a glance the tenor of the contents of a work. He hails it as an "important advance toward the consummation of a rational system of scientific reporting, which will be comprehensible with equal facility to persons of every land and tongue." The most complete report of the Press Congress we have received to date is in the *Progrès Médical* of August 4 and 11. The International Congress of Medicine has been ably reported in all the chief Paris journals, but the *Bulletin Médical* issued almost daily numbers of over thirty-two pages each, devoted exclusively to the Congress.

The Health of Manila.—An interesting report has been made by Major Guy L. Edie, surgeon U. S. Army, and president of the board of health of the city of Manila, P. I. Besides the several functions belonging to a board of health in supervising all works and conditions affecting the public health, the board has general supervision of charitable institutions, prisons and venereal hospitals and the direct control of the vaccin farm, municipal laboratories, chemical and bacteriological, which the board organized, free dispensaries and hospitals for leprosy, smallpox and bubonic plague. In matters of vital statistics, the board claims accuracy as yet only for its record of mortality. The work of vaccination has made its impress on the mortality from smallpox. For the nine months from October, 1899, till July, 1900, there were 7 deaths from smallpox in the city, while in the month of March, 1899, there were 75 deaths from this disease. The work of vaccination was effected with much difficulty, as the authorities did not consider it advisable to make vaccination compulsory. During the year 622,030 points of vaccin virus were furnished to the army and navy of the United States and to the native inhabitants of the archipelago outside of the city of Manila. In the city and suburbs 114,654 vaccinations were effected. The total number of deaths during the nine months, October, 1899, till June, 1900, inclusive, was 8535, of which 3507 were in children under 5 years of age. The population is variously estimated at from 350,000 to 600,000. During the same period diarrheal diseases caused 1073 deaths; tuberculosis, 992; beri-beri, 642; acute lung diseases, 631; malarial fever, 338; typhoid fever, 41; bubonic plague, 167; leprosy, 46, and smallpox, 7. Besides the 167 deaths recorded from plague a number averaging about 50 per month occurred in the Chinese quarter without medical attendance and unreported, some of which were probably due to plague. Only one death from plague occurred among Americans, and that in the case of a quartermaster's employe. The total number of cases of plague reported was 225, of which only 58 recovered. The opinion formed by Major Edie, from his experience of the past six months, is to the effect that little difficulty will be experienced in controlling the disease in any intelligent community with modern sanitary conditions. The board made early application to the government laboratories in Bombay for Haffkine's vaccin material. Some was obtained from the marine-hospital surgeon, who has also recently received some Yersin serum. It is almost impossible, without the use of force, to use the Haffkine vaccination on Chinese or natives. A thorough test has not been given to either of these materials, but the board has not been favorably impressed with them. Major Edie can not speak in too high terms of the absolute fearlessness, energy and cheerful coöperation of every medical officer associated with him in this work, nor of the faithful and efficient services of the men belonging to the hospital corps of the army on duty with the board.

Societies.

Coming Meetings.

The Canadian Medical Association, Ottawa, Sept. 12-14.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

Vermont State Medical Society, Rutland, Oct. 11-12.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The Association of Hospital Superintendents elected, at their second annual meeting in Pittsburg, Pa., on August 22, the following officers: President, C. H. S. Howell, of Pittsburg; vice-president, Dr. F. E. Baker, of Newark, N. J.; secretary, J. S. Knowles, of Cleveland; treasurer, A. W. Shaw, of Detroit.

Orleans Parish (La.) Medical Society.—At the meeting of this society, August 25, Dr. Louis G. Le Beuf read a paper on "The Medical Diseases of the Kidney." Dr. Edward J. Huhner described an apparatus devised by him for the relief of talipes calcaneus, and Dr. Rudolph Matas reported a case of abdominal aneurysm treated by preliminary abdominal section followed by wiring and electrolysis.

Fourth International Dermatological Congress.—This congress, under the presidency of Dr. E. Besnier, which has been most successful in every way, has just ended. The next congress will be held in Berlin, with Prof. E. Lesser, Berlin, president. Drs. J. Nevins Hyde, Chicago, Henry W. Stelwagon, Philadelphia, and J. Caspar Gilchrist, Baltimore, who were present and read papers, extended to the members, in behalf of the American Dermatological Association, a cordial invitation to hold the next meeting in the United States. It seems, however, that Berlin had a claim for the congress this year, Paris having already had one previously; but at the last congress, held in London, the French representatives requested as a special favor, owing to this being Exposition year, that it be held in Paris. This was conceded, with the distinct understanding that Berlin should have the next. The American representatives, after learning these facts, gave their votes for Berlin. In return for this courtesy it was promised the United States representatives that the congress following that of Berlin should be held in New York.

Rocky Mountain Inter-State Medical Association.—At the second annual meeting of this society, held in Butte, Mont., August 28 and 29, the following papers were read and discussed: G. T. McCullough, Missoula, on "Gastric Fever Affecting Children"; A. M. Holmes, Denver, on "Some Problems Pertaining to Tuberculosis"; H. D. Niles, Salt Lake City, on "Diagnosis of Renal Calculus"; I. B. Perkins, Denver, on "Report of Abdominal Cases"; W. W. Bulette, Pueblo, on "Treatment of Acute Otitis Media"; John O. Polak, Brooklyn, N. Y., on "True Conservatism in the Treatment of Pus in the Pelvis"; J. F. Spellman, Anaconda, "Report of Three Interesting Surgical Cases"; W. W. Grant, Denver, on "Fractures of Elbow-Joint"; W. W. Woodring, Mt. Pleasant, Utah, on "Treatment of Variola"; George H. Barber, Helena, "An Unusual Case of Preputial Calculi"; John A. Donavan, Butte, "Shall the Family Physician Do Refractions?"; E. P. Hersey, Denver, on "The Use of Pilocarpin in the Treatment of Inebriety"; I. N. Love, St. Louis, on "Some Points in the Management of Appendicitis, from a Medical Standpoint"; William Treacy, Helena, on "Interstitial Nephritis"; J. N. Hall, Denver, on "An Unusual Epidemic of Chicken-pox"; Hubert Work, Pueblo, on "Chorea Insanies"; S. D. Hopkins, Denver, "Clinical Significance of Tremor"; T. A. Grigg, Butte, on "The Use and Abuse of Glasses"; D. H. Coover, Denver, on "Excision of Upper Cervical Sympathetic Ganglion for the Relief of Simple Glaucoma"; Robert Levy, Denver, on "The Lingual Tonsil"; George W. King, Helena, on "Foreign Bodies in the Esophagus"; George H. Stover, Denver, on "Clinical Appearance of the Blood in Anemias"; A. A. Kerr, Salt Lake City, on "Observations on and Deductions and Generalizations from the Administration of About One Thousand Anesthetics"; E. A. Irwin, Boulder, Mont., on "Practical Points on Feeding the Sick"; C. K. Fleming, Denver, on "Treatment of Retro-Displacements of the Uterus"; T. D. Tuttle, Helena, on "Mastoiditis, When Does It Begin, and When Shall We Operate?"; John O. Polak, Brooklyn, N. Y., on "Infections of the Pelvic Organs in Young Girls"; B. C. Brooke, Helena, on "Double Operation for Undescended Testicle"; Edward Jackson, Denver, on "Principles of Asepsis Applied to Operations on the Eye"; Rudolph Horsky, Helena, on "Malpractice Suits and the X-Ray." Dr. C. K. Cole, Helena, delivered his address as retiring president.

Therapeutics.

For Ulcers.

R.	Bromol	gr. xv	1
	Vaselini	℥i	32

M. Sig. As a local application. —*Phil. Med. Jour.*

Bromol is obtained by pouring an aqueous solution of bromin in an aqueous solution of phenol; a white, clear precipitate results. The crystals are insoluble in water, but very soluble in alcohol and in fatty and volatile oils.

Painful Menstruation.

R.	Acetanilidi	gr. iii	18
	Caffeinæ citratæ	gr. ss	03
	Sodii bicarb	gr. iii	18

M. Sig. At one dose. To be repeated in one hour if necessary.

Floeckinger, in the *New Orleans Med. and Surg. Journal*, advises the following in cases of simple colds attended by pains in back and limbs.

R.	Heroin hydrochlor	gr. 1/12	005
	Salophen	gr. x	66
	Sacch. lactis	gr. iii	18

M. Sig. One powder every two hours.

Wet and Dry Surgical Dressings.

1. A dry dressing is superior to a wet one in incised wounds.
2. In contused and lacerated wounds a wet dressing should be employed for a week or two, followed by a dry one.
3. In carbuncles, boils and infected wounds a wet dressing is indicated.
4. When pus has burrowed and sinuses exist, packing and a dry dressing are preferable.
5. In deep punctured wounds with a small orifice a wet dressing is best.
6. In all wounds of the scalp, whether infected or not we should use a dry dressing.

—R. M. Skillern: *Phil. Med. Journal.*

Creosotal.

Chas. F. Stokes, in the *Brooklyn Med. Journal*, reports seven cases of lobar pneumonia successfully treated by creosotal in conjunction with heart tonics. He noted a rapid fall in temperature following its administration. It was given in capsule, in doses of twelve minims every two hours. Creosotal is prepared from beechwood creosote and not from guaiacol. It is quickly absorbed, and is said to give less disturbance than creosote.

Enlargement of the Prostate Gland.

R.	Potassii iodidi		
	Extracti hyoscyami āā	gr. ii	12
	Olei theobromæ q. s.		

M. Fiat suppositorium. —*The Prescription.*

Hemorrhoids.

The *Philadelphia Medical Journal* notes the following in treatment of hemorrhoids, by Dr. Boas, in *Centralblatt für Therapie:*

R.	Chrysarobin	gr. 1/5	072
	Iodoformi	gr. 30/100	02
	Ext. belladonnæ	gr. 15/100	01
	Cacao butter	gr. xxx	2

M. For one suppository. Sig. Two or three may be used daily.

R.	Ext. hamamelidis fluidi	ʒi	32
	Ext. hydrastis fluidi		
	Tinct. benzoini comp. āā	℥ss	16
	Tinct. belladonnæ	ʒi	4
	Ol. olivæ (cum acid carbol five per cent.) q. s. ad	℥iii	96

M. Sig. Apply frequently to the parts. —*Med Bulletin.*

AS AN OINTMENT.

R.	Chrysarobin	gr 1 1/5	072
	Iodoformi	gr ½	03
	Ext. belladonnæ	gr. 1/6	01
	Vaselini	℥ss	16

M. Sig. As an ointment two or three times daily.

Chrysarobin is a principle obtained from Goa powder, a concretion found in the stems and branches of Andira araroba. It is generally employed in ointment of 10 per cent. strength in treatment of various diseases of the skin. It is a light-yellow crystalline powder, very slightly soluble in water or alcohol but fully soluble in alkalies.

Hydrastis in Dysmenorrhea.

R.	Tinct. hydrastis		
	Tinct. viburni prun. āā	℥iv	16

M. Sig. Ten drops every two hours, in water.

—*Gazette de Med. et de Chir.*

Gastralgia.

R.	Chloralis hydratis	gr. iii	20
	Sodii hyposulphitis	gr. vi	40
	Aq. menth. piperitæ	ʒi	4

M. Sig. At one dose. Repeat as required by frequency of attacks, guarding against overuse of chloral.

Facial Neuralgia.

R.	Butyl chloral hydratis		
	Alcoholis, āā	ʒiiss	10
	Glycerini	ʒv	20
	Aquæ destil.	℥iv	128

M. Sig. Half a soupspoonful to be taken daily.

—*Bocquillon-Limousin.*

Carbuncle.

R.	Antipyrini	ʒiiiss	14

Ft. chart No. xx. Sig. One powder in water every two hours, or,

R.	Ammon. carbonatis	ʒiiss	10
	Ext. coffee flu.	℥ss	16
	Syr. simplicis, q. s. ad	℥iv	128

M. Sig. One or two teaspoonsful every two hours.

—Shoemaker.

Acute Follicular Tonsillitis.

R.	Sodii boratis	ʒiss	6
	Potassii bromidi	ʒiss	6
	Acidi carbol	m. xx	1 33
	Glycerini	ʒii	8
	Infusi althææ q. s. ad	℥iv	128

M. Sig. Use as a gargle four or five times a day.

—*Jour. de Med. de Paris.*

Acute Pharyngitis (Acute Sore Throat).

R.	Decoct. althææ fol. (parts 1 to 10)	℥vi	192
	Tinct. opii	m lxxv	5

M. Sig. Use as a gargle four or five times a day.

Apply wet compresses to the neck; give the patient small lumps of ice to hold in the mouth. —*Exchange.*

Powder in Acute Suppurative Otitis.

R.	Sodii biboratis			
	Sodii bicarb. āā	gr. i		06
	Amyli	gr. i		06
	Pulv. acaciæ	gr. iv		24
	Nosophen, q. s. ad	ʒi	4	

M. Sig. Cleanse thoroughly, then blow some of the powder in the ear. —*Exchange.*

Otorrhea.

R.	Liq. plumbi subacetatis (Goulard's ext.)	m. xx	1	33
	Acidi acetici diluti	m. vi		36
	Vini opii	m xx	1	33
	Aquæ destil., q.s. ad	℥i	32	

M. Sig. Drop ten drops into the ear three or four times a day, previously warmed. — *N. Y. Med. Jour.*

Acute Orchitis.

R.	Tinct. aconiti	ʒii	8	
	Guaiacoli	℥i	32	
	Glycerini	℥iii	96	

M. Sig. Paint the scrotum with this solution night and morning and place over it a piece of gauze saturated with the above. Over this a layer of cotton covered by a piece of oil silk and support the testicle.

—V. Buchtel: *Louisville Jour. of Med.*

Lupus Vulgaris.

R.	Hydrarg. ammoniati	gr. x		66
	Acidi carbolici	m. x		66
	Pulv. camphoræ	gr. x		66
	Ung. zinci oxidi	℥i	32	

M. Ft. unguentum. Sig. Apply locally. —*Med. Bulletin.*

Acute Gastrointestinal Catarrh.

R.	Creosoti	m. xii		72
	Tinct. opii camphoratæ	ʒiv	16	
	Bismuthi subnitratis	ʒiii	12	
	Pepsinæ scales	ʒi	4	
	Syr. aurantii corticis	m. xxx	2	
	Aq. menth. piperitæ q. s. ad	℥iii	96	

M. Sig. One teaspoonful every two hours for a child of 2 years. Vary with the age and severity of the case.

—*Med. Record.*

Otalgia.

R.	Quininæ sulphatis	gr. xviii	1	2
	Potassii iodidi	gr. xxxvi	2	
	Sacchari albi	gr. xlv.	3	

M. Ft. Chart. No. vi. Sig. One twice a day.

IN CHRONIC FORM.

R.	Zinci oxidi			
	Valerinæ radicis			
	Ext. hyoscyami alc., āā	ʒss	2	
	Pulv. ext. glycyrrhizæ, q. s.			

M. Ft. pil. No. 100. Sig. One a day, increase from one a day up to thirty, then decrease. Politzer: *Med. Rec.*

Chronic Prostatitis.

R.	Ichthyolici	ʒii-ʒv	8-20	
	Olei theobromæ	℥iss	48	

M. Ft. suppos. No. xxiv. Sig. Insert one suppository into the rectum in the morning after stool and in the evening. If defecation occurs a second time, use another suppository. The symptom of painful defecation, sense of weight and disturbances of micturition will be favorably affected as the prostate decreases in size and induration.

—Frendenburg: *Med. Record.*

Removal of Ear Wax.

R.	Hydrogeni dioxidi (50 per cent.)	℥iv	128	

Sig. Use in syringing out the wax.

In an article in the *Phila. Med. Journal* hydrogen dioxid is recommended in one-half strength as the best solution to use in the ear, causing no irritation after drying well with absorbent cotton.

Carbuncle or Boils.

R.	Olei olivæ	ʒxv	60	
	Plumbi oxidi	ʒiiiss	14	
	Olei lavendulæ	ʒi	4	

M. Sig. Apply locally as an ointment. —Bulkley.

Liniment in Rheumatism.

R.	Spts. camphoræ			
	Tinct. opii			
	Spts. ammoniæ, āā	℥ss	16	
	Olei olivæ	℥i	32	

M. Ft. emulsio. Sig. Apply locally four or five times daily. —*Med. News.*

Liniment for Sprains.

R.	Ol. terebinthinæ			
	Acidi acetici, āā	℥ii	64	
	Ol. lavendulæ	ʒi	4	
	Vitelli ovi			
	Aquæ, q. s. ad	Oi	512	

M. Sig. Apply two or three times daily. —*Exchange.*

Inflamed Rheumatic Joints.

R.	Sodii carbonatis	ʒvi	24	
	Tinct. opii	℥i	32	
	Glycerini	℥ii	64	
	Aquæ destil., q. s. ad	℥xii	384	

M. Sig. Saturate hot cloths with the lotion and apply to the parts. —Osler: *Penn. Med. Jour.*

Erysipelas.

R.	Ferri sulphatis	℥i	32	
	Aquæ destil.	Oi	512	

M. Sig. Apply by compresses and renew every two or three hours. —Valpeau.

Gonorrhea.

R.	Plumbi acetatis	ʒss	2	
	Zinci sulphatis	gr. xvi	1	
	Ext. krameriæ fluidi	ʒii	8	
	Tinct. opii	℥ss	16	
	Aquæ destil., q. s. ad	℥vi	192	

M. Sig. Use as an injection two or three times a day.

—Horwitz.

Swollen Feet.

In gouty or rheumatic subjects, non-dropsical in character.

R.	Tablets acidi arsenosi, āā	gr. 1/40		0015

Sig. One tablet after each meal. —Hare.

Convulsions in Children.

It is recommended that a warm bath or mustard bath be given the child, and to prevent recurrence of convulsions give the following:

R.	Potassii bromidi			
	Sodii bromidi			
	Ammon. bromidi, āā	gr. viii		50
	Syr. aurantii	℥i	32	
	Aquæ destil., q. s. ad	℥iii	96	

M.. Sig. One to three teaspoonfuls every fifteen or twenty minutes for a child 2 years of age or older.

Epistaxis (Nose Bleed).

Dissolve six ordinary strips of white gelatin in a cup of boiling water and inject 20 to 30 cm. (2/3 to 1 ounce) of the liquid warm solution into the nostril, first compressing the alæ nasi so as to prevent the escape of the liquid, which quickly forms a mass and checks the hemorrhage.

—Experiment of Freudenthal: *Med. Record.*

Parasiticide Ointment.

R.	Acidi salicylici	gr. xlv	3	
	Sodii boratis	gr. xv	1	
	Balsam peru	gr. xxx	2	
	Ethereal essentiæ anisi	gtt. v.	1	33
	Essentiæ bergamot	gtt. xx	1	33
	Vaselini	ʒvi	24	

M. Ft. unguentum. Sig. Apply to part affected.

—*Exchange.*

Hypodermics Rendered Less Painful.

Dr. Stowall, in *Med. Rec.*, states that hypodermics are rendered less painful and more readily absorbed by dissolving the tablet in a saline solution instead of water alone.

New Method of Treating Syphilis.

Wear a bag containing mercury on the chest, a dram of the metal being poured into the bag each day.

—Bulkley: *Denver Medical Times.*

Medicolegal.

Opinion to Be Rejected.—When the opinion of a medical expert is based on a hypothetical question, the Supreme Court of Michigan holds, in the case of Dudley vs. Gates, that it is proper to instruct the jury that if the facts, or any of them, are not true, the opinion must be rejected by the jury.

Loss of Left Arm Not a Total Disability.—A contract of insurance with a fraternal insurance company provided for the payment of a certain benefit whenever a member thereof, by reason of disease, accident, or otherwise, became totally and permanently disabled from following his usual or regular business, occupation or profession. A member, who was a pharmacist and engaged in running a drug store, was accidentally shot in the left arm, which was amputated at the shoulder-joint. No other injury was alleged to have been sustained. But the loss of the left arm alone, the Supreme Court of Kansas holds, in an action upon the contract of insurance, case of Smith vs. Supreme Lodge of Order of Select Friends, did not constitute a total disability within the terms and meaning of the contract. It is a matter of common knowledge, the court says, that much, if not all, of the work and business of a druggist can be fairly well done by one who has lost a hand. He will not be able to compound medicines so conveniently and expeditiously as a person who has both hands, but a large proportion of the medicines sold in a drug store to-day, the court understands, are compounded and ready for sale before they reach the hands of the retail dealer. It is equally well known, it thinks, that a large proportion of the business of the ordinary drug store consists in the sale of medical stores and instruments, toilet articles, holiday goods, cigars, soda and mineral waters,; etc. and hence, the court asserts, all know that this, if not all, the work of the druggist may be done, and the business conducted, with reasonable efficiency, by a person who has lost a hand.

Upholds Age of Consent Statute.—The Supreme Court of Minnesota holds, in State vs. Rollins, that the "Age of Consent" statute of Minnesota, which makes it criminal to carnally know and abuse a female child under the age of 16 years, is not void for uncertainty, but a valid penal enactment. But, it was further urged that, besides the objection thus met, there was a fatal conflict with the marriage laws of the state. Not so, however, thinks the court. It holds that this penal statute does not apply to relations between married persons within the ages authorized by law for entering upon the marriage contract. Indeed, it even thinks that the statutes harmonize together quite well; and it boldly asserts that it does not fear that the rigid enforcement of this statute will place seducible boys at the mercy of foolish girls under 16 years of age. It does not consider that the young men are so much in need of restraint as a more mature specimen of masculinity familiarly known as the "masher"—described by it as a parasite upon woman, rather than her support; very crude in his notions of her better qualities, and selfish and cruel in his conquests over inexperienced females who may be misled by his baneful attentions, to their own injury, before they are fully aware of the danger they incur, and descend into that social abyss from which return is very difficult. Moreover, it declares that it sees no violation to language, good sense or common decency to hold that sexual connection with a female under the prohibited age, however slight, constitutes abuse, and, in view of the history of the law, it says that it has no doubt that this was its intent when enacted. So it holds that proof of any act of sexual connection between the female and the party charged with the commission of the offense will sustain a conviction under the statute.

Menstruation too Improbable.—In Howard vs. People, the Supreme Court of Illinois had before it an abortion case wherein, on account of the death of the alleged, unfortunate victim, the prosecution was driven to rely on circumstantial evidence to sustain its charge. There was, for one thing, uncontradicted evidence that for two or three nights prior to the date of the reception of the girl in the house of the accused she was not in her usual health; that she had hemorrhages, which the witness, a female companion, or roommate, presumed to be the result of her menstruation period. Also, evidence that, on the morning she reached said house, as she passed up the stairway to the room assigned her, drops of blood fell from her person on the carpet and matting. Physicians were called to testify on behalf of the accused, who gave opinions to the effect that the miscarriage had taken place prior to these hemorrhages. The prosecution offered the testimony of other physicians, who testified that, although very unusual, women do menstruate during pregnancy, and it semed to be the theory of counsel that the hemorrhages mentioned were explained in this manner. But not so thinks the supreme court. It declares that the extreme improbability of menstruation in the case of a woman from four to four and one-half months in pregnancy, together with the fact that an abortion took place at about that time, refuted, to its mind, the idea of those hemorrhages resulting from natural causes. On the other hand, the court does not consider that it followed, from all the facts and circumstances in proof, that the miscarriage was produced prior to the time the girl went to that house, without any guilty knowledge or agency on the part of the accused. The girl, in all probability, it thinks, had, with or without the counsel of others, attempted to bring about the miscarriage, and the hemorrhages may have resulted from such attempts. So, when all the facts in the case and the theories of the physicians, which, it says, necessarily were only theories or matters of opinion, were carefully weighed, the court holds that it could not be said that the jury was unwarranted in its conclusion that the accused was guilty.

Death from an Overdose of Morphin.—A policy of life insurance contained this clause: "In the event of the death of the insured from suicide, whether sane or insane, within three years from the date hereof, the liability of the company shall be limited to a return of the premiums paid on this policy." Its construction was called for, or rather the question of the company's liability thereunder was raised, in the case of Brown vs. Sun Life Insurance Company, where the insured died from an overdose of morphin. This leads the Court of Chancery Appeals of Tennessee to say, to begin with, that it is a proposition of law, supported by authority as well as reason, that this and similar clauses in policies of insurance, conceding them to be valid, are not infracted by the accidental and mistaken taking of an overdose of medicine or poison or by the unintentional taking of his life by the insured. The principle or rule, in cases of this character, it goes on to state, is equally supported that suicide or intentional destruction by one's own hand is not presumed. The presumption is otherwise. The company interposing the defense of suicide, whether sane or insane, must overcome this presumption, and satisfy the jury or court trying the case, by a preponderance of evidence, that the self-destruction was intentional. Here, there was no evidence that the insured was insane. He was of foreign birth, about 58 years of age, and subject to rheumatic attacks. Less than three hours before his death he called for 12 grains of morphin. Asked by the druggist, who testified that he saw no evidence of derangement at the time, whether he desired it put up in proper doses, he replied that it was not necessary, as he knew how or in what quantity to take it. He had no relatives to benefit by dying, and leaving them to get the proceeds of the policy and his other effects. Nor had he been disappointed in love, or in any scheme of business or money-making. Sometimes, however, when suffering from rheumatism, he drank to excess. Under these circumstances, taking the facts in connection with the legal presumption stated, the court holds that it was proper to find as a fact that the insured did not designedly take an overdose of the drug for the purpose of ending his life, although it thinks that the question of whether he purposely took an overdose of the drug, or innocently, ignorantly or accidentally did so, was about evenly balanced.

Maintenance of Pest-House Close to School.—The Court of Civil Appeals of Texas has approved, in the case of Thompson vs. Kimbrough, of the suppression by injunction of the maintenance of a pest-house, for smallpox suspects and those afflicted with the disease, within 192 feet of a public school, on property purchased by the county. One of the contentions was that the school district trustees had no legal right to maintain a suit for injunction against the county judge, commissioners' court and county health officer. But the court answers that, if the ground of interest alone be considered, it would certainly appear that the trustees had such interest in the premises as would give them standing as complainants against persons attempting to injure the school property and interfere with the operation of the school. Then, it was contended that the law invested the commissioners' court, in connection with the county health officer, with exclusive and final jurisdiction in the matter of establishing and maintaining pest-houses and detention camps to prevent the spread of smallpox and other infectious and contagious diseases, and that the exercise of this jurisdiction was not subject to review by any judicial tribunal. Referring to the Texas statutes on the subject of quarantine, the court says that they authorize cities and counties to establish and maintain quarantine when thought necessary for the preservation of the public health, and require their co-operation with the state authorities in the maintenance of a quarantine proclaimed by the governor of the state. It is also required that the county judge of each county shall appoint, after each general election, a "county physician," who is made the health officer of the county. He is charged with the duty of establishing, maintaining and enforcing local quarantine, when declared by proclamation of the commissioners' court. The commissioners' court is authorized whenever it is believed that they are threatened with the introduction or dissemination of a dangerous, contagious or infectious disease that may be guarded against by quarantine, to establish and maintain detention stations or camps; to provide hospitals, tents or pest-houses for the sick, etc.; and the county is required to meet the expenses. Now, it may, and perhaps should be, admitted, the court goes on to say, that the exercise of the authority of the commissioners' court to proclaim quarantine, and to have it established, maintained and enforced through the county physician, is not subject to review by judicial tribunals. But, the court says, it does not necessarily follow that all of the acts of the officers and agents of the county in relation to the subject-matter are beyond the reach of judicial authority. The authority of the commissioners' court to proclaim and cause the enforcement of quarantine does not carry with it the arbitrary power in the officers and agents of the county to unnecessarily violate the rights of others. The existence of such authority does not imply that the officers and agents of the county may establish and maintain a nuisance, either public or private, not necessary to the end to be accomplished. The establishment of a detention station and pest-house in which to place, respectively, persons who have been exposed to smallpox, and those afflicted with the disease, in such close proximity to a public school that the germs of the disease may, and probably would, be disseminated among the children attending such school, the court holds, furthermore, would be the worst character of nuisance, and would violate the rights of those interested in the school. To uphold such an act, it adds, would not strengthen the county's efforts to prevent the spread of the loathsome and dangerous disease, but it would support the very means of its dissemination, and thereby defeat the humane object which the law designs to be accomplished.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, August 25.

1 *Military Surgery. (Concluded.) W. C. Borden.
2 An Apparatus for Making Roll-Cultures. George H. F. Nuttall.
3 *The Psychoses of the Menopause. John B. Chapin.
4 *A Contribution to the Significance of Koplik's Spots in the Diagnosis of Measles. Jose L. Hirsh.
5 Two Cases of Trichinosis with Eosinophilia. Wm. Watt Kerr.
6 *Physical Diagnosis in its Relation to the Stomach and Associated Organs. B. C. Loveland.

Medical Record (N. Y.), August 25.

7 *Errors Caused by the False Interpretation of the Roentgen Rays, and their Medicolegal Aspects. Carl Beck.
8 *The Presence of Virulent Tubercle Bacilli in the Healthy Nasal Cavity of Healthy Persons. Noble W. Jones.
9 Anuria Followed by Retention of Urine in a Case of Hysteria. Alfred Gordon.
10 *What Are Necessary and Desirable Data upon Health Resorts? Edward O. Otis.
11 Tumor Albus. Frank E. Peckham.
12 *A Further Report upon the Use of Pure Carbolic Acid in the Treatment of Mastoid Wounds and Chronic Suppuration of the Middle Ear. Wendell C. Phillips.

New York Medical Journal, August 25.

13 The Annual Address of the President of the American Laryngological Association. Samuel Johnston.
14 *On a New Method of Operation for Exstrophy of the Bladder. Carl Beck.
15 A Case of Cyst of the Epiglottis. W. L. Bullard.
16 Bladder Incrustations, Multiple Phosphatic Calculi; Median Lithotomy, Irrigation, etc. J. Coplin Stinson.
17 Case of Murphy-Button Anastomosis. William C. Wood.
18 *Laryngitis a Provoking Cause of the Asthmatic Paroxysm. William C. Glasgow.
19 *Secondary Hemorrhage Following Use of Suprarenal Extract. Frederick E. Hopkins.

Boston Medical and Surgical Journal, August 25.

20 Medicine as a Science and Medicine as an Art. Philip H. Pye-Smith.
21 Repeated Ectopic Gestation in the Same Patient, with Operation in Each Case. Malcolm Storer.
22 *Mortality of Hysterectomy for Fibroids. F. H. Davenport.
23 *Hysterectomy for Myoma in America. Ernest W. Cushing.
24 *Immediate Repair of Perineal Tears. E. S. Boland.

Medical News (N. Y.), August 25.

25 *The Construction and Management of Small Cottage Sanatoria for Consumptives. Arnold C. Klebs.
26 Co-operation of the Public Schools in Teaching "Good Teeth, Good Health." Richard Grady.
27 Tuberculosis and Modern Methods for Its Prevention. H. H. Vinke.
28 *The Abortive Treatment of Acute Mastoiditis. James F. McKernon.
29 *Medullary Narcosis During Labor: A Preliminary Report. S. Marx.

Cincinnati Lancet-Clinic, August 25.

30 *Symptomatology of Pulmonary Tuberculosis. Benjamin F. Lyle.
31 The Pathology of Tuberculosis. J. E. Greiwe.

St. Louis Medical Review, August 25.

32 *Prophylactic Measures and Precautions to be Observed after Simple Fractures, with a View of Obviating Such Degenerative Lesions as may Arise in Consequence of Injuries of the Arteries or Circulatory Apparatus. Thomas H. Manley.

Pediatrics (N. Y.), August 1.

33 Acute Dilatation of the Heart in Influenza of Children. F. Forchheimer.
34 A Case of Congenital Dislocation of the Wrist. Philip Hoffman.
35 One More Case of Apyretic Membranous Croup. A. E. Cordes.

American Practitioner and News (Louisville, Ky.), July 15.

36 Doctorate Address. Roswell Park.
37 *The Office of Motherhood. Ernest G. Mark.
38 Local Paralysis due to an Overdose of Camphor. T. B. Greenley.
39 Some Obstetrical Experiences. Charles W. Aitkin.

American Gynecological and Obstetrical Journal (N. Y.), August.

40 *Utility of a Certain Chart for the Determination of Pelvic Asymmetry from a simple Method of External Pelvimetry. Philander A. Harris.
41 Demonstration of Casts Used in Obstetric and Gynecologic Teaching. J. Clarence Webster.
42 Cyst of the Abdominal Wall: Report of a Case. L. J. Hammond.
43 Spontaneous Rupture of the Uterus. Walter V. Woods.
44 *Traumatisms of the Bladder and Urethra During Labor, and their Sequelæ. Gustav Kolischer.
45 *Chronic Inversion of the Uterus: Some Remarks on its Diagnosis and Treatment. L. W. Atlee.
46 *Treatment of Gall-Stone. S. C. Gordon.

Occidental Medical Times (San Francisco) August.

47 The Plague—Thirteen Cases. W. H. Kellogg and J. J. Kinyoun.
48 The Plague in Chinatown. W. G. Hay.
49 Examination of the Blood as an Aid in Surgical Diagnosis. Wallace I. Terry.
50 The Proper Time to Begin the Treatment of Cross Eyes. Vard H. Hulen.

International Medical Magazine (N. Y.), August.

51 *Contribution to the Therapy of Encephalocele. Carl Beck.
52 *Plea for a More Rational Prognosis in Cardiac Affections. J. J. Morrissey.
53 The Treatment of Cancer of the Stomach. Boardman Reed.
54 The Detection and Estimation of Sugar in Urine. (To be continued.) A. Robin.
55 The Treatment of Hay-Fever. E. B. Gleason.

56 Rectal Disorders of Children. Samuel G. Gant.
57 Extrauterine Pregnancy: Its Causes, Diagnosis and Treatment. John C. Hirst.
58 A Short Discussion of Acute Biliary Colic. Guthrie McConnell.

The Post-Graduate (N. Y.), August.

59 Sarcoma of the Testicle. James Pedersen.
60 Some Neurologic Notes. Philip Meirowitz.
61 A Case of Spontaneous Intraperitoneal Rupture of a Pelvic Abscess. A. Brothers.
62 Notes from the Clinics. Drs. Combes, Torek, and Lusk.

Chicago Medical Recorder, August.

63 Latent Infection and Subinfection, and on the Etiology of Hemochromatosis and Pernicious Anemia. J. George Adami.
64 *Asexualization as a Possible Prophylactic of the Increase of Crime, Idiocy, and Insanity. Daniel R. Brower.
65 *Affections of the Kidney in Relation to Pregnancy. J. Clarence Webster.
66 The Eyes and Ears of Employees of Transportation Companies. Frank Allport.
67 *Treatment of the Opium Habit by the Bromid Method. Archibald Church.
68 A Case of Congenital Goiter and Diaphragmatic Hernia. Isaac I. Abt.
69 The Condition of the Mouth and Upper Air-Passages in Febrile Diseases. Paul Chester.
70 Gude's Pepto Mangan—The Uses and Effects of Gude's Manganiferous Iron Peptone. Julius Heitzmann.

Canada Lancet (Toronto), August.

71 Acute Mastoid Suppuration with Presentation of Cases. Perry G. Goldsmith.
72 A Case of Ankylosis following Injury. J. T. Clark.
73 A Case of Incarcerated Ovary. Horace C. Wrinch.

Cleveland Medical Journal, August.

74 *Subphrenic Abscess Following Appendicitis. J. F. Baldwin.
75 *Tuberculin Reaction. G. W. Moorehouse.
76 Some Observations on Abortion. Walter R. Lincoln.
77 Gall-stones. Dudley P. Allen.
78 Symptomatologic Diagnosis of Valvular Obstipation. Thomas C. Martin.

Medical Herald (St. Joseph, Mo.), August.

79 Practical and Microscopic Notes on the Endometrium. Byron Robinson.
80 Pterygia, their Pathology and Treatment. M. F. Weymann.
81 How to be Ethical. E. A. Mendell.
82 Neurasthenia. Clinton E. Sapp.
83 A Clinical Study of the Analgesic Action of Aspirin. R. Weil.
84 The Treatment of Catarrhal Conjunctivitis. Milton P. Creel.

University Medical Magazine (Philadelphia), August.

85* A Case of Pneumonomycosis due to the Aspergillus Fumigatus. Leonard Pearson and Mazyck P. Ravenel.
86 Some Personal Observations on the Plague. H. M. Miller.
87 Perichondritis of the Larynx in Typhoid Fever. M. Howard Fussell.
88 Malignant Precocious Syphilis. H. M. Christian.
89 A Case of Migraine with Aphasia and Numbness in one Arm. Samuel McC. Hamill.

Pennsylvania Medical Journal, August.

90 Medical Education, Past and Present. Henry Beates, Jr.
91 Some Remarks on Typhoid Fever and the Typhoid Bacillus. C. W. Coulter.
92 Report of Eighteen Cases of Labor with Comments and Suggestions. L. B. Kline.
93 Reflex Phenomena of Inguinal Hernia. Evan O. Kane.
94 Report of a Case of Injury of the Head. G. W. Guthrie.
95 The Tongue as an Index in Disease. J. F. Davis.
96 Typhoid Fever with Perforation—Operation Recovery. I. J. Moyer.

Chicago Clinic, August.

97 Case of Acute Sero-Fibrinous Pericarditis. J. H. Hoelscher.
98 *When to Operate in Appendicitis and Why. J. B. Murphy.
99 *Unna's Dressing; A Treatment for Chronic Ulcers of the Leg. R. S. Michel.
100 Brain Tumor—Case Report. Francis R. Sherwood.
101 Hysterical Amblyopia. Frank A. Philipps.
102 An Anatomical Lecture. W. T. Eckley.
103 Intubation and Tracheotomy. Aime Paul Heineck.

Southern California Practitioner, August.

104 Meningitis. H. G. Brainerd.
105 Nursing a Profession. F. T. Bicknell.
106 Appendicitis, with Tabulated Report of Fifty Consecutive Operations without a Death. W. W. Beckett.
107 Organic Cardiac Disease. Geo. L. Cole.
108 A Case of Cholera Morbus. Lincoln Rogers.
109 Some Physiologic Changes in Refractive Cases. Wm. S. Fowler.

Colorado Medical Journal, July.

110* Modes of Infection. E. P. Hershey.
111* Problems of Diagnosis of Initial Syphilitic Lesions. Will B. Davis.
112* Bacteriology of Syphilis. W. C. Mitchell.
113* Cutaneous Manifestations of Syphilis. J. M. Blaine.
114* Ocular Manifestations of Syphilis. Edward Jackson.
115* Tertiary Manifestations of Syphilis of the Ear. P. F. Gildea.
116* Syphilis of the Throat. E. P. Gallaher.
117* Bone and Joint Syphilis. W. W. Grant.
118 Injuries to the Eye from Accidents in the Mine. (Continued.) Melville Black.

Medical Sentinel (Portland, Ore.), August.

119 Notes on Vaginal or Kolpo-Hysterectomy. W. F. McNutt.
120 A Crushable Button as an Aid to Suturing in Intestinal Anastomosis. R. C. Coffey.

Austin Flint Medical Journal (Mason City, Iowa), August 15.

121* The Sound of Muscular Contraction and the Stethoscope, a Non-roaring Instrument, and Some Observations on Sound Conduction through the Body. Walter E. Scott.

Alabama Medical Journal, August

122* Address of Chairman of Section of Obstetrics and Diseases of Women of the American Medical Association. W. E. B. Davis.
123 Opiates and Ethics. Barton W. Stone.
124 Nosophen and Antinosine in the Treatment of Diseases of the Nose, Throat and Ear. Edwin Pynchon.
125 A Point of View in Therapeutics. Thos. D. Parke.
126 The Pathogenesis of Malaria and Some Remarks on its Manifestation. R. C. Bankston.

Therapeutic Gazette (Detroit, Mich.), August 15.

127* Treatment of Empyema. Edward Martin.
128 A Case of Anthrax Successfully Treated by Local Injections of Pure Carbolic Acid. W. E. Fisher.
129 A Third Case of Aortic Aneurysm Treated by Electrolysis. H. A. Hare.
130* The Treatment of Hemoptysis in Phthisis. J. E. Frazer.
131 The Abortive Treatment of Bubo. H. M. Christian.
132* Heroin as an Analgesic—A Report of Fifty Administrations of in the Howard Hospital. Samuel H. Brown and Erie D. Thompkins.

The Southern Medical Journal (La Grange, N. C.), July.

133 Clinical Aspect of Diarrhea Incident to the Second Summer of Infancy. J. W. P. Smithwick.
134 The Doctor in his Medical Visits. J. L. Wolfe.
135 Clinical Aspect of Erysipelas. J. W. P. Smithwick.

AMERICAN.

1. **Military Surgery.**—Borden analyzes the statistics as to wounds of the neck, trunk and extremities. He thinks the mortality from injuries to the head, face and neck is not reduced since the use of modern missiles, but that the wounds of the abdomen and thorax show a somewhat diminished mortality, though still serious. In the wounds of the extremities the small-caliber bullet shows itself a humane weapon and here the aseptic and antiseptic methods have produced their best results. In his general conclusions he thinks that the small-caliber rifle is not a humane weapon as far as its death-dealing effects are concerned, though it may be so considered as far as the effects of its projectile on those not immediately killed are concerned, and conservative treatment has been a most potent factor in the saving of life and limb. Operations on the field or at field hospitals should be restricted to cases of imperative necessity while the permanent and base hospitals should receive the wounded as soon as possible and have every appliance for their relief. Military surgery does not differ from ordinary surgery excepting in locality and environment and the greater number of special injuries, gunshot wounds, etc.

3. **Psychoses of the Menopause.**—Chapin finds from his study and experience that while the menopause may be a period of stress, it is not properly the cause of insanity excepting in cases with heredity or previous attacks. Women who become insane at this period are as a rule neurotic or have a psychopathic heredity or history. Many approach this period with groundless apprehensions and in this sense it may be somewhat more of a dangerous epoch, but we should discourage these fears as far as possible.

4. **Koplik's Spots.**—After a discussion of the subject and reported cases Hirsh concludes: 1. An eruption limited to the buccal and labial mucous membranes and characterized by the presence of an irregular red spot with a bluish-white center, is always present in beginning measles. 2. These spots are present from twelve hours to five days before the cutaneous outbreak. 3. The number of these spots bears no relation to the severity of the attack. 4. These spots will be found in no other condition of health or disease.

6. **Physical Diagnosis of the Stomach and Viscera.**—The methods of examination in cases of disease or abnormalities of

the stomach and associated organs are described here by Loveland, who illustrates by diagrams some of the conditions he has observed and diagnosed. He takes up the various methods of physical examination separately, and of inspection general and local, the temperature, percussion, auscultation, etc., and thinks that we can determine the shape, size, location, presence, and in many cases the character of tumefaction, if such exists, and also the sensitiveness on pressure. This information may be secured in relation to stomach, liver, spleen, or kidneys by purely physical methods, and when we have the opportunity to add to this the history and symptoms, and in selected cases the chemical analysis of the contents of the stomach, and urine, and examination of the blood, in addition to the clinical appearances, there will be very few cases in which any serious doubt as to the exact diagnosis will remain long in our minds. Yet, in the face of some very perplexing problem in diagnosis, we may console ourselves with the fact that on rare occasions, cases occur so negative in all the signs, both physical and clinical, that they will defy the diagnostic ability of the most experienced. Such consolation, however, should not be ours until we have gone so thoroughly into the case as to leave nothing undone which might add to our knowledge of that particular condition.

7. **The Roentgen Rays.**—The errors that are possible with the Roentgen rays as a means of diagnosis are discussed by Beck, who calls attention to the fact that the trouble is not in the pictures or skiagraphs produced, which it must be remembered are only silhouettes or shadows, but in the interpretation of them by the unskilled or careless. He calls attention to the importance of knowledge of minute anatomical details, illustrating it by the trigonum tarsi, a bone which is present in 7 or 8 per cent. of cases, but which is sometimes mistaken for fracture and has caused some medicolegal complications. The special trouble with the skiagraph will be in regard to joints and the more complicated the joint, the more complex the picture. Other things which may produce difficulties in diagnosis are callus formations, the recognition of the union of the joint in the growth, diaphyses and epiphyses and the location of foreign bodies.

8. **Tubercle Bacilli in the Nose.**—Jones has examined a number of cases of tuberculous and other patients, and finds that virulent tubercle bacilli are to be found in the nasal cavities of healthy persons, but not so frequently as in those who have the care of the tuberculous. His studies show the danger from inhalation of dust, especially in localities where the tubercle bacilli are liable to be given out.

10. **Health Resorts.**—The points of special importance to be known in regard to health resorts are described by Otis, who takes up the plan suggested by Dr. Phillips, of the United States Weather Bureau, as a simple and plain but satisfactory method of giving the facts in regard to the climate of any region. It includes the questions of temperature, humidity, precipitation, direction and force of winds and the averages as to clear and rainy weather. Among other things he mentions the characteristics of the locality, whether wooded, hilly or undulating country, the character of the soil and the condition of artificial essentials, such as lodgings, water-supply, protection from contagious diseases, amusements, diversions, etc.

12. **Carbolic Acid.**—Phillips reports further results in the use of pure carbolic acid in the treatment of mastoiditis and chronic suppuration of the middle ear, in all of which he used it with beneficial effects. In none was there any inconvenient or unfavorable symptoms after following it with alcohol as mentioned in his former article. He also quotes notes from Parker, house surgeon to the Manhattan Eye and Ear Hospital, giving similarly favorable experiences.

14. **Exstrophy of the Bladder.**—Beck describes an autoplastic method for the restoration of the retentive powers of the bladder in congenital exstrophy by an anterior muscular wall. In cases where the flap operation is impracticable he takes the recti muscles, incises them along their internal margin to the extent of a little less than one-half their thickness and forms flaps of the same. After uniting the walls with thin iodoform-silk sutures the reflected muscular flaps are united above them, thus producing a small but virtually normal bladder, protected by a firm muscular layer, which is likely to distend later on. Further observations of the case are promised in the future.

18. **Laryngitis and Asthma.**—Glasgow reasons that asthma is due to a reflex irritation in the upper portion of the respiratory tract, and according to his observations the interarytenoidal region seems to be the most frequent site of the irritation. This is due in many cases to primary laryngitis and the causation of asthma is therefore laryngeal rather than nasal in these cases. Four cases are reported illustrating his views. He thinks that we need to use constitutional as well as local measures in this condition since the latter alone are generally not sufficient to incite respiratory spasms.

19. **Suprarenal Extract.**—The striking results from the use of suprarenal extract and its great value in nasal affections are apparently not entirely without corresponding inconveniences. Hopkins shows where secondary hemorrhage has been produced in his own practice and in those of many others when they have not applied intranasal packing. The powerful stimulation to contraction does not suffice to prevent indefinitely but only to delay the paralytic stage that follows. He does not offer these facts as an argument against the use of suprarenal extract but only to call attention to some points of danger that can be avoided by the easy recourse to packing after its use.

22. **Hysterectomy for Fibroids.**—Davenport reports two cases of operation for fibroids with later death of patients. The prominent feature of the two cases was the size of the tumor, but there are other dangers which he mentions as not less serious. In looking over his cases for hysterectomy for fibroids, he finds in his last 100 abdominal operations 19, of which these two only were fatal. He had in his 19 cases, 2 cases of malignant degeneration, 3 of anemic necrosis, one of the latter being malignant as well, thus making 6 altogether of the 19 where life was threatened. With these possibilities in such proportion he thinks that any cases where symptoms occur which interfere with the patient's enjoyment of life, operation should be advised, though not universally in fibroid, many of these causing so little inconvenience and growing so slowly that this is not indicated. Many cases also offer other objections, such as interference with child-birth, etc., and where the patient desires it, he thinks we should not hesitate.

23. **Hysterectomy for Myoma in America.**—Cushing reviews the contributions to gynecologic surgery made in this country with special reference to operations on the uterus and sums up the changes in the methods as follows: Entire abandonment of extra-abdominal treatment of the stump, wide trial and substantial rejection of vaginal hysterectomy as an operation of election in cases of myoma and salpingitis, the establishment of indications for the retention of cervix uteri as compared with total extirpation, the adoption of a universal method by most operators, the disuse of drainage wherever possible and the common recourse to operation in small hospitals by the local surgeons, which has its disadvantages since the skill and experience of some of these are not equal to their zeal. He gives the indications for total hysterectomy as compared with leaving a portion or the whole of the cervix which is generally the better course. 1. It makes the operation shorter and easier, there is less chance of hemorrhage during operation and so much cellular tissue is not opened for the oozing and decomposition of the blood. 2. There is somewhat less chance of infection of the wound where only the small cervical canal is cut across and instantly closed by the double tenacula than when the whole vault of the vagina is opened. 3. The vaginal portion is a seat of sexual feeling, and if it is present the patient does not feel as much mutilated as when it is gone. 4. The lower parts of the broad ligaments with the cervix, forms a better support to the pelvic contents than does the simple union of the vault of the vagina. Total hysterectomy should be performed; 1. when the cervix is enlarged and diseased; 2. when it is suppurating or septic; 3. when there is no suspicion of malignant disease, and 4, when vaginal drainage appears desirable.

24. **Perineal Tears.**—After first noticing the causes of these and the impossibility of always avoiding them, Boland sug-

gests immediate operation and gives his method. He thinks the use of the head mirror a valuable adjunct in the operation.

25. **Cottage Sanatoria.**—Klebs calls attention to the value of the open-air and cottage treatment of tuberculosis and gives what he considers a model plan of an institution of the kind.

28. **Mastoiditis.**—It is often said that the only rational means of aborting acute inflammation or mastoiditis is by the use of dry or moist heat. McKernon condemns this view, showing by cases in his practice that it is not effective. On the other hand he prefers the use of cold by the ice coil applied snugly over the process, with free purgatives administered; the canal irrigated frequently with warm bichlorid solution and the patient kept on a fluid diet. The use of moist heat may seem to diminish or stop the pain, but it does so at the expense of softening and undermining the tissues beneath it and thus advancing the disease.

29. **Spinal Analgesia and Labor.**—Stimulated by the reports of the surgical use of spinal analgesia by Tuffier, Marx has used the same method in labor with remarkably good effects in the cases in which it was employed. The patients were delivered without any pain or any knowledge of it, for they lose consciousness of pain when the injections are made thoroughly and successfully. He does not prophesy as regards the future utility of this means, but apprehends no danger from its employment. Whether any remote dangers will follow the use of cocain when applied, further experience will have to show. He suggests the use of this method in cases of prolonged and tedious labor, as anesthesia in this form does not at all interfere with the natural course.

30. **Symptomatology of Consumption.**—The first early symptoms of pulmonary tuberculosis are rarely significant to the patient with lung trouble, according to Lyle. If the temperature was taken oftener we should recognize many more cases. The different forms of consumption, acute, caseus, fibroid, etc., and their symptoms are noticed in detail.

32. **Fractures.**—The average results of treatment, Manley says, are excellent, but while authors are clear as to how we should treat fractured bones, they say but little of the limb. The limb should first be wholly wrapped in cotton wadding and should be supported laterally. He does not believe in the use of the bandage over the surface of the limb immediately after the fracture and the less splinting we apply over the limb which is the seat of diminished vitality the better. The first principle is to put the limb in a comfortable position and we should discard every sort of fixation until we feel sure of survival of the limb. In every form of fracture involving the shafts of the long bones or joints of the extremities our first and most important concern is the preservation of the circulation. In open fractures, after rendering the parts aseptic, moderate tamponade with gauze, with moderate pressure will generally suffice, and if the larger arteries are lacerated a tourniquet properly adjusted is to be relied on. The Esmarch bandage should not be indiscriminately employed over more than two hours. In so-called simple fracture the arterial trunks may be seriously injured, threatening the vitality of the parts, and we should place the limb in such a position as to best favor the establishment of circulation. The preservation of vitality of the part without regard to the condition of the joint is most important. Splints and bandages must be applied in the case of arterial thrombosis until we are sure that the circulation is turning toward normal. In the case of dry gangrene there is no haste to amputate until the nature of the processes are thoroughly defined. As there are good reasons to believe that the union of fractured bones is sometimes delayed, or even wholly arrested, by premature or too rigid adjustment in fixative apparatuses, or in consequence of too long employment, caution should be observed not to unduly constrict the circulation by any sort of mechancial appliance; rather, on the contrary, it is probable that in not an inconsiderable number of fracture cases the circulation of the limb is favored, the nutrition improved, reparative osteogenesis hastened and perfected by occasional moderate motion, massage, and only such adjustment as will provide support alone to the limb, without simultaneously exerting too much pressure.

37. **The Office of Motherhood.**—Mark thinks that no child should be born undesignedly, as is too often the case at the present time, and that great damage is done by too much child-bearing by women. He lays stress on the importance of maternal impressions and especial care during pregnancy to see that all the conditions and environments are the most favorable possible.

40. See abstract in The Journal, xxxiv, p. 1339.

44. **Vesical and Urethral Traumatism During Labor.**—This paper does not consider the major injuries of the bladder and urethra, but only those cases in which no external wound is produced. The urethra is injured during labor by direct bruising. The direct consequence is hemorrhage of the mucous membrane, producing retention and tenesmus, requiring the use of the catheter. The catheter should be straight, with a very slight curve at its vesical end. The eye should be situated in the center and the tip be carefully polished. The ordinary female catheter is liable to do harm. If the suffusion in the urethral wall is not reabsorbed, but becomes organized, the subsequent shrinkage of the connective tissue may produce quite extensive strictures, which can be removed only by urethrotomy. All urethral lesions caused by squeezing are most likely to occur in cases of simple flat pelvis. The urethra may become kinked and double up. Another variety occurs if only the urethral wall is carried downward; this is most likely to occur in the forcible forceps operation, which drags down the urethra, paralyzes the sphincter and produces incontinence even after involution is complete. Traumatisms of the bladder may be divided into two groups: traumatic desquamative catarrh and dislocations. By studying a great many cases, Kolischer has been able to prove that there is always a pronounced edema in the bladder during labor, favoring desquamation through mechanical injuries. Hemorrhages may occur from frequent pressure and the epithelium is then thrown off. Such losses of the epithelium cause the patient the sensation of heaviness and soreness and tenesmus; diagnosis of cystitis is often made and treatment with caustics or astringents is employed to the patient's injury. Traumatic dislocations are caused by the descending fetal skull, which drags the bladder from its seat. It may be completely dislocated and in this case complete incontinence results. This may have a further effect, producing trouble in the ureters and dilatation. The only method of treating this complication is operative. The bladder must be dissected out, replaced in its normal region and secured there by sutures. These injuries usually follow forceps, and especially high forceps, operations, and furnish another reason for preferring the Breus axis traction forceps, which allows of more mobility of the head.

45. **Chronic Inversion of the Uterus.**—In Atlee's paper chronic uterine inversion is described and he shows that there are times more favorable than others for its replacement; that for each individual case some one particular method is most liable to be successful. He also shows the great difficulty that may be encountered in certain conditions in establishing a satisfactory diagnosis and reviews the procedures which have overcome this difficulty in the hands of the most experienced men.

46. **Gall-Stones.**—From the case reported, Gordon concludes that an operation is indicated after it is well established by repeated attacks that gall-stones are present. Gall-stones may be present in the gall-bladder without giving rise to colic, but are the cause of more or less digestive disorders and impairment of general health. From his experience and the reports of others he is satisfied that many cases are better treated at the time of operation by closing the bladder, dropping it back into the cavity and closing the abdominal wound. Patients treated by drainage are often slow to recover and liable to be left with biliary fistula lasting for a long time. Great care should be used to cleanse the bladder before closing it, rendering it as nearly aseptic as possible. While gall-stones may occur after operation, he thinks they are no more liable to after closure than after drainage.

51. **Encephalocele.**—This condition occurring in the skull, which is analogous to spina bifida, is, as a rule, readily diag-

nosed and its prognosis is unfavorable if let alone. There are, however, some difficulties in its differentiation which are pointed out by Beck. Three cases are reported, in two of which operation was performed, with success in one, the other died of purulent meningitis. In the third case the tumor was gradually diminished and finally destroyed under pressure with large iodin-gauze collodion dressings. He thinks that the prognosis is improved with aseptic methods and that the Roentgen rays have added a further element of security in the diagnosis which also improves the therapy of the condition.

52. **Cardiac Disease.**—Morrissey is opposed to gloomy prognoses in the case of heart murmur and advises the practitioner to consider the condition of the cardiac walls, the probable length of time the lesion has existed, the presence of dilatation or hypertrophy, and also the occupation and temperament of the patient. Murmurs do not invariably mean endocarditis and when a man has one of which he is unconscious, where the heart is acting perfectly, and his work is not of a laborious character, and he is past the period where rheumatic infection is liable to be stimulated into renewed activity, he is not to be regarded as a bad risk for insurance, or to be refused a policy commensurate with the degree of cardiac inefficiency. Increased presystolic murmur does not always indicate a mitral stenosis, nor has so-called musical apex murmur any significance. From the standpoint of longevity, aortic stenosis is a favorable lesion and the writer does not agree with some authors who say that it occurs mostly after middle life. He says, never hesitate to ask a patient to return for further observation. There are more snap diagnoses made in the study of cardiac disease than of any other disease of the body.

64. **Asexualization.**—Brower reviews the statistics of the increase of crime, insanity, idiocy and their ratio with that of the general population. He points out how much of this is due to the continuation of bad heredity. The remedy he suggests is asexualization of criminals and defectives, which he thinks is worthy of consideration.

65. Published in The Journal, vol. xxxiv, p. 959.

67. See abstract in The Journal, vol. xxxiv, p. 1335.

74. **Subphrenic Abscess Following Appendicitis.**—Baldwin reviews two cases of subphrenic abscess, accurately diagnosed and treated by operation with success. They are, he thinks, the forty-fourth and forty-fifth cases of this complication that have been reported. In the first case the appendix was behind the cecum and he was inclined to believe that the infection extended downward and behind the peritoneum; the entire abscess was therefore retroperitoneal. When the appendix is free in the peritoneal cavity one would expect to find the intraperitoneal form of infection, it being carried by peritoneal currents from the region of the appendix to the diaphragm. His second case was of this variety. The diagnosis in this case must be based on the continuance of the infected symptoms after removal of the appendix or subsidence of local inflammatory symptoms. A careful examination should reveal some tenderness in the region of the liver with depression on its lower border, and pain in the right shoulder has been noticed in a number of cases, and is an important factor. Hiccough is rather a common symptom and an important fact is that frequently in these cases the abscess cavity contains gas as well as pus and this may render the diagnosis somewhat more simple. In these cases the previous history of the patient pointing to abdominal, rather than to thoracic, trouble, normal vascular murmur and fremitus at the apex with a sharp line of differentiation from the amphoric respiration found below and the descent of the line of normal fremitus with very slight displacement of the cardiac apex and slight bulging of the intercostal spaces without chest-wall immobility are the points noticed by Leyden as important. If the disease is not recognized and not surgically treated the mortality is large, but when it is recognized the mortality should not exceed 50 per cent. or less. He prefers to make an incision well back on the right side so as to strike the abscess directly, if extraperitoneal, or through adhesions if time has permitted their formation. If no adhesions are found, this will best allow drainage and protection of the general cavity. While most of these abscesses can be reached, as in his two cases, by going below the ribs entirely, it might be necessary in some cases to resect the tenth, ninth or eighth rib to reach the abscess more directly. The danger of wounding the pleura must not be overlooked, therefore he prefers the infracostal incision.

75. **Tuberculin Reaction.**—Moorehouse reports cases with temperature curves and a number of tuberculin injections in patients in whom the diagnosis was difficult. He thinks the measure is justifiable in such cases. Of the 13 positive reactions, 2 had a temperature of 104 F. or above; 8, 103 or 104 F.; 1, 102 or 103 F.; 2, 101 or 102 F. The time of high temperature varied from eight to forty-eight hours after the injection. Tuberculin was given to a number of patients in which there was no reaction, but they are not reported.

85. **Pneumonomycosis.**—Pearson and Ravenel report a case of pneumonomycosis which was attributed to the aspergillus fumigatus. This mold forms no toxins, but causes trouble mechanically by traumatism and causing necrosis of the cells. In this case, which occurred in a cow, they consider it one of primary aspergillosis because of the predominance of this fungus in the nodules and the lack of other lesions which could cause death. They consider the case of interest as the only one of this character ever observed in America.

98. This article has appeared elsewhere. See The Journal, vol. xxxiv, p. 1651.

99. **Unna's Dressing.**—Unna's paint or dressing is highly recommended by Michel for chronic ulceration of the leg. It is prepared thus: Take of water and glycerin, each 10 parts, and of gelatin and white oxid of zinc, finely powdered, each 4 parts. The gelatin should be of the best quality. Dissolve the gelatin in water by means of the water-bath. While hot add the glycerin and finally the oxid of zinc, stirring vigorously and continuously until cold. Before application the leg should be washed thoroughly with soap and water, dried and rubbed with alcohol. When the paint is rendered fluid by heat it is applied to the leg with a paint-brush, extending the dressing from a little below the knee down nearly to the ankle. After the leg has been thoroughly painted, an ordinary bandage is applied, which must be put on without wrinkles or reverses, and necessarily, therefore, in parts. Above this another layer of paint is applied and so on. The dressing should be from three to five bandages in thickness. It should be worn from four to eight weeks, though it may need more frequent change. This plan of treatment is applicable to all ulcers of the leg and can be made to answer other indications than those here mentioned.

110.—See abstract in The Journal of August 25, p. 514.

111.—Ibid.

112.—Ibid.

113.—Ibid.

114.—Ibid.

115.—Ibid., September 1, p. 577.

116.—Ibid.

117.—Ibid.

121. **Non-Roaring Stethoscope.**—Scott describes his experiments to eliminate the roaring sound heard in the stethoscope. He has constructed a non-roaring monaural stethoscope which consists of a bell with a spring, the bell composed of glass and metal which does not allow the sounds of muscular contraction to be conveyed from the fingers and which can be applied easily to the chest wall or other parts of the body. He has found it especially advantageous in examining children or small areas.

122.—This article appeared in The Journal of July 21, p. 131.

127.—See abstract in The Journal, xxxiv, p. 1197.

130. **Hemoptysis.**—The author divides the varieties of blood-spitting into two large clinical classes: pure or large hemorrhages, and, impure or minor hemorrhages. The conditions to be fulfilled in every form of treatment are to lessen blood-pressure and to increase resistance at the bleeding-point. For while the venous pressure is lower than the arterial, it is a good deal higher than it would be had the total caliber of the venous been greater than that of the arterial vessels,

which is not the case, as shown by Winslow, Ewart, Santorini and Haller. Ergot also acts only beneficially by lowering the venous pressure and that it does act beneficially sometimes and sometimes not in hemoptysis is a known fact. The arterioles and veins also act similarly as regards the effect on blood-pressure by ergot. When the patient is first taken ill the pulse is full and rapid, but this depends somewhat on the temperament of the patient; if not nervous, it may be slow and steady with no rising temperature, and these cases often do well without any special treatment. He asks how we are to lower a lateral pressure on the blood-vessels. There are only two ways of doing this in the pulmonary vessels: By acting on the heart-beat or on the vascular approaches to the wounded vessel. An injection of morphin with ergot is often sufficient to stop the bleeding. The next thing is to prevent recurrence and Frazer considers that further injections may be required. Rest in bed is necessary and the length of time is important, too little is often given. The diet should be light and cool and he is careful to prohibit any purgatives while the heart's action is excited. Discomfort is not usually felt in this regard for three or four days, and then oil or glycerin enemata are sufficient. The cough may be troublesome, but if not controlled by injections, it may yield to chloral or codein. Pain in the chest is usually met by counter-irritation. Vomiting may occur, but seldom requires treatment; if persistent it generally yields to one-twelfth grain of cocain. If the hemorrhage is purely arterial, ergot is contraindicated. The other drugs and agents mentioned are aconite, which he has found very useful, and digitalis in mild cases. The ice-bag has a slight effect, hardly worth the trouble it gives. Turpentin, sulphuric, tannic and gallic acid, etc., are useless.

132. **Heroin.**—According to Brown and Tompkins' experiments, in which they gave this drug in thirty-four cases for relief of pain, and as a hypnotic in sixteen, it would appear that heroin is a safe, reliable analgesic, which can be repeated if necessary without producing habit or doing any harm.

FOREIGN.

The Lancet, August 18.

Physiologic and Therapeutic Action of Digitalis. T. Lauder Brunton.—The action of digitalis has long been known and is explained by Brunton as partly due to its effects on the inhibiting center of the circulation and in part also to its contraction of the arterioles, raising the blood-pressure in the general circulation. The diuresis which digitalis produces is probably due to increased pressure within the glomeruli of the kidneys. The chemical composition of the drug is complex; the chief components, according to Schmiedeberg, are digitoxin, digitalin, digitalein, digitonin, and digitin. The last two have so little physiologic action that they may be dismssed from consideration. The crystallized digitalin of Nativelle consists chiefly of digitoxin; the digitalin of Homolle and Quevenne consists chiefly of digitalin and the German digitalin consists chiefly of digitalein and digitonin. The action of these drugs appears to be nearly alike in kind, but differs in degree, digitoxin being far the strongest. Nativelle's digitalin is found by Widal to be eight or ten times stronger than amorphous digitalin, and in daily doses of from one to two milligrams slows the pulse, while from three to ten milligrams of Homolle's digitalin are required. The German digitalin may be given in doses three times as great as Homolle's, or ten times as great as that of Nativelle. The insoluble kinds of digitalin—Nativelle's and Homolle's—cause considerable local irritation when used subcutaneously and may even cause abscesses, though the solutions are perfectly sterile. Soluble digitalin may be used subcutaneously in the form of a 1 per cent. solution in equal parts of glycerin and water, 1 to 2 c.c. being injected two or three times a day. Digitalin and its active principles regulate the heart's action, assist failing circulation and act as diuretics. In cases of palpitation and functional irregularities small doses, such as 10 minims of the tincture, are sometimes very useful. This is well marked in cases of palpitation brought on by physical strain, anxiety or worry. Where stomach irritation has produced it in a reflex way, better results are obtained by bismuth and rhubarb. In cases of aortic regurgitation with good compensation digitalin is quite unnecessary and may be harmful. It is, however, of utmost service when the mitral valves become incompetent in consequence of damage to the valves themselves or dilatation of the cardiac orifices from weakness after infectious diseases or from failure of a hypertrophy consequent upon aortic regurgitation or renal disease. It may be useful, moreover, before the heart has dilated so as to render the mitral valves incompetent, by lessening the ventricular regurgitation during diastole, and thus diminishing the amount of blood which can regurgitate. By its action on the arterioles it also aids in lessening the flow. To get the best results in severe cases, the use of the drug should be associated with rest in bed and massage. In conclusion, he speaks in regard to the dangers of the drug in cases of fatty heart and very high tension. If we have fatty degeneration with normal muscular fibers of the arterioles, the resistance to cardiac contraction will be increased and the heart, already disabled, will be further embarrassed. In such cases we should simultaneously administer nitrites, such as nitroglycerin, nitro-erythrol or ethylnitrite, most commonly given in the form of spirit of nitrous ether. The same precaution should be adopted where the arterial tension is high and the heart is just beginning to fail, and in such cases it may be well to avoid digitalis altogether; but if it is given, the nitrites should accompany it and great attention should be given to the condition of the bowels and the liver.

Some Remarks on Cancer of the Breast. Skene Keith.—The three questions usually asked by the public in reference to cancer are: 1, is it curable? 2, is it hereditary? 3, is it curable by operation? Keith believes that cancer is increasing to a certain extent, but this is apparently magnified by the better knowledge of pathology and diagnosis. When we come to heredity the statistics are embarrassed by the fact that the public do not like to admit this element. It is most certainly curable, but not in every case, even in those apparently favorable to operation. The first thing to be decided is what is a cure. Here the unsatisfactory question of time comes in. If a patient died twenty years after the cancer of the breast had been removed, it could not be said positively that it would not have recurred had she lived long enough. Some have fixed the time at three years, after which a cure can be claimed, but Keith thinks this is too short and even five years would be the same. Every year, however, increases the chances of life. The time limit may be suitable for statistics, but it is not assurance to the patient. He remarks in regard to the statistics of operations that it is possible some of the operations of the past have not been done with sufficient care. He thinks the Halsted operation, from its severity, must have a certain amount of mortality in weak subjects, while the removal of the breast and axillary glands is an operation unaccompanied by any extraordinary risk to life. What is more important than the removal of one or both pectoral muscles is the removal of the superficial fat of the breasts. It has been shown of late that the lymphatics do pass freely into the superficial fat and it may be that if extra attention is paid to this part during the course of the extensive operations practiced by some, the improved results are due to this rather than to the free removal of muscle.

Australasian Medical Gazette, July 20.

The Effects of Migration from the Northern to the Southern Hemisphere. R. Humphrey Marten.—In this address the author gives his own observations and impressions regarding the difference between the native Australian and the native Englishman. In the Australians maturity comes earlier, they are energetic, muscular, and more inclined to be dark-complexioned than are the British islanders. With the early maturity he thinks there is probably an early senility. The Australian's teeth are extremely bad as a rule, and this is due, he thinks, to the large amount of butcher's meat consumed by them, but he comforts the Australian with the statement that, according to the latest French statistics, good teeth go with a high death-rate. In stature the Southerners are rather above the British standard. Their families are as large as in the northern hemisphere, and the majority of births occur in the corresponding seasons—not the same calendar months. In regard to their diet, the Australians are the greatest meat-eaters in the world, and head the list in the amount of tea consumed per individual, except perhaps the Chinese. As a whole they are not a beer-drinking people, but prefer whisky, which he credits to the ease of transport. Beauty fades earlier and as they live at a higher pressure, the length of life will probably be affected. As regards diseases in Australia and Great Britain, if any practitioner were asked if there were any national disease peculiar to Australia he would at once answer hydatids, while rickets is almost unknown. Diphtheria, typhoid, etc., are as common as in Europe. Typhus fever, cholera and relapsing fevers have apparently never been imported. Pulmonary tuberculosis appears to be about one-half as frequent as in Europe. Scarlet fever is milder. Smallpox has never gained much footing, but he thinks it would be disastrous if it occurred, owing to the unvaccinated condition of many of the inhabitants. The Australian colonies have so far escaped hydrophobia. Rheumatic fever, according to his experience, is very rare, while rheumatoid arthritis is fairly common and there is a peculiar form of joint-trouble allied to chronic rheumatism which resembles arthritis, but is not permanent. Diabetes is about as common as in Europe; gout is rare. The cirrhotic variety of Bright's disease is about as frequent as in Europe. The Australians also have their share of summer complaints and a large amount of appendicitis. Bronchitis is not a common disease, but pleurisy and pneumonia are perhaps as common as in the colder North. In his opinion, heart disease is less frequent than in Europe, but this is probably to be explained by the fewer cases of acute rheumatism. There is nothing special in regard to nervous diseases, excepting the invasion of the brain by hydatids. Syphilis appears to run about the same course as elsewhere. It has struck him that cases of ectopic pregnancy occur more frequently than in England and to go without seeing one in his practice for six months is a rarity. Gynecologic complaints are, he thinks, dependent largely on the customs of the country and they are more inclined to favor the American and continental schools than the British. Eye, ear and nose diseases furnish magnificent fields for the specialist.

Archives Generales de Med. (Paris), July.

Hemorrhages in the Suprarenal Capsules. F. Arnaud.—The hemorrhage did not produce any appreciable symptoms in more than half of the eighty cases analyzed in this review. In 6.3 per cent. the capsular hemorrhage became manifest as a large hematoma or abdominal tumor, and even in these cases the exact diagnosis was made only once during life. The syndrome of the peritoneal type existed in 7.59 per cent. There was laceration of the capsule in all, and a hemorrhagic exudation into the peritoneum in four, with perforation in one. Symptoms of capsular insufficiency were evident in 10 and of suprarenal apoplexy in 19 per cent. The latter was characterized by sudden death in a few hours to three days, sometimes accompanied by nervous symptoms, such as delirium, convulsions, coma, hypothermia, etc.

Hemorrhage in the Cerebellum or Peduncles. R. Touche.—Thirteen cases are described in full, and in nearly all the autopsy findings are given. In one, a healthy woman of 66, the classic cerebellar syndrome appeared, vertigo, etc., falling always from the left side. No lesion was found in the cerebellum, merely a hemorrhagic focus with destruction of tissue, in the left middle peduncle of the cerebellum. Another case confirmed the possibility of sudden blindness from hemorrhage in the aqueduct of Sylvius. In another patient the head and eyes deviated to the right; she was eight days unconscious and had a tendency to roll out of the right side of the bed. The autopsy disclosed softening of the inferior surface of the left lobe of the cerebellum.

Malarial Infection from Plants. Vincente.—A boy of 9, at boarding school, and his brother, two years younger, at home in Paris, succumbed simultaneously to severe malarial infection, both isolated cases. Vincente, after much research, traced the infection to three large oleander trees which had been brought into the living-rooms of the residence at vacation time. The mother had contracted severe malarial infection several years before the birth of the children, and he attributes the present outbreak to the survival of the malarial germs on or in the plant tubs. The soil, warmth and constant moisture in these very large tubs combined to form a favorable culture-medium for germs. The plants in this instance were covered with innumerable plant-lice, which swarmed all over the room, on the furniture, clothes and skin of the inmates, and were even found in the drinking water. He is inclined to incriminate these insects and is now making a special study of them to determine the question.

Archives Orientales de Med. et de Chir. (Paris), July.

Cure of Malignant Ulcerations With Cynoglossum. Tsaconas.—About twenty months ago Tsaconas found in a monastery on Mount Athos a MS., dating from 1600, while referred to numerous cures of benign and malignant ulcerations obtained with the pulverized root of the cynoglossum applied externally. He at once sought opportunities to test this remedy, and now announces that with it he has cured five cases of epithelioma of the face in patients from 50 to 84 years of age. The photographs "before and after" show the complete disappearance of the neoplasms, with merely a small defect in some and complete restitution in others. The ulcerating surface is first cleansed with a solution of boric acid and then dusted thick with the powder twice in twenty-four hours, and covered with a cotton bandage. The cure was complete in five months in most cases, the extremes being four and eight months. Tsaconas uses the dried roots, blossoms and leaves of the cynoglossum. He also reports a number of simple ulcerations and even of moist gangrene after traumatism cured with the powder. Poulopoulos has successfully used it internally in doses of 1 to 2 gm. a day in seven cases of ulcus rondus and in several cases of cancer of the stomach, with material improvement.

Bulletin de l'Academie de Medecine (Paris), August 7.

Connection Between Genital Functions and Arsenic in Thyroid Gland. A. Gautier.—It has been demonstrated that iodin and arsenic are normally constant constituents of the thyroid gland, in which they are stored in the form of specific proteids. They have also been found in the organs of ectodermic origin, the brain, skin and its appendages, hair, nails, etc. Normal blood contains infinitesimal amounts, but the menstrual blood, except in the case of anemic subjects, contains such large amounts that almost the entire supply must be thus voided each month. This confirms the theories in regard to the close connection between the thyroid and the genital functions. In the female the surplus of the phosphorized nucleins of the thyroid gland and possibly of other glands, is periodically diverted to the genital organs, where it serves to nourish the fetus or is expelled in the menstrual discharge. In the male this elimination occurs through the skin and its appendages, in the shedding of the hair, beard, fur, horns, "nuptial plumes," etc. Women taking organic arsenic in the form of cacodylate find that the hair grows and the menses become regular, while on the other hand, nuns who keep their hair cropped close, note that the menses become irregular if the hair is cut during the molimen. The success of Brown Séquard's extract of the testes is due to the easily assimilated phosphorized principles which it contains, supplemented by the addition of the iodin and arsenic in the thyroid gland. If this gland has deteriorated, as in consumptive, myxedematous, goiterous and thyroidectomized persons, vitality languishes, the genital functions are affected, and the skin and brain degenerate. It seems to be evident that the organic phosphorus of the nucleins is indispensable to the functional activity of the cell-nuclei, but that it is the arsenic and iodin which impart to these nucleins and to other specific principles a superior activity which enables them to react on the entire organism, more especially on the skin, brain and organs of reproduction.

Regeneration of Bone Marrow in the Dog. V. Cornil.—Both marrow and bone grew again in the normal place after the tibia had been partially scraped out, thus reconstituting the bone, in three months after a preliminary phase of ossification in the marrow cavity. Bone-marrow isolated by removing the bone around it after amputation, first becomes ossified and then transformed into fibrous tissue. Transplanted marrow undergoes fibrous transformation without a previous stage of ossification. This research confirms the temporary character of accidental ossification.

Sarcomatosis Cured With Sodium Cacodylate. Petrini.—A patient, 40 years of age, was treated with sodium cacodylate as a last resort for diffuse sarcomatosis commencing on the pharynx. Seventy injections were made in all. 13 cg. being the daily maximum dose. One of the tumors was excised, which proved to be an embryonal, vasoformative-celled sarcoma, non-pigmented and non-melanic. All the lesions retrogressed to complete disappearance with a supplementary course of arsenical mineral water. In a second case, improvement was evident with similar treatment, but the general process was too far advanced to prevent the fatal termination.

Pathogenic Blastomycetes in Carcinoma. Leopold.—Several hundred cases of carcinoma have been studied by Leopold with a special microscope, which keeps the section warm and moist. He found blastomycetes frequent, and was able to trace their development and obtain a pure culture in four cases. He also secured positive results in animals inoculated with them, particularly marked in one instance in which a rat was inoculated with a pure culture from a cancer on a female patient, and reiterates his assertion that the blastomycetes are factors in the etiology of carcinoma.

Presse Medicale (Paris), August 8.

Experimental Research on Thyroid Infection. H. Roger and M. Garnier.—The Koch and Eberth bacilli and staphylococci were the micro-organisms studied. The experiments showed that intense infection—even if brief—induces cellular alterations, while protracted infection determines interstitial lesions. The entire gamut of visceral inflammations can be reproduced by injection of microbes into the thyroid arteries. Varying the dose or the virulence of the cultures it is possible to induce interstitial thyroiditis: hemorrhagic, with a lively leucocyte reaction and sclerosis, or parenchymatous, with acute necrosis and degeneration of the cells, and epithelial proliferation leading to neoplasia.

Diagnosis of Coronary Angina Pectoris. P. Merklen.—Angina pectoris of coronary origin is distinguished by retrosternal pains radiating into the cervicobrachial nerves, and distress. They appear as sudden attacks isolated, usually consecutive to unusual effort, sometimes to exposure to cold or violent emotion. There is no pain nor hyperesthesia during the intervals and its non-spontaneous character is an important aid in differentiation. It is a neuralgia and not a cardiac neuritis. The attack ceases under the influence of repose, the patient usually holding his breath to ensure absolute immobility.

Revue de Chirurgie (Paris), August 10.

Sebaceous Adenoma of the Face. G. Curtis.—The writer classes sebaceous adenomata as simple and complicated, both benign. In the first the stroma is not altered, but in the second there is varying degeneration of the stroma and of the vessel-sheaths. In a case of the latter variety described and illustrated the tumor was of the size of two fists, with a broad base of fibrous tissue on which it was freely movable. The ulcerating, bleeding, fetid surface and the emaciation of the patient, a man over 56, suggested malignancy, but the adenoma had no deep prolongations and removal was simple.

Extraction of Nail from Bronchus With Magnet. Garel.—A child with an iron nail 53 mm. long in the right bronchus was relieved by tracheotomy. A magnet was inserted in the opening, which attracted and removed the nail.

Osteoplastic Amputations. Z. Samfírescu.—When a long bone has to be amputated in the shaft it is possible to make a diaphysial bone-stump which fulfills all the conditions of the trunk and can be placed immediately in the prothesis without the slightest remote inconvenience. The bone-stump thus obtained is solid and not sensitive to changes in temperature. The shaft is sawed across in three places, about as far apart as the bone is wide. the highest amputation on a level with the highest point of the incision in the soft parts. The small cylinder of bone beneath it is then removed, and the cylinder below this is sawed lengthwise in half, and one-half also removed. This leaves only the remaining half of the lower segment still hanging by the periosteum flap. It is brought up across the stump of the long shaft and held in place with a stitch in the bone on each side.

Revue Generale de Ophthalm. (Paris), July 31.

Periscopic Glasses. F. Ostwalt.—By taking photographs through the lenses, in similar conditions to those of the lens in relation to the eye, Ostwalt has discovered that judiciously selected menisci or planoconcave glasses are far preferable to the ordinary bispherical lenses for divergent glasses for distant vision. Instead of the biconcave, therefore, corresponding periscopic glasses should be prescribed, either meniscoid or planoconcave or asymmetrical biconcave. He gives a curve to guide the oculist in ordering divergent periscopic glasses and the manufacturer in making them. For convergent glasses the meniscus bulges too much to be practicable, particularly for patients after operation for cataract. But even in this case the symmetrical bispherical shape is not so favorable as the asymmetrical biconvex, which, with direct vision, gives the minimum of sphericity error, the front side having a radius of curvature six times larger than the other.

Berliner Klinische Wochenschrift, August 6.

Alterations of the Ganglion-Cells in Mental Diseases. E. Meyer.—The changes in the ganglion-cells in several groups of psychoses, with and without a clinically appreciable cause for the mental disturbances, were carefully studied. The same negative results were obtained in each, confirming the general experience that the ganglion-cell reacts in the same specific manner to irritations of all kinds, the alterations noted differing merely in the intensity and extent of the process, as can be determined with the present methods of research.

Idiopathic Transient Disturbance of Consciousness. Placzek.—The symptoms presented by persons resuscitated after being hanged, showing disturbances in the circulation of the cortex, were recalled by two cases recently observed by Placzek. In one—a healthy woman of 40 suddenly exclaimed: "I don't know what I am doing," acted strangely, forgot all the occurrences of the last twenty-four hours, with other symptoms of cortical disturbance, coinciding with the appearance of the menses. This condition gradually subsided, until, in the course of twenty-four hours, intense migraine appeared with subjective deafness, photophobia, etc. As the migraine passed off all the other symptoms vanished and they have never been noted since. Another similar case of abrupt change of character in a man subject to severe trigeminal neuralgia confirms the possibility of idiopathic, transient, isolated subdelirium in mentally sound individuals entirely free from any traces of hysteria, epilepsy or alcoholism.

Deutsche Medicinische Wochenschrift (Leipsic), August 9 and 16.

Blood-Pressure and Right-Handedness. A. Hecht and L. Langstein.—Examination of sixty-three young men, mostly soldiers, showed that in 95 per cent. the arterial tension was from 5 to 20 mm. higher on the right side, if the subjects were right-handed, and on the left side if left-handed. In one instance a soldier, naturally left-handed, had learned to use his right hand, but the blood-pressure—higher by 10 mm. on the left side—betrayed his natural propensity. Examination of the blood-pressure may thus afford valuable information in certain criminal cases.

August 16.

Chronic Non-Membranous Diphtheritic Affection. E. Neisser.—Five cases of a chronic affection of the upper air-passages are described, the patients being robust young maid-servants or waitresses. The symptoms vanish during the summer, but as cold weather approaches the voice becomes hoarse, the throat dry, the mucous membrane of the nasopharynx atrophied and covered with tenacious mucous and grayish-yellow crusts. In only two cases was there a previous history of diphtheria, but in all the diphtheria bacillus was found constantly, and in almost pure cultures. The syndrome suggests rhinitis fibrinosa, but differs in the site, the absence of any pseudo-membrane and the chronic character. There was nothing to indicate ozena, the accessory cavities were intact. Antidiphtheria serum did not seem to have any influence on the affection. In the patients with antecedent diphtheria the serum possessed marked antitoxic properties, equivalent to 2000 immunization units in one case.

Peculiar Symptom-Picture With a Carcinoma of the Stomach. R. Schuetz.—In the case described, the carcinoma at the pylorus has caused such extensive degeneration of the stomach walls that the organ was reduced to a perpendicular tube about 13 cm. long, its rigid walls practically merely a continuation of the esophagus. The atony of the latter produced slight dilatation above the cardia and temporary stagnation of the contents, but the sound traversed it without difficulty to the pylorus.

Muenchener Medicinische Wochenschrift, August 14.

Coating on the Tongue in Health and Disease. J. Mueller.—Investigation of the coating on the tongue in health and disease shows that the organ is most frequently and noticeably coated in acute diseases, whether the digestive apparatus is primarily disordered or not. It is found much less frequently in chronic digestive affections; the proportion in chronic gastritis is even less than that noted in healthy persons. The leucocytes are always exceptionally numerous in the scrapings in case of carcinoma of the stomach and also of pulmonary tuberculosis. In all other conditions the coating differs only quantitatively in health and disease. Mueller attributes the increased coating in acute disease to the fact that the tongue is not mechanically cleansed of its thrown-off epithelium, as the patients eat and talk less than normally. Another reason is the desquamative catarrh which accompanies certain diseases. The coating is naturally thicker in persons in whom the filiform papillæ are most developed, and is absent on naturally smooth tongues, such as are frequently observed in elderly individuals.

Indications for Surgical Intervention With Ectopic Pregnancy. L. Prochownick.—The early mild or threatening symptoms are no guarantee of the future course of an extrauterine pregnancy. This depends on the location of the ovum, condition of the organ and secondary infection. An extensive experience has impressed Prochownick more and more with the conviction that the best and truest conservatism in these cases lies in early laparotomy. In case of gonorrheal antecedents intervention should be urged, and with even slight indications of temperature in rectum or vagina, all responsibility should be declined unless an operation is allowed. Only with early laparotomy is it possible to count upon restitution of the original conditions.

Suture of Common Carotid. F. Seggel.—An attempt at suicide by a man of 62 resulted in a slanting wound in the common carotid artery, 3 to 4 mm. in length, closed with a clot when received at the clinic an hour later. The artery was compressed with three forceps and three silk stitches taken in the walls, avoiding the intima, strengthened with three others as blood oozed when circulation was restored. The less extensive wound in the vein was also sutured and patient dismissed cured in a month.

Composing on the Typewriter. Seeligmueller.—From the long association of the left half of the brain with the act of writing, some persons find it difficult to write articles requiring much thought on the typewriter. The ideas are accustomed to flow from the left brain out to the pen in the right hand, and efforts to use the left hand on the machine interfere with composition. Seeligmueller counteracts this tendency by first writing out a rough outline of his article with the pen and then elaborating this on the typewriter. In order to concentrate all his attention on his composition, he never punctuates nor uses capitals, but adds these as he revises. It detracts very little from the appearance of the "copy," but adds immensely to the facility of mental composition on the machine.

Therapeutisches Monatsheft (Berlin), August.

Medicinal Treatment of Neurasthenia. Otto Dornbluth.—The writer regards the use of codein in neurasthenia as the greatest progress which the therapy of this affection has yet to record. It has a specific stimulating effect in overcoming morbid drowsiness when patients are compelled to keep continually at work. He has given it in small doses to overworked physicians, teachers, public officials, etc., and all have expressed the utmost gratitude for the relief and stimulating effect, which is not transient like that of the bromids, but lasts and even cures the majority of cases. He commences with .01 gm. three times a day and after four or five days increases to five or six times this amount, continuing with .02 gm. five times a day for four to six weeks, but suspending as improvement is evident. This specific stimulating influence is not due to the sedative effect; morphin and similar anodynes have none of it. He has found it equally effective in cases of psychic depression and melancholia. He considers remedies to improve the condition of the blood an important aid in the treatment of neurasthenia.

Therapie der Gegenwart (Berlin), August.

Influence of Anodynes on Gastric Secretions. F. Riegel.—The various anodynes and analgesics have been employed in gastric affections without much regard to their specific influence on the secretion of gastric juice. Riegel's tests have demonstrated that it is desirable in selecting a drug for the purpose to bear in mind that the belladonna preparations, and especially atropin, check the secretion of gastric juice almost completely, while morphin has exactly the opposite effect. Morphin, therefore, should be given in cases in which no injury is anticipated from considerable increase in the secretion of the gastric juice. On the other hand, when the secretion is already excessive, as is usual with ulcus, morphin is contraindicated, and one of the belladonna preparations will be found useful to diminish the over-secretion in addition to its analgesic effect.

Treatment of Ozena. F. Klemperer.—The base of all treatment of ozena is to keep the nasal passages absolutely clean. This deprives the affection of its chief evil features and is the only means of cure. Tepid salt solution is a good cleansing fluid. It is best applied with a nose pump, combined with preceding tamponing for an hour or so, and all night for each nostril in turn. The nose should be rinsed three times a day.

Cataplasms in Gonorrheal Joint Affection. A. Freudenberg.—The benefits attained in gonorrheal arthritis and tendovaginitis with hot cataplasms frequently renewed day and night, are extolled by Freudenberg, after eight years of experience, as truly remarkable. They obviate all danger of the ankylosis which is so common and early in these cases. He applies them to encircle the entire joint and extend several inches above and below. He has never seen any benefit from cold applications and has witnessed direct harm result from immobilization. He even treats gonorrheal prostatitis in the same way, with hot cataplasms to the perineum. In case of gonorrheal epididymitis, he commences with the ice-bag, changing to suspension and compresses of lead water, then to the Priesnitz, and then to the hot cataplasms. He has observed that too prolonged use of cold applications is apt to leave extensive indurations in the epididymis.

Gazzetta degli Ospedale (Milan), August 5 and 12.

Antidiphtheria Serum in Pertussis. R. Indica.—In seven cases of severe whooping-cough an injection of 10 c.c. of antidiphtheria serum had a marked effect in ameliorating and abbreviating the disease. The effect is similar to that obtained in diphtheria; the resisting powers of the organism are evidently increased.

August 12.

Surgery of the Cerebral Ventricles. A. Montini.—A child 3 years of age presented a typical case of chronic hydrocephalus and progressive idiocy with frequent convulsions, the parents and other children being robust. Montini trephined and drained the ventricle, removing 350 gm. of cerebrospinal fluid. The child had a violent convulsion and sank into coma, but after artificial respiration and other measures had been employed the benefits of the intervention were soon apparent in the complete cessation of the convulsions and convergent strabismus and control of the simple and co-ordinated movements.

Disarticulation of the Hip. E. Dominici.—The method proposed by Dominici, which he has found a great improvement over other methods of disarticulating the hip-joint, is to make a longitudinal incision above the great trochanter down to the bone, after exsanguinating the leg as much as possible. The head of the femur is then slipped from the acetabulum, passed out through the incision by twisting the limb and held in that position by an assistant. The soft parts are thus left without any bone and a strong elastic ligature is passed around them under the protruding bone. The limb is then amputated as required and the vessels ligated separately. The shoulder is treated in a similar way.

Vratch (St. Petersburg), July 8.

Plant Extracts React to Florence Sperm Test. D. L. Davidoff.—The substance in human semen which produces the characteristic reaction in the Florence test exists also in numerous plants, as similar crystals are produced by the action of the Florence reagent on aqueous extracts and also on the pollen and anthers of certain plants. The list Davidoff has tested is a long one and includes the chrysanthemum, hyacinth and varieties of tulips, with numerous dried medicinal herbs and the male flower of the maple. A drop of any of their extracts or infusions will simulate a drop of human spermatic fluid in its reaction to the Florence test, and he warns medical experts of the possibility of error from this cause in their deductions. Mistakes are especially liable to occur with home-made infusions of chamomile, elder and secale, which are in such common use, and in his experiments responded typically to the Florence reaction after having been dried on a cloth for two months. He also states that the cholin crystals obtained with silver oxid from the blossoms of the taraxacum, elder, etc., were more abundant and more characteristic than those derived from the yolk of an egg with either ether, alcohol, platinum chlorid or silver oxid.

Renal Lithiasis Cured with Uresin. I. B. Kudinzeff. Uresin or urotropinum dilithiocitricum has been unfailingly successful in the treatment of kidney gravel in Kudinzeff's experience. It not only abolishes the gravel and with it the irritation of the urinary passages, but also reduces the amount of uric acid in the urine and alters the elements that have been the factors in the production of the calculi. Relief is promptly evident after its administration and he has never had any cause for regretting its use in any way, but is becoming more and more impressed with its value the wider his experience. It is a combination of urotropin, lithium and citric acid.

Change of Address.

B. A Becker, 2612 W. Main St., Louisville, Ky., to Silver Lake, Wis.
Carl Booth, Carlow, to Barnes Medical College, St. Louis, Mo.
C. J. Beise, Tracy to Fergus Falls, Minn.
S. Brownstein, 16 Johnson, to 374 S. Halsted St., Chicago.
W. A. Bieriuger, 104 Warren to 1903 Milwaukee Ave., Chicago.
L. M. Berg, 2032 Michigan to 2516 Indiana Ave., Chicago.
S. E. Cook, 1215 Ohio St., to Richards Blk., Lincoln, Neb.
H. P. Chesmore, Nodaway, to 823 Charles St., St. Joseph, Mo.
J. W. Crismond, 1333 Central Ave., to 1217 Meridian St., Anderson, Ind.
M. Crichton, 922 14th St., to 1141 Connecticut Ave., Washington, D. C.
R. R. Campbell, 204 Dearborn St., Chicago, to Phoenix, Ariz.
D. W. Detwiler, 2400 Dearborn St., Chicago, to Moravia, Iowa.
C. L. Dutton, Goldfield, to Boulder, Col.
Ralph Elmergreen, 327 3rd St., to 786 Twelfth St., Milwaukee, Wis.
A. E. Ford, Box, 949 Denver, Col., to Box 1250 Seattle, Wash.
J. L. Fleming, Dyersburg, to Jack's Creek, Tenn.
L. F. Foote, Elgin, Ill., to 125 W Lake St., Minneapolis, Minn.
G. R. Fox, P. O. Box 219, Plaquemine, to Moreauville, La.
A. U. Fuson, Stockton, to 3153 24th St., San Francisco, Cal.
J. S. Gashwiler, 1514 Michigan St., Kansas City, to Noviuger, Mo.
H. F. Goodwin, 511 Ashland Boul., to 682 E. 44th St., Chicago.
R. F. Godard, Hazlehurst, Ga., to Citra, Fla.
T. A. Groover, Pidcock, Ga., to 1331 L St. N. W., Washington, D. C.
J. V. Hunter, Nimrod, to Waxhaw, N. C.
A. Hood, Lawndesboro, to Daleville, Ala.
J. P. Lakey, Daugherty, to McCullough, Tex.
R. B. Main, 2009 Massachusetts Ave., Washington, D. C., to Linden, Va.
I. T. McCarty, Kingston Center, to Constan, Ohio.
George M. Marshall, 26 S 3rd St., to 1273 N. High St., Columbus, Ohio.
W. T. Moffett, 346 State St., Jacksonville, to Blue Mound, Ill.
C. F. Osborne, Hanlontown, to Aredale, Iowa.
Vance Offut, Bedford, to Campbellsburg, Ind.
E. W. Peet, 20 W. 43rd St., to 348 Central Park W., New York City.
Emma S. Powell, La Crew, to Baker Blk., Ottumwa, Iowa.
J. P. Prestley, 1266 Congress, to 1273 Van Buren St., Chicago.
H. M. Pomeroy, 650, to 950 W. Washington St., Los Angeles, Cal.
E. S. Riggs, Hamill's Point, Muskoka, Can., to 38 Prospect Ave., Washington, Pa.
Walter E. M. Ranchous, 20 S. 3rd, to 1273 N. High St., Columbus, Ohio.
J. B. Shober, 112 S. 17th to 1731 Pine St., Philadelphia, Pa.
R. M. Straw, Milton Center, to Cygnet, Ohio.
W. H. Seton, Emmitsburg, Md., to 168 W. 96th St., New York City.
J. D. Tuten, Jr., Cooper, La., to Jasper, Fla.
C. S. Venable, Charlottesville, Va., to Pall Mall Am. and Col. Exchange, Carlton and Regent Sts., London, S. W., England.
F. V. Watson, 4658 State St., Chicago, to Antigo, Wis.
H. M. Williams, Oklahoma City, to Cushing, O. T.

Queries and Minor Notes.

THE HIPPOCRATIC OATH.

Baltimore, Md., Aug. 5, 1900.

To the Editor:—Will you inform me if you can supply me with a copy of the "Hippocratic Oath?" If so, please give price and description of same; if you have not a copy, kindly inform me of some place where I can get it. Yours truly, C. K. Y.

Ans.—The "Hippocratic Oath" has been published many times; it is given in full in Dunglison's Practitioner's Ready Reference Book, and in several encyclopedias. It is too long to reproduce here.

MEDICAL LAWS.

Oneida, Tenn., Aug. 19, 1900.

To the Editor:—Will you kindly give me the laws regulating the practice of medicine in Indiana, regarding state boards and graduates from a three-year school? Very respectfully, J. A. S.

Ans.—Applicants for license to practice medicine in Indiana must be *bona fide* residents of the county and state, must procure the necessary application blank from the county clerk, which, properly filled, with the diploma and a fee of $10, must be sent to the State Board of Medical Registration, Room 120, State House, Indianapolis. If satisfactory, the Board will issue its certificate, which, on presentation to the county clerk, will entitle the applicant to a license. If not satisfactory an examination must be passed, the fee for which is $25. The Board has recently passed a resolution "that no applicant from any other state for a certificate shall be granted one on conditions more lenient than those required of applicants from Indiana by the examining board of the state from which he comes." An applicant from Tennessee would, therefore, probably have to pass an examination. For further particulars, address Dr. W. F. Curryer, Secretary of the State Board of Registration, Indianapolis, Ind.

New York, Aug. 28, 1900.

To the Editor:—Kindly inform me of the laws in regard to the practice of medicine in the states of Wisconsin and Michigan. Yours truly, M. A.

Ans.—The essential points in the medical practice law of Wisconsin were given in The Journal of April 7, p. 893, and those of Michigan in the number of July 28, p. 265. The inquirer is referred to these issues.

RED CROSS MEDICAL ASSOCIATION.

Peoria, Ill., Aug. 25, 1900.

To the Editor:—Will you please inform me as to what you know concerning the Red Cross Medical Association? What success have they had in the East? You will do me a great favor if you answer at once. Yours, E. H.

Ans.—As we understand our correspondent's question, he refers to an organization designed to supply medical attendance to subscribers. From looking it up it appears to us to be simply lodge practice, and The Journal has repeatedly expressed its editorial opinion against this. So far as we know, the organization has not extended very far in any part of the country, and we should hope it will not become popular, as it seems to us merely a scheme for making money out of the medical profession. Our knowledge is confined to newspaper articles and one or two of its circulars.

LITERATURE ON DIETETICS AND HYDROTHERAPY.

Bodie, Cal., Aug. 11, 1900.

To the Editor:—Will you kindly inform me of a good work or magazine on dietetic literature and hydrotherapy? Sincerely, J. E. C.

Ans.—We do not at present recall any prominent work or magazine specially devoted to these two subjects alone. There are several journals devoted more or less to dietetics, some of them advocates of fads. There are none that we could specially recommend in all respects.

KNAPP'S ARCHIVES OF OTOLOGY.

New Washington, Ohio, Aug. 27, 1900.

To the Editor:—Please inform me where *Knapp's Archives of Otology* is published, and price of same. Very truly, A. E. L.

Ans.—*Knapp's Archives of Otology* is published by G. P. Putnam's Sons, 27 and 29 W. 23rd St., New York, price, $4 per year.

HOSPITAL CONSTRUCTION.

Shreveport, La., Aug. 20, 1900.

To the Editor:—Please recommend to me some of the standard works on "The buildings, constructions, arrangements and maintenance of hospitals," and oblige, J. A. S.

Ans.—We do not know of any recent general work on the subject published in this country. Burdett's Hospital Annual, which goes under this name, though the title varies, is perhaps the best general manual. Burdett's Hospitals and Asylums of the World, 4 vols., London, J. and A. Churchill, 1891, is a large and expensive work. The volume of essays, published by the Johns Hopkins Hospital some twenty years ago may also be referred to. We refer the inquirer also to an article by Dr. McDill, in The Journal of January 21, 1899.

CLEANLINESS OF BARBERS' INSTRUMENTS.

Ishpeming, Mich., Aug. 29, 1900.

To the Editor:—I think I have seen in The Journal lately, but I can not say where, some articles on the subject of cleanliness of instruments, etc., of barbers. If you can tell me where I can find anything on the subject I would be much obliged. Very truly yours. T. A. F.

Ans.—We have not published any articles recently on the subject you mention, but we have editorially noticed the subject during the past year or two. You will find articles, notably one by A. W. Sulter, of Herkimer, N. Y., in the Proceedings of the American Public Health Association. His article was read in 1897 and has probably excited as much interest as any, though it is a short one. There have been laws regarding the barber trade passed in several states, Minnesota, Nebraska and Missouri, for example, and possibly others. Dr. Suiter's article was abstracted in the Proceedings of the Public Health Association in volume xxix, p. 1070, of The Journal, Nov. 20, 1897.

GLANDULAR TREATMENT OF HAY FEVER.

La Harpe, Ill., Aug. 29, 1900.

To the Editor:—Will you please tell me where I can get any literature on the treatment of hay-fever by the thyroid or suprarenal extracts? Have you any reprints of Dr. Beaman Douglas on this subject? Yours truly, J. C. A.

Ans.—The literature on suprarenal extract is comparatively recent. The inquirer is referred to a paper of Dr. Bates in The Journal of August 11, and to that of Dr. Murphy in the *Lancet-Clinic* of April 7 (abstracted in The Journal of April 21, p. 993); of Dr. Aldrich, *Medical Standard* September, 1899 (abstracted in The Journal of Sept. 23, p. 786): of Dr. Bulette, *Denver Medical Times*, November, 1899 (abstracted in The Journal of Nov. 25, p. 1349), etc. Dr. Beaman Douglas' paper, also abstracted in The Journal of Sept. 9, 1899, p. 660, was published in the *New York Medical Journal* of Sept. 2, 1899. It may be that a reprint can be obtained by application directly to the author. See also our advertising pages.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 8 to 21, 1900, inclusive:

George F. Adair, acting asst.-surgeon, now at Fort Sheridan, Ill., to report to the commanding officer of that post for duty with the 5th Infantry, under orders for foreign service.

W. Edson Apple, acting asst.-surgeon, leave of absence granted, on the expiration of which he will report at San Francisco, Cal., for duty with troops for foreign service.

Orlando Ducher, major and surgeon, Vols., former orders amended so as to direct him on expiry of his present leave of absence to report by letter to the Surgeon-General.

Harry C. Gemmill, acting asst.-surgeon, from Fort Thomas, Ky., to accompany the 2d Infantry, under orders for foreign service.

J. Randolph Harmer, acting asst.-surgeon, from Washington, D. C., to Fort Fremont, S. C., for post duty.

Philip F. Harvey, major and surgeon, U. S. Army, from the Presidio of San Francisco, Cal., to Nagasaki, Japan, to establish a base hospital at that place.

John Van R. Hoff, major and surgeon, U. S. Army, to proceed without delay to Taku, China, and report in person to Major-General Adna R. Chaffee, U. S. Vols., for duty as chief surgeon on his staff.

Alvis B. Kennedy, acting asst.-surgeon, former orders directing him to proceed to San Francisco, Cal., to accompany troops on foreign service revoked.

Thomas J. Kirkpatrick, Jr., lieutenant and asst.-surgeon, U. S. Army, member of a board at Washington Barracks, D. C., to examine candidates for appointment as second-lieutenants in the Army.

Edward E. Lambkiu, acting asst.-surgeon, previous orders amended so as to direct him to proceed from Baltimore, Md., instead of from St. Louis, Mo., to the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. Army, member of a board at Washington Barracks, D. C., to examine candidates for appointment as second-lieutenants in the Army.

Arthur B. Smith, acting asst.-surgeon, from San Francisco, Cal., to the U. S. General Hospital, Fort Bayard, N. M., for temporary duty.

Bat Smith, acting asst.-surgeon, now at Fort Sheridan, Ill., to proceed to Wharton, Tex., for annulment of contract.

Benjamin B. Warriner, acting asst.-surgeon, from Fort Fremont, S. C., to San Francisco, Cal., for duty with troops going on foreign service.

James A. Alexander, acting asst.-surgeon, leave of absence granted.

Irvin E. Bennett, acting asst.-surgeon, from duty in the Department of Porto Rico to San Francisco, Cal., for duty with troops en route for China.

George M. Bradfield, acting asst.-surgeon, from Fort Ontario, N. Y., to Philadelphia, Pa., for annulment of contract.

Ira C. Brown, major and surgeon, Vols., leave of absence extended.

Edward T. Comegys, major and surgeon, U. S. Army, from San Francisco, Cal., to Nagasaki, Japan, as medical supply officer at that place.

Alfred C. Godfrey, acting asst.-surgeon, from Fort Washakie, Wyo., to San Francisco, Cal., for duty with troops destined for foreign service.

Guy C. M. Godfrey, captain and asst.-surgeon, U. S. Army, previous orders directing him to report for duty in the Philippines suspended.

Lewis A. Griffith, lieutenant and asst.-surgeon, 42d Infantry, Vols., having tendered his resignation is discharged from the service of the U. S., to take effect August 20, 1900.

Charles W. Hack, acting asst.-surgeon, from the Department of Dakota to duty at Columbus Barracks, Ohio.

Aubray F. Higgins, acting asst.-surgeon, from the Department of California to duty with troops going on foreign service.

Herbert M. McConathy, acting asst.-surgeon, from duty in the Department of Porto Rico to Washington Barracks, D. C., for duty with Battery M, 7th Artillery, en route to San Francisco, Cal., for foreign service.

Henry E. Menage, acting asst.-surgeon, previous orders amended so as to require him to proceed from New Orleans, La., to Fort Wingate, N. M., for duty.

Charles B. Nichols, acting asst.-surgeon, from Fort Wingate, N. M., to San Francisco, Cal., for duty with troops going on foreign service.

Auguste A. Nonel, acting asst.-surgeon, from Fort Leavenworth, Kan., to New York City, N. Y., for annulment of contract.

Lieven de Poorter, acting asst.-surgeon, now in New York City, N. Y., on expiry of his leave of absence to proceed to New Orleans, La., for annulment of contract.

Benjamin F. Pope, lieutenant-colonel and deputy surgeon-general, U. S. Army, and Samuel O. L. Potter, major and surgeon, Vols., members of a board convened in San Francisco, Cal., to examine candidates for appointment as second-lieutenants in the Army.

Dwight C. Powell, acting asst.-surgeon, from Logansport, Ind., to Fort Thomas, Ky., for duty with the battalion of the 2d Infantry, under orders for foreign service.

James F. Presnell, acting asst.-surgeon, now at Fort Leavenworth, Kan., for duty with the 1st Infantry, under orders for foreign service.

Merton A. Probert, acting asst.-surgeon, from Constaotia to Columbus Barracks, Ohio, for temporary duty.

Willis J. Raynor, acting asst.-surgeon, from Denver, Colo., to Fort Washakie, Wyo., for post duty.

M. A. Rebert, acting asst.-surgeon, leave of absence granted.

William E. Richards, lieutenant and asst.-surgeon, U. S. Army, from the Department of Porto Rico to post duty at Plattsburg Barracks, N. Y.; a subsequent order sends him instead to Fort Ontario, N. Y.

Henry A. Shaw, captain and asst.-surgeon, U. S. Army, from the General Hospital at San Francisco, Cal., to Nagasaki, Japan, for duty at the general hospital to be established there.

W. I. Tanner, acting asst.-surgeon, leave of absence granted.

Dwight B. Taylor, acting asst.-surgeon, from Columbus Barracks, Ohio, to Fort Thomas, Ky., to accompany troops to San Francisco, Cal., returning thereafter to his proper station.

Albert E. Truby, lieutenant and asst.-surgeon, U. S. Army, former orders amended so as to grant leave of absence, on the expiration of which he will proceed from New York City to Havana, Cuba, for assignment in the Division of Cuba.

The following acting asst.-surgeons to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops destined for foreign service: Howard H. Bailey, Washington, D. C.; Louis Brechemin, Jr., Philadelphia, Pa.; William C. Mabry, Cleveland, Ohio; Clemens W. McMillan St. Louis, Mo.; Robert E. Noble, New York City, N. Y.; Lorin B. Ohlinger, Alleghany, Pa.; Joseph A. O'Neill, New York City, N. Y.; Luke B. Peck, Brookline, Mass.; John A. Rafter, West Winfield, N. Y.; William Roberts, Washington, D. C.; J. Ralph Shook, Greencastle, Pa.; Charles A. Sturtevant, West Somerville, Mass.; Henry J. Watson, Ottumwa, Iowa; George Wilklow, Ellenville, N. Y.; John D. Brooks, Washington, D. C.; William E. Cass, St. Louis, Mo.; L. d'Orville Chabut, Youngstown, Ohio.; George R. Clayton, Nevada, Iowa; William J. Condon, Jamesburg, N. J.; Harry A. Cossitt, Morris Plains, N. J.; U. S. Grant Deaton, Thackery, Ohio; Paul R. Fletcher, St. Louis, Mo.; Jacob F. Hadley, Passaic, N. J.; A. Bruce Henderson, Batavia, Mich.; Gustavus I. Hogue, North Lake, Wis.; William V. Kellogg, Detroit, Mich.; Frederick A. Lewis, Walworth, N. Y.; Howard D. Lewis, Baltimore, Md.; James I. Mabee, Rockwood, Mich.; Robert C. Macy, Mobile, Ala.; R. Boyd Miller, Lamar, Mo.; George S. Mintzner, Philadelphia, Pa.; Edwin W. Patterson, Washington, D. C.; Louis J. Perkins, ,Pendleton, Ore.; Willard D. Preston, Attica, N. Y.; James A. Rabbett, Elkins, W. Va.; George A. Renn, Raleigh, N. C.; James C. Rutledge, Detroit, Mich.; Charles F. Sanborn, Willard, N. Y.; C. Edward Sears, Salem, Va.; Joseph F. Siler, New York City, N. Y.; Calvin D. Snyder, Baltimore, Md.; Lewis H. Wheeler, Westport, Conn.; William A. Wickline, Warm Springs, Mont.

New Patents.

Changes in the Medical Corps of the U. S. Navy for the week ending Aug. 25, 1900.

P. A. Surgeon L. L. Von Wedekind, ordered to temporary duty at the headquarters of the Marine Corps, Washington, D. C., August 22, and then to the *Richmond*

Medical Inspector J. R. Waggener, transferred from the naval hospital, Cavite, P. I., to the naval hospital, Yokohama, Japan, for treatment.

Surgeon G. Pickrell, detached from the naval hospital, Yokohama, Japan, and ordered to the Cavite Naval Station.

Surgeon O. D. Norton, detached from the *Monocacy* and ordered to duty with the marine regiment in China.

Pharmacist S. W. Douglass detached from the *Massasoit* and ordered to the Key West Naval Station immediately.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the United States Marine-Hospital Service for the seven days ending Aug. 23, 1900:

Surgeon George Purviance, to report at Washington, D. C., for special temporary duty; thence to proceed to Baltimore Quarantine Station as inspector.

Surgeon H. R. Carter, granted leave of absence for twenty days from Aug. 24.

Surgeon J. H. White, to proceed to Baltimore Station as inspector.

Surgeon W. P. McIntosh, granted leave of absence for seven days.

Asst.-Surgeon A. R. Thomas, granted leave of absence for one month from Sept. 15.

Asst.-Surgeon L. E. Cofer, granted leave of absence for one month and ten days from Sept. 21.

Acting Asst.-Surgeon B. J. Brown, granted leave of absence for fourteen days from Aug. 12.

Acting Asst.-Surgeon W. W. McKay, granted leave of absence for four days.

Acting Asst.-Surgeon Lee W. Staton, granted leave of absence for ten days from Aug. 12.

Hospital Steward J. V. LaGrange, granted leave of absence for ten days from Sept. 11.

APPOINTMENT.

George A. Morris, of Michigan, appointed junior hospital steward Aug. 15, 1900.

Health Reports.

The following cases of smallpox yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended Aug. 25, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, Aug. 18, 6 cases.

California: Oakland, July 7-14, 2 cases.

Kansas: Wichita, Aug. 11-18, 2 cases.

Louisiana: New Orleans, Aug. 11-18, 5 cases, 7 deaths.

Massachusetts: Lowell, Aug. 11-18, 2 cases.

Minnesota: Minneapolis, Aug. 11-18, 2 cases; Winona, Aug. 7-21, 7 cases.

New York: New York, Aug. 11-18, 1 case.

Ohio: Cincinnati, Aug. 10-17, 5 cases; Cleveland, Aug. 11-18, 12 cases; Dayton, Aug. 11-18, 6 cases; Portsmouth, Aug. 11-18, 1 case.

Utah: Salt Lake City, Aug. 11-18, 1 case.

Washington: Tacoma, Aug. 4-11, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, June 30-July 13, 13 deaths.

Costa Rica: Port Limon, Aug. 8, 1 case.

England: Liverpool, July 31-Aug. 4, 7 cases; London, July 21-Aug. 4, 18 cases.

France: Lyons, July 22-29, 1 case; Paris, July 14-Aug. 4, 5 deaths.

India: Bombay, July 10-24, 11 deaths; Calcutta, July 7-21, 26 deaths.

Malta: June 16-30, 11 cases, 1 death.

Mexico: City of Mexico, Aug. 5-12, 3 cases, 3 deaths; Vera Cruz, Aug. 4-11, 1 death.

Russia: Moscow, July 21-28, 2 cases.

Spain: Madrid, June 30-July 28, 77 deaths.

Straits Settlements: Singapore, June 30-July 7, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, June 30-July 13, 13 deaths.

Cuba: Cienfuegos, Aug. 17, 1 case.

Colombia: Bocas del Toro, July 20-Aug. 3, 4 cases, 2 deaths: Panama, Aug. 6-13, 3 cases, 1 death.

France: Havre, Aug. 9, on Steamship *Caravalles*, from Senegal, Africa, 1 case.

CHOLERA.

India: Bombay, July 10-17, 239 deaths: Calcutta, July 7-21, 105 deaths; Madras, July 14-20, 3 deaths.

Japan: Osaka and Hiogo, July 21-28, 1 case, 1 death; Yokohama, July 7-28, 2 cases, 2 deaths.

PLAGUE.

Australia: Sydney, June 30-July 14, 4 cases.

Brazil: Rio de Janeiro, June 30-July 13, 74 cases, 31 deaths.

India: Bombay, July 10-17, 60 deaths; Calcutta, July 7-21, 107 deaths.

Japan: Formosa, June 21-July 12, 82 cases, 63 deaths.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the AMERICAN MEDICAL ASSOCIATION. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive THE JOURNAL free. Subscribers to THE JOURNAL may become members of the ASSOCIATION without additional expense if they are members of medical societies recognized by the ASSOCIATION. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to THE JOURNAL, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to THE JOURNAL for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this ASSOCIATION and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the ASSOCIATION. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the ASSOCIATION or either of the Sections, unless specially instructed to the contrary by vote of the ASSOCIATION." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by THE JOURNAL when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "JOURNAL AMERICAN MEDICAL ASSOCIATION," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the
American Medical Association

VOL. XXXV CHICAGO, ILLINOIS, SEPTEMBER 15, 1900. NO. 11.

Original Articles.

INFANTILE CEREBRAL PALSY.

CLASSIFICATION OF TWENTY-FIVE CASES, WITH ILLUSTRATIONS.*

A. C. COTTON, A.M., M.D.
CHICAGO.

Under infantile cerebral palsy I would include all conditions of impaired function due to cerebral lesion, even if the only symptom be mental deficiency or epilepsy. It will be seen that an extremely wide range of disorders will thus be brought into one clinical group, which would include the restricted congenital spastic rigidity of Little; the cerebral type of hereditary spastic paraplegias described by Freud, Erb, Sachs and others, as well as the lighter forms in which but slight evidence of any paresis is to be discovered at the time of examination.

The following twenty-five cases—save one—are selected from my clinical records of the past year, as fairly illustrative of the majority of the commoner types of infantile palsy:

CASE 1.—Edith N., aged 10 years. Family history negative. Patient is the eldest of four children, all the others being normal. Labor lasted twelve hours. No instruments were used. Mother's health was not as good as usual during pregnancy.

Up to the age of four months nothing unusual was noticed, excepting that she was very irritable. Eruption of teeth began at four months, when she had a severe convulsion, lasting from ten to fifteen minutes. Since then there have been frequent repetitions, at times two to four daily.

When about a year old she began to use a few words, but these were soon dropped and there has been no further acquirement of speech. She had never stood alone and could not sit nor support her head. Intelligence *nil.* Had to be cared for as an infant.

The head measured 19 inches; the eyes reacted to light and accommodation; the mouth was kept open; the lips were thick; the upper jaw was prominent, and the teeth projecting. The thyroid was enlarged; the chest emaciated; there was flaring of ribs, and scoliosis. Organs and abdomen were negative. The contractures of hands and arms were imperfectly overcome by slow exercise of force; the skin was cold and cyanotic; the legs were contracted at hips and knees, the right being always crossed over the left.

CASE 2.—Clara H., aged 10 years. Family history negative. Labor normal, of twenty-four hours duration. No instruments were used. Birth weight, four pounds. In infancy it was noted that she never used arms or legs. At 1½ years she had a convulsion, which had been repeated at varying periods, often monthly. They had increased in intensity; always occurring at night. Contractures of limbs were noticed at about 2 years. Had never sat, walked, or talked. Seemed to understand the most of what was said to her. Had control of sphincters and could indicate when she needed to evacuate bladder or bowels.

The head measured 19 inches; strabismus; the mouth was kept open; the tongue protruding, and saliva escaping; the thyroid was not palpable; contractures at the elbows, wrists, and fingers, also at the hips and knees and left scoliosis; there was deep depression at the sternum; viscera normal; extremities cold and emaciated, and reflexes exaggerated.

CASE 3.—Valeria D., aged 5 years. Family history negative. Labor lasted thirty-six hours, forceps being used late in the case. Had a continuous spasm for three days; since then there have been many recurrences of convulsions, usually apparently due to some indigestion.

The head measured 19½ inches; the expression idiotic; the mouth open; continuous drooling; a high arched palate; diplegia; marked spasticity in lower extremities, less in upper; thyroid slightly enlarged; when excited there was an odd tremor of the lower jaw; repeats a few easy, short words; unable to walk, sit, or even support head; has always had to be fed and has difficulty in deglutition; idiotic.

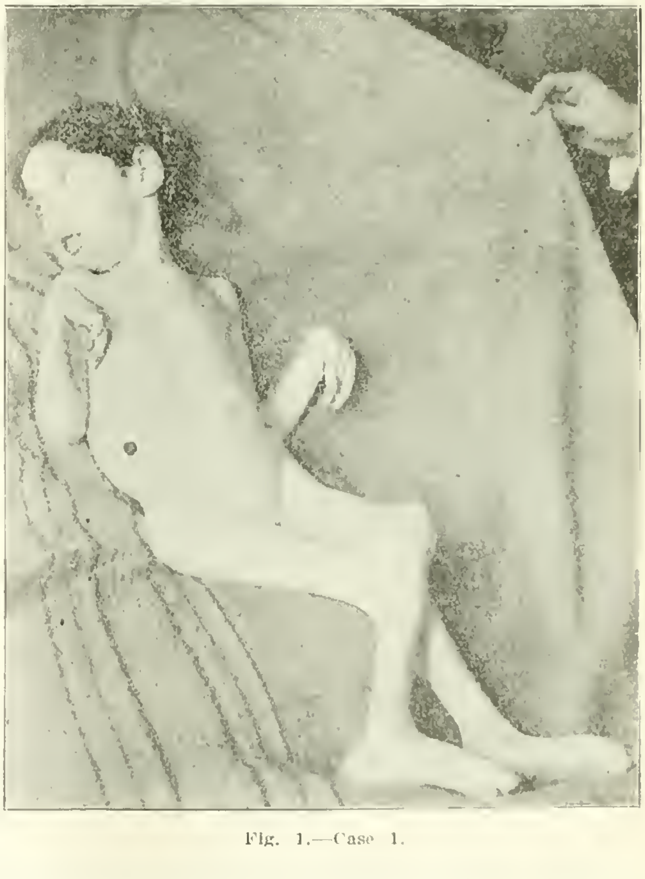


Fig. 1.—Case 1.

CASE 4.—Maud B., aged 3 years. Difficult labor; premature at eight months. Strabismus, athetosis, diplegia, rigidity, contractures,, mental impairment, microcephalic, and without speech. Has never had convulsions.

CASE 5.—Mattie K., aged 10 years. There had been four other children, all of whom are dead. The first pregnancy resulted in twins, who were born after a labor of five days.

---

*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Both died during the first day of life. A still birth followed. This patient was born after the third gestation, and since there has been another child who only lived twelve hours. At birth patient was too weak to nurse, and is said to have weighed two and one-half pounds. The labor was difficult, forceps finally being used. Infant was comatose one hour and a half after birth. It was noticed as early as three weeks that if startled she would hold her breath until deeply cyanosed. This has not occurred since the age of 2 years. She recognized mother at 8 months; eruption of teeth took place at 12 months; talked at 24 months; walked at 40 months. There has been a tendency to reaction of the head since birth. Always easily frightened.

The head measured 19¾ inches. Strabismus. Articulation slow and indistinct, accompanied by contortions of body and limbs; reflexes exaggerated; slight contractures of both upper and lower limbs; the hands, fingers, and, to less degree, the toes, show athetoid movements; besides these there are present choreiform movements of whole body, nearly constant; said to be as bright as any child of her age; fond of music, and is able to assist in housework.

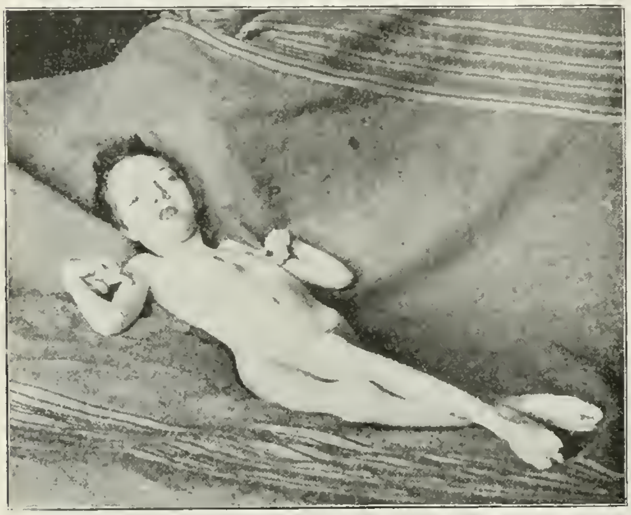


Fig. 2.—Case 2.

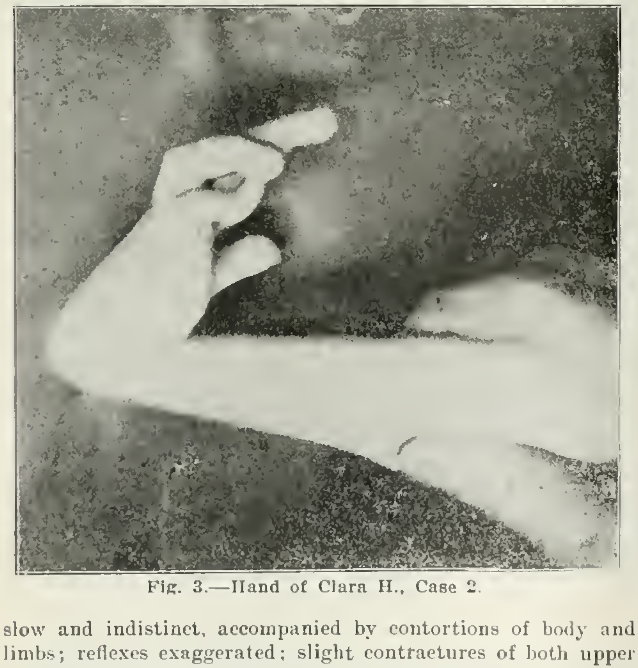


Fig. 3.—Hand of Clara H., Case 2.

Case 6.—Clara H., aged 4 years. There are two other children living and normal. During gestation her mother had pneumonia and did not recover strength the whole term. Parturition was easy. Weight at birth, five pounds, and she seemed very weak; breast fed; dentition normal. Did not walk alone until 3 years of age; also slow about talking. Well developed; voice husky; speech slow; chest and abdomen negative; appetite good, and bowels regular. No incontinence of urine or feces. Gait uncertain and staggering, knees touching, but feet far apart; tendency to fall backward. If running, is unable to stop quickly; inco-ordination of upper limbs; impossible to detect condition of reflexes.

Case 7.—Dora S., aged 3 years. Four other children, all living and well. Development normal until 1 year old, when she fell down stairs, striking on back of head. Six months after this fall she stopped walking, and now can not stand or sit alone; is not able to hold up head unsupported. The head measures 22½ inches; the fontanel open; no protrusion of the eyeballs; the chest and abdomen negative; mental condition nearly normal; reflexes exaggerated; uses a few articulate sounds.

Case 8.—Florence H., aged 11 years. Both parents living and well. The history of pregnancies of the mother is: 1, twelve hours' labor, child living and normal; 2, three days' labor, stillbirth; 3 and 4, miscarriages; 5, six hours' labor. Florence, "blue," and did not become red for twenty-four hours; 6, miscarriage; 7, six hours' labor, child an epileptic.

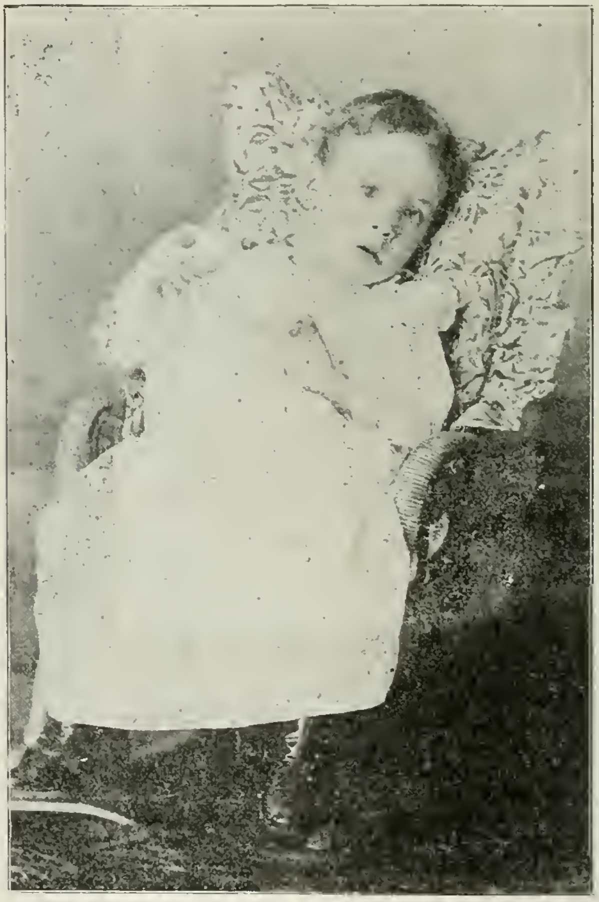


Fig. 4.—Case 4.

At 18 months had convulsions for half a day, and recurrences every three months or oftener, up to the 7th year. At 5 years she had a convulsion which lasted twelve hours; afterward could not use right arm for two months. She did not stand for a week, and then dragged right foot in walking. At 7 years she had a very severe, prolonged attack, which involved both sides—all previous attacks had affected the right side only. Following this there was paralysis for three months, and she did not speak for four months. Has not had a spasm since the one at 7 years of age. The head measured 20½ inches; the child now speaks as one of 2 years would do.

Case 9.—B. L., aged 8 years. One of a family of seven children, of whom four are living. A prolonged labor, forceps being finally used; asphyxiated three hours; recurring spasms the first five days of life; none since. The head was normal in size; right hemiplegia; a marked intention tremor in both arms; no nystagmus; the speech is slow, monotonous and indistinct; the voice husky, and uses very few words; mental impairment; the gait is uncertain, with tendency to cross-legged progression.

Case 10.—Giovanni S. Labor normal. Birth weight said to be fourteen pounds. Eruption of first tooth at 3 months, when he was very restless, had fever, rolled head from side to side and the eyes became crossed. Was ill for two months, at end of which time he cut a second tooth. After this he seemed better generally, but strabismus continued and he made no effort to use left arm or leg. Thumb of that hand is so tightly adducted that it was necessary to interpose cotton to prevent maceration of skin. Each time he cut a tooth he had a return of nervous symptoms. Has never had any other illness. The head is symmetrical and measured 18⅞ inches. Ptosis of both upper eyelids, and partial paralysis of muscles of face. Strabismus and left hemiplegia; slight spasticity.

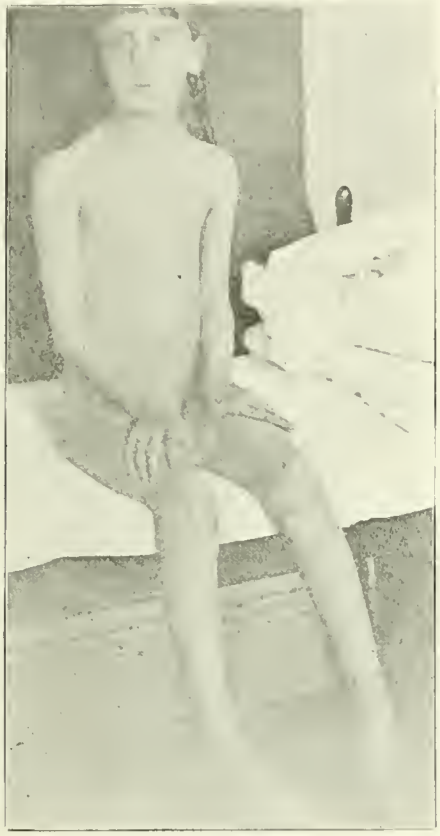


Fig. 5.—Case 5.

Case 11.—Lillie B., aged 6 years. The youngest of three children, the others being normal, mentally and physically. Labor was normal; delicate and did not walk until 4 years of age. The mother can not tell when the difference in the two sides was first noticed; never had convulsions. The head was undersized, measured 19 inches, expression idiotic, strabismus, mouth open the greater part of the time; did not talk; was very restless, in almost constant motion, and frequently laughed immoderately; right hemiplegia more marked in upper extremity; walked and ran around, but dragged right foot; had no control of bladder or bowels; fond of music; had a habit of biting forefinger of right hand.

Case 12.—Edith C., aged 3 years. Both parents undersized and the father shows many stigmata of degeneration, viz., small head, projecting upper jaw with irregular teeth; lower jaw receding; high palate; voice high and falsetto. No history of specific infection. An older child died at 6 months of some cerebral trouble. Patient had an attack of meningitis with convulsions during the first year. When seen a right hemiplegia was discovered, but the exact date of its onset it has not been possible to secure. She had no teeth; did not walk or talk at 1 year of age; has had frequent digestive disturbances, with fever, constipation, and vomiting. Insomnia, irritability, and restlessness marked at times; has never walked or stood alone; only uses four or five words; picture showed large, misshapen head; ptosis of left eye; partial paralysis of face; right hemiplegia, and deficient mental development.

Case 13.—Della S., aged 8 years. Mother healthy; father for past seven years had had "spinal disease," probably locomotor ataxia. Patient was healthy up to two years of age. At that time she was struck on the head, producing a wound that bled freely. Two weeks after injury, while nursing, she suddenly stiffened and began to twitch limbs. This continued for a short time, then the muscles relaxed, though she did not regain consciousness, and spasms were repeated at intervals of five hours. The following day she seemed fully recovered. Two or three weeks later she had a similar attack, followed by coma, lasting through the whole night. For the next six months she seemed quite well; talked, walked, played, etc., and at 2 years of age she had learned to speak some English and German. When 2½ years old she had a severe convulsion, perfect relaxation not coming for four hours. Following this she did not seem to notice anything; did not talk; one side of face was drawn, and right side of body and limbs were paralyzed. Six weeks later she began to walk and to use her arm. The leg gradually improved, as did the face, but the arm and hand have shown less improvement. Complete aphasia lasted for three years. She has acquired a limited vocabulary since, but this is wholly in English. Since the severe convulsions of 2¼ years there had been no recurrence until six months ago when she began to have "spells;" grasped her throat, ran to her mother as if frightened, stared blankly but did not fall

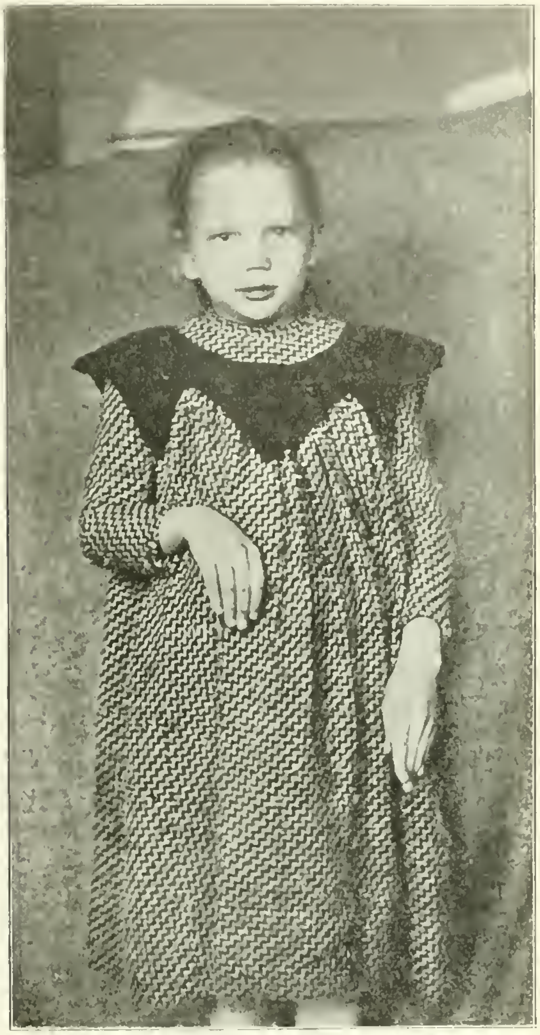


Fig. 6.—Case 8.

or twitch muscles. These lasted only a minute or two, but were frequent, sometimes daily.

Case 14.—Herbert C., aged 25 years. Family history negative. Well up to 6 months of age, at which time he had an attack of meningitis, during which he had several convulsions. He lay in a semi-comatose condition for several days and recovery was not looked for. Following this there was a right hemiplegia, with strabismus. Did not walk alone until 5 years of age. By the aid of braces and walking machines he learned to walk, for a considerable time with a staggering, uncertain gait. He was slow also in learning to talk, enunciation being difficult and indistinct. Was generally good-natured. When 12 years of age he was sent to Lincoln to the school for feeble-minded. He attended two years and made great improvement, learning the use of paretic hand and arm so as to be able to use musical instruments and tools in gardening. The body developed, but right side never attained full size or strength. Spasticity was moderate, and even this seemed less after about 10 years.

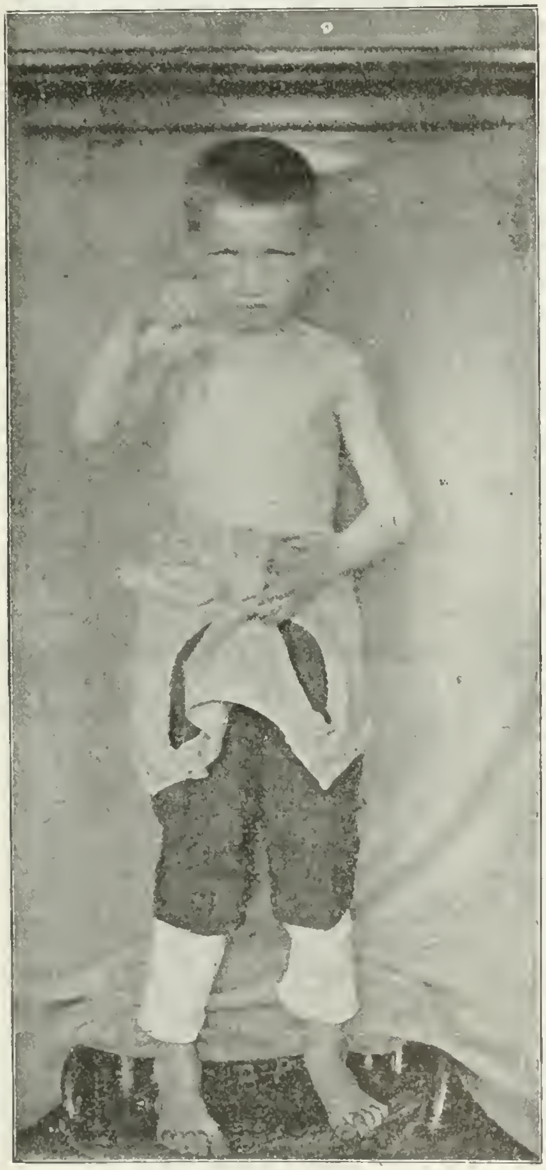


Fig. 7.—Case 9.

Case 15.—Annie D., aged 3 years 8 months. Second in family of four children. The eldest this last winter had an attack of meningitis, which was followed at varying intervals by epileptic seizures. The labor was normal. At 4 months of age patient had pneumonia, from which attack she did not recover for two months. At the same time she had a suppurative otitis media. During that time it was noticed that the right side was not used as freely as the left.

At present she is well developed and nourished. The affected side is a little smaller than the opposite. The head is normal in size; strabismus, right hemiplegia, contracture and rigidity; slow about learning to talk, did not attempt to talk until 3 years of age, and speech is still very limited, with articulation indistinct. She understands all that is said to her, and shows no deficiency in mentality. Reflexes are exaggerated. Has never had any convulsions.

Case 16.—Celia C., aged 9 years. Second child in a family of six, all the others living and well. Parents in good health. She was well until October, 1899, when she had a suppurative cervical adenitis. This opened spontaneously, and nothing further was noticed until early in March, 1900. On coming home from school one day she complained of pain in left side of the chest, and headache. She was restless during the night, and in the morning began having general convulsions, and became unconscious and cyanosed. With only short intervals of partial relaxation she continued in convulsions for nine days. Since then there have been no recurrences, but following these there was left hemiplegia. The pupils react to light; the hand is nearly a typical claw hand. She is very irritable and non-communicative, rarely asking or answering questions unless so inclined. She hears and understands quickly.

Case 17.—Eva T., aged 4 years. Family history negative. She had never had any illness; had never walked, and had not even been able to stand; strabismus since six months old; had never had convulsions. The head measured 21 inches; the face large and expressionless; reflexes exaggerated; spasticity of legs which were held stiffly extended; intelligence almost *nil;* made a few sounds which her mother could interpret.

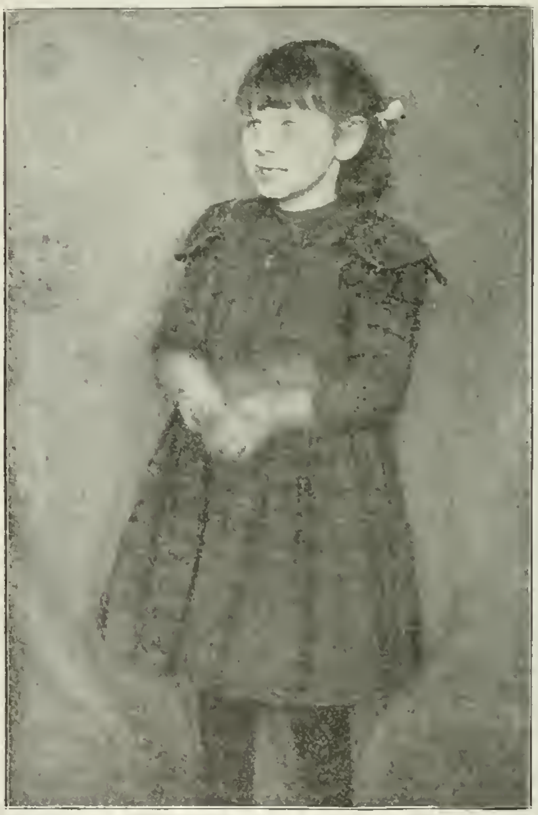


Fig. 8.—Case 11.

Case 18.—Giovanni H., aged 6 years. History incomplete, as his mother understood and spoke but very little English. His father was described as not strong enough to work, "no good." There were five other children, all living. An older sister, a girl of 14 years, had had several attacks of chorea, and another sister showed some mental deficiency. The head measured 19 inches; the ears stood far out from the head; Darwinian tubercles present; eyes wide apart; saddle-shaped jaw; lanugo all over body. Musculature was good, but patient could not walk any better than a child 1 year old; his mental development also was backward, not being able to talk better than a child of 1½ years; never had convulsions.

The acompanying tabulated outline shows the common clinical features:

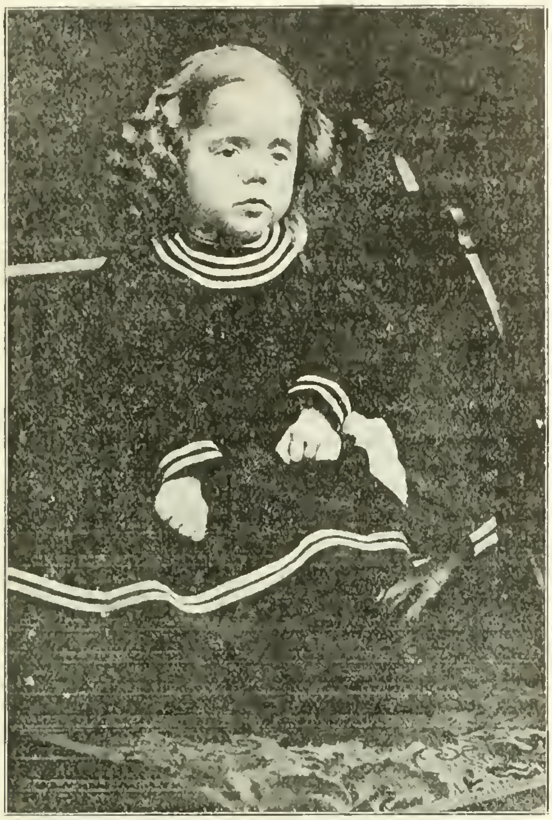


Fig. 9.—Case 12.

Fig. 10.—Case 13.

Sex.— Of this collection 18 are females and 7 males. The majority of the writers on this subject have stated that more boys are affected. Osler reported that he found no difference in the sexes and Gowers' cases showed more girls than boys.

Time of Onset.—The table shows that the probable commencement of the disease dates from or before birth in 17, while in 5 of the remainder the symptoms developed during the first year. This agrees with the findings of others, who report that the large majority occur under one year. It would seem to corroborate the opinion that the "younger the infant the greater the damage done; the more immature the brain, the more is its development likely to be interfered with." Nevertheless, Collier holds that the tissues of the young have more inherent vitality for repair than do those of later life.

Exciting Causes.—An analysis of the exciting causes from the clinical histories gives: Accidents of birth 7, or 28 per cent.; accidents, infections or autointoxication during infancy or childhood 7, or 28 per cent.

Form.—The high percentage of diplegics in this table —7 out of 25, 28 per cent.—attracts our attention. In the large number of cases collected by Sachs and Peterson the diplegics form only 15 per cent.

Fig. 11.—Case 14.

Convulsions.—Eighteen, or 72 per cent., gave history of convulsions during some part of the disease. In fact, it is most frequently for this symptom that the child is brought to the clinic.

Mental Conditions.—As to mentality, it is seen that out of 11 double-sided lesions 7 are idiots, two others are mentally impaired, while 1 only is nearly normal. Out of the 8 hemiplegics only 2 are idiots, 5 more or less impaired, and 1 nearly normal, which shows the preponderance of damage from lesions affecting both sides of the brain.

Size of Head.—That over half are microcephalic, merely emphasizes the well-known fact that there is an arrest of brain growth in these cases. In fact, the same arrest may occur in the hydrocephalic. It is nothing more than fair to call attention to the fact that some of these cases are seen so early after the onset that added time would doubtless show a still larger number of disproportionately small heads.

Irregular Movements.—The small number of patients (2) exhibiting athetoid movements will attract attention, and these two were both found in diplegics, as seen in the illustrations (Nos. 4 and 5). This is contrary to general observation.

Dysphasias.—As might be expected, dysphasia, more or less marked, seems to be the rule. It is interesting to note that the cases showing improvement in speech, after complete arrest, were hemiplegic. This is suggestive of the utilization of the unaffected side of the cerebrum, which comes to the relief of aphasia caused by lesions occurring in early life. Of the 7 cases of diplegia, 4 show permanent dysphasia, 1 can say but a few monosyllables, 1 is slow of speech and 1 has difficult speech from paresis of muscles required in vocalization.

In this last case, Mattie K., it may be mentioned that the mentality shows but slight, if any, permanent impairment. This is proved by the fact that she learned readily the fortnight she was sent to school and that she is bright and useful around the house. The interesting feature of this case is the escape from mental impairment in a case of diplegia, although presenting nearly all of the typical symptoms, viz., spasticity, contractures, convulsions, microcephalia, strabismus, ptosis, exaggerated reflexes with athetosis, choreiform and associated movements.

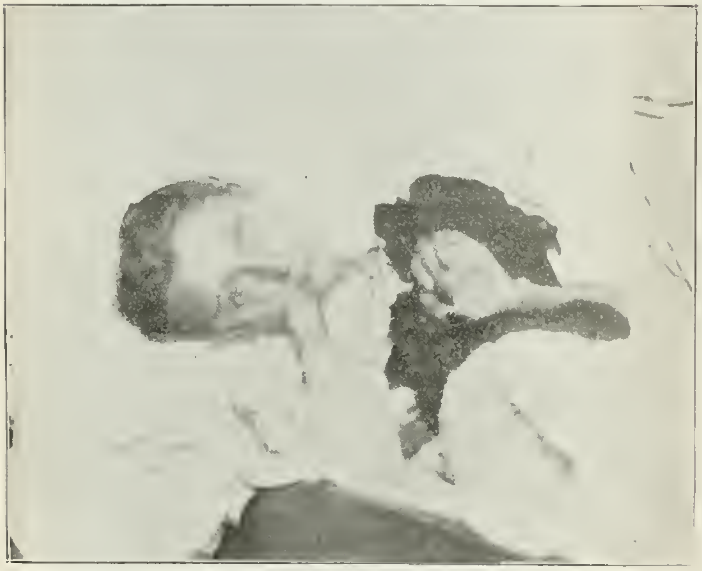


Fig. 12.—Case 16.

In the case of B. L., with history of long labor and forceps delivery, followed by eclampsia for five days; child asphyxiated for three hours; right hemiplegia, spasticity, contractures, exaggerated reflexes and some mental impairment, we have a marked intention tremor, which, with his slow, monotonous speech, is suggestive of multiple sclerosis of the cord; but it lacks the nystagmus commonly associated with these lesions. Spencer found, out of 130 autopsies, 4 on stillborn infants, 30 with hemorrhage into the spinal cord and canal. With this in mind, may it not be fair to presume that this child suffered from spinal as well as a cerebral hemorrhage?

Case 21.—Mamie Q. is 10 years of age with slight mental impairment, choreiform movements, convulsions, and a history of meningitis at one year. Although presenting no spasticity, contractures, paralysis, exaggerated reflexes or difficulties of speech, I have classed this as a case of cerebral palsy. Sachs says: "The choreiform movements occurring after cerebral palsies deserve some special notice, for such conditions are at times mistaken for cases of ordinary chorea.

Case 22.—Male, aged 5 years, 6 months, a microcephalic idiot, with marked lalopathy and history of convulsions, is also wanting in the usual distinguishing symptoms, as are Cases 23, 24 and 25. These four cases, I believe, are properly rated as cerebral palsies under the broader classification given at the beginning of this paper. As long as we use the term "cerebral palsy," should we not include thereunder all conditions in which the principal etiologic factor is evidently a brain lesion, affecting the motor, speech or intellectual areas, whether due to thrombosis, embolism, hemorrhage or meningitis, resulting in sclerosis, effusion, growth or porencephaly?

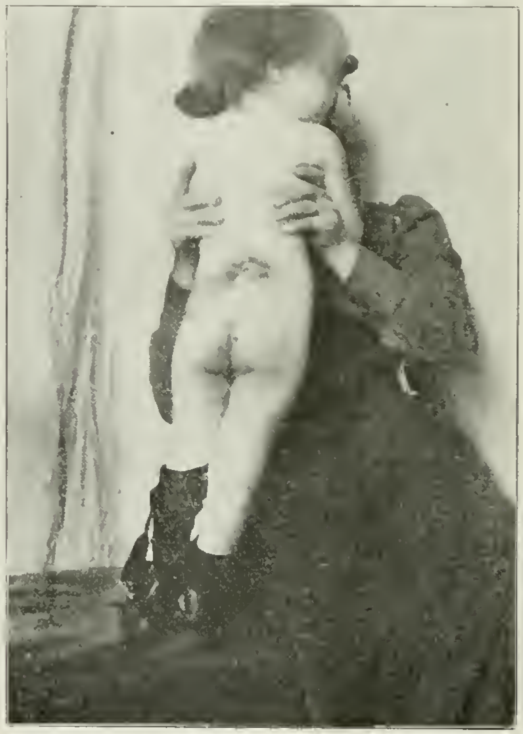


Fig. 13.—Case 17.

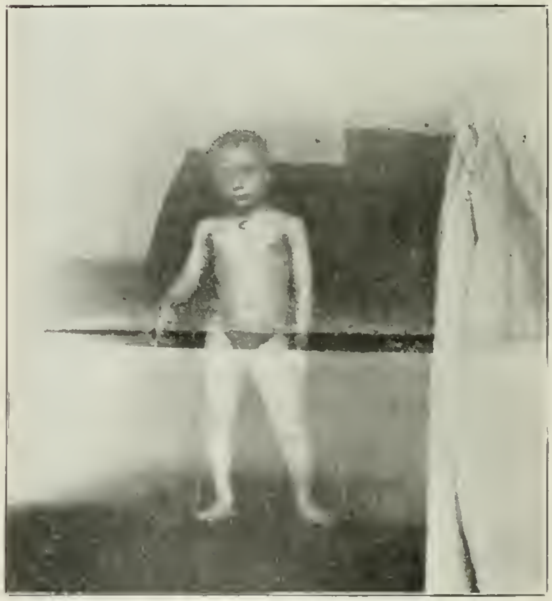


Fig. 14.—Case 18.

DISCUSSION.

Dr. William M. Leszynsky, New York—Regarding idiocy and imbecility, I think they may often be classed in the same category as the infantile cerebral palsies, for the latter are frequently associated with mental enfeeblement. I was surprised to hear Dr. Wilmarth say that better individual train-

No.	Name, Sex, Age.	Etiology.	Exciting Cause as Given by Family.	Form of Paralysis.	Spasticity.	Contracture.	Convulsions.	Mental Condition.	Size of Head.	Reflexes.	Strabismus.	Ptosis.	Athetoid, Choreic or Associated Movements.	Speech absent, limited or difficult.
1	E. N., F., 10 yrs	Prenatal	Dentition	Diplegia	Present	Present	Yes	Idiot	Microcephalic	Exaggerated	No	No	No	Absent.
2	C. H., F., 10 yrs	Prenatal	Unknown. Wt. at birth 4 lb	Diplegia	Present	Present	Yes	Idiot	Microcephalic	Exaggerated	Yes.	Yes.	No	Absent.
3	V. D., F., 5 yrs	Natal	Long labor; forceps	Diplegia	Present	Present	Yes	Idiot	Microcephalic	Exaggerated	No	No	Choreic	Limited.
4	M. B., F., 3 yrs	Natal	Premature (8 mos.). Dystocia	Diplegia	Present	Present	No	Idiot	Microcephalic	Exaggerated	Yes.	No	Athetosis	Absent.
5	M. K., F., 10 yrs	Prenatal	Dystocia and forceps. Wt. 2½ lb	Diplegia	Present	Present.	Yes	Nearly normal	Microcephalic	Exaggerated	Yes.	Yes.	Choreic and associated.	Difficult.
6	C. H., F., 4 yrs	Prenatal	Mother had pneumonia during gestation. Weight 5 lb	Diplegia	Present	Present.	No	Impaired	Microcephalic	Impossible to detect.	No	No	Choreic	Difficult and slow.
7	D. S., F., 3 yrs.	Post-natal.	Fall at 1 year	Diplegia	Very slight	Very slight	No	Normal	Macrocephalic	Exaggerated	No	No	No	Absent.
8	F. H., F., 11 yrs.	Prenatal	Asphyxia	Right hemiplegia.	Absent	Absent	Yes	Impaired	Microcephalic	Normal	No	No	No	Limited.
9	B. L., M., 8 yrs	Natal	Long labor; forceps; asphyxia	Right hemiplegia.	Present	Present	Yes	Impaired	Normal	Exaggerated	No	No	Intention tremor.	Limited.
10	J. S., M., 10 mos.	Natal	Dystocia. Weight 14 lb	Left hemiplegia	Present	Present	Yes	Impaired	Macrocephalic	Exaggerated	Yes	Yes.	No	(Too young.)
11	L. B., F., 6 yrs.	Prenatal	Unknown.	Right hemiplegia.	Present	Present	No	Idiot	Microcephalic	Impossible to detect.	Yes	No	No	Absent.
12	E. C., F., 3 yrs.	Prenatal	Meningitis first year	Right hemiplegia.	Slight	Slight	Yes	Idiot	Macrocephalic	Exaggerated	Yes	Yes.	No	Absent.
13	D. S., F., 8 yrs.	Post-natal.	Accident at 2 years	Right hemiplegia.	Present	Present.	Yes	Impaired	Normal	Exaggerated	No	No	No	Limited.
14	H. C., M., 25 yrs	Post-natal.	Meningitis at 6 months.	Right hemiplegia.	Present	Present	Yes.	Impaired	Macrocephalic	No record.	Yes.	No	No	Limited.
15	A. D., F., 3⅔ yrs	Prenatal	Pneumonia at 4 months	Right hemiplegia.	Present	Present	No	Nearly normal.	Normal	Exaggerated	Yes.	No	No	Did not begin to talk till 3 yrs. old.
16	C. C., F., 9 yrs.	Post-natal.	Meningitis at 9 years	Left hemiplegia	Present	Present	Yes.	Impaired	Normal.	Exaggerated	No	No	No	Taciturn.
17	E. T., F., 4 yrs	Prenatal	Unknown	Paraplegia	Present	Present	No	Idiot	Macrocephalic	Exaggerated	Yes.	No	No	Very limited.
18	J. H., M., 6 yrs	Prenatal	Unknown	Paraplegia	Present	Absent	No	Impaired	Microcephalic	Normal.	No	No	No	Very limited.
19	E. B., M., 13 mos.	Prenatal	Meningitis at 3 months.	Paraplegia	Absent	Absent	Yes	Idiot	Macrocephalic	Exaggerated	Yes.	No	No	(Too young.)
20	R. S., F., 3 yrs.	Natal	Forceps. Weight 5 pounds	Paraplegia	Present	Absent	Yes	Idiot	Microcephalic	Exaggerated	No	No	Head banger	Absent.
21	M. Q., F., 10 yrs	Post-natal.	Meningitis at 1 year	Only evidence in choreiform movements.	Absent	Absent	Yes	Nearly normal.	Normal	No record.	No	No	Choreic	Normal.
22	R. P., M., 5½ yrs	Post-natal.	Digestive disturbance at 5 yrs.	None	Absent	Absent	Yes.	Idiot	Microcephalic	Normal	No	No	No	Repeats words 6 or 7 times. Limit'd.
23	A. G., M., 4 yrs	Prenatal	Digestive disturbance at 1 yr	None	Absent	Absent	Yes	Impaired	Microcephalic	Impossible to detect.	No	No	No	Limited.
24	E. R., F., 2½ yrs.	Prenatal	Catheterization at 1 day	Right facial and ocular	Present	Present	Yes.	Idiot	Microcephalic	Impossible to detect.	Yes.	No	No	Absent.
25	M. H., F., 3 yrs.	Post-natal.	Fall at 1 year	None	Absent	Absent	Yes	Idiot	Microcephalic	Normal	No	No	No	Absent.

ing could be brought about in institutions than at home. There are certain exceptions to this rule, for, under proper surroundings, individual management, I think, can be carried out better at home, or in a very small institution in which only four or five children are taken. As to the circulatory disturbances, I do not think that Dr. Taylor has proved his point. It seems to me that they are more probably the result of a cerebral defect reacting through the vascular centers in the brain. Much more can be said about infantile cerebral palsy. I think it would be an excellent rule for the general practitioner to examine every child brought to him suffering from epilepsy for evidence of infantile cerebral palsy. These children may make a certain amount of recovery, and the condition of partial paralysis may not be manifested sufficiently to attract the patient's attention, until symptoms of epilepsy are developed, either in the form of petit mal or grand mal. The most unsatisfactory epileptics to treat are those in whom the epilepsy is a terminal condition of the cerebral palsy.

Dr. J. P. Crozer Griffith, Philadelphia—The mistake is very commonly made of calling many cases chorea, Friedreich's ataxia, etc., which are really due to cerebral injuries in early life.

I wish to call attention to the rarity of tremor as a post-cerebral symptom. I notice that Osler, in his book on cerebral palsies, reports, out of all his cases, only one of post-hemiplegic tremor. I have myself seen only one case. It is certainly a comparatively rare condition, whereas the spastic conditions—the cases of single or double choreiform movements—are undoubtedly very common indeed.

I can heartily indorse what Dr. Leszynsky has said about the relation of cerebral palsy to epilepsy.

Dr. J. Madison Taylor, Philadelphia—In reply to Dr. Leszynsky's criticism of Wilmarth's assertion that the best treatment for defective children is to be had in institutions for the management of imbeciles, I desire to say that at one time I entertained the same opinion, because there was reason to believe, from analogy, that home treatment should be the best. I wish to say now that experience has taught me differently, and I am convinced the best results can be had by systematized and specialized instruction among children of the defective classes, with others of similar grade alongside of them as stimulants to effort. It is easy to imagine that the opportunities afforded by limitless wealth might give an equal or better training at home, but I am sure that the average case can be better handled in institutions properly equipped for such instruction. The subject is most important, and one on which the physician is constantly consulted, and he needs to form clear concepts on the matter.

Dr. Cotton—We are all anxious to hear what those who are conducting an educational system for this unfortunate class have to report. With one exception, these twenty-five cases were taken from my clinical records of the past year. The exception is the case represented by photograph No. 14. The child had meningitis at 6 months. There were repeated convulsions, and a semi-comatose condition supervened, which lasted four days. At 12 years of age the child was sent to the School for Feeble-Minded in Illinois. He improved there so that he could play in a band and could use certain tools. The outlook for that case was at first gloomy, but the results have been such that I believe the importance of educational work can not be overestimated.

THE MILK-CONTROL IN THE KAISER UND KAISERIN FRIEDRICH HOSPITAL IN BERLIN.*

DR. SOMMERFELD.
ASSISTANT CHEMIST AT THE HOSPITAL,
BERLIN.

In this report I shall deal with the determination of temperature, the specific weight, the chemical analysis of foreign matter and the bacteriologic examination.

---

*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

When the milk is brought into the hospital, the dairymaid takes the temperature of the milk, and makes a record of it, which is filed in the journal of the laboratory at the end of each month. The temperature shows whether the milk has been properly cooled. It should not have a higher temperature than 10 C. If it should be higher the sender is notified, who must remedy this, and if it occurs again he is subjected to a fine. The specific weight is obtained by means of an exact areometer. If there is any doubt we first take the specific gravity of full milk, allow the cream to rise in a cylinder, remove the skimmed milk by means of a faucet near the bottom of the cylinder and again take the specific gravity. After a great many examinations, we find that full milk from our stable has a specific gravity of 1029 to 1032; and skimmed milk of 1032 to 1038. By testing the acidity of the milk we frequently can determine its freshness in suspicious milk delivered. The acidity is determined bv a sample taken from a can, a second sample being put into a thermostat and allowed to remain there for one hour at a temperature of 37 C. If there is any difference between the two, the milk is at once questioned, and regarded as not being fresh. To determine this, 25 c.c. of milk are mixed with eight to ten times as much distilled water, to which 1 c.c. of a 2 per cent. alcoholic phenolphthalein solution has been added. To this is added a solution of barium hydrate, 10.69 gm. of baryta to a liter of water. This is filtered until it leaves a faintly red color. To secure this with our infants' milk we need from 15.8 to 17.5 c.c. of barium solution, whereas with the ordinary milk we need from 16 to 19 c.c.

Exact chemical and also bacteriologic examinations are made at different times, or when specially called for. Through sudden and unexpected taking of samples we obtain valuable analytical data. Such analyses are made for the determination of dry substances, fats, albumin, sugar, mineral salts, acidity and specific gravity. Dry substances and fats are determined at least once a week. The first is accomplished by subjecting 10 c.c. to a temperature of 110 C. for twenty-four hours in a platinum vessel. Fats are determined by the Soxhlet's areometric method, or after the Libermann-Szekely-Weiss method: In a small glass-stoppered cylinder 50 c.c. of milk are placed, to which 5 c.c. of caustic potash, 50 c.c. of petroleum ether—low boiling—and 50 c.c. of alcohol (96 per cent.) are added and shaken three times, for five minutes each time. The whole layer of fat is contained in the petroleum-ether, from which all liquid parts can be removed with the pipette and evaporated to dryness. The dried residue which remains after being subjected to a temperature of 105 C. is weighed and the comparative amount estimated. Our infants' milk during the last three years has contained 3.26 per cent. of fat.

To determine the amount of milk impurities we examine several times each week. This is done after the method of Renck-Stutzer, improved by Sommerfeld. This consists of a jar with a stopper, containing about 1½ liters, having an additional small bucket on its side which ends in a faucet. All sharp corners serve as dirt-receivers, and have been avoided, therefore the apparatus is rounded from top to bottom. This is filled with a known quantity of milk, and is kept standing for about two hours. By this time the foreign matter has settled and sedimented in the small compartments. The clear milk is now drawn off by the faucets on the sides. The attached utensil is taken off and the milk, combined with the dirt, put into a goblet, diluted with water, and then put into a filter, which has previously been weighed. This is washed over and over again with distilled water until the filtered portion is perfectly clean, then washed once with alcohol, and once with ether, and lastly dried at a temperature of 110 C. Thanks to the thorough cleanliness, the milk for nurslings seldom contains doubtful masses of dirt. As the cream rises in the apparatus while standing, we utilize the same opportunity for determining the specific gravity of the skimmed milk, since this runs off first on opening the faucet.

The bacteriologic examination of the milk is made with a view to determine the character of the bacteria present. The determination of the various forms is made in special instances, e. g., with the milk of newly-acquired cows, and when any special cow is suspected. A great many bacilli and cocci are utilized for cultures and animal experiments, to see how they affect sterile milk and to prove their harmlessness. As the cows are under the supervision of physicians, and as the milk is never used in the raw state, we have seldom occasion to examine the milk for pathogenic micro-organisms, since it is a known fact that pathologic bacteria are destroyed at 100 C. Nevertheless, we convince ourselves that none is present, especially the tubercle bacillus, by injecting guinea-pigs at monthly intervals with milk sediment procured by centrifuging. Up to the present we have found none that are pathogenic. To count the number of germs it is necessary to dilute 0.1 c.c. of milk with sterile water, the milk being taken from the cans in a sterilized pipette, and, depending on the time of the year, to inoculate either nutrient gelatin or nutrient agar therewith.

The counting is done by means of Petri dishes, which are used in making the cultures, the under side divided into squares. The gelatin plates are put into a temperature of 22 C., and are counted after twenty-four to forty-eight hours, whereas the agar plates at the same temperature are counted after twenty-four hours. Samples of the milk are taken from the sterilizer and put into the thermostat at a temperature of 37 C., to prove how long the milk will keep. Milk specimens which do not curdle during the first twenty-four hours shows that the lactic acid bacilli are killed. As the milk is used within ten hours after the sterilization, in the wards, of the hospital, we take samples of milk from the ice after eight hours. The negative results of our examination prove that the sterilization has been satisfactorily performed, although we frequently see, on the other hand, that the milk could hardly be classed as germless.

THE MILK-SUPPLY IN THE KAISER UND KAISERIN FRIEDRICH HOSPITAL IN BERLIN.*

PROF. DR. A. BAGINSKY.

DIRECTOR OF THE HOSPITAL,
BERLIN.

The attention given by American physicians to milk-supply and milk-sterilization for nurslings prompts me to give my experience in this regard, for I believe that in our hospital we have reached the highest point attainable on this subject. Depending on our milk-supply from neighboring stables, and having noticed the inadequacy of this supply, we made it a point to acquire such a stable for the hospital, especially since we, through an arrangement with the municipal authorities, were called upon to treat a large number of sick nurslings in which the strictest possible care of both the production and the milk-supply could be maintained and carried out. Owing to the success attained in this regard we have not found it necessary to establish our own dairy. By means of contracts we are able to control several special milk-dealers who are compelled to carry out the rules given them, and they have learned that only the most exact attention to detail will prevent our criticism. In order, therefore, to produce the best possible product of a dairy, it has been necessary for me to watch every detail, and in this I have been most ably supported by my assistant, Dr. Sommerfeld.

---

*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The control of the milk-supply necessarily begins with the stable, which is divided into two floors, and is built of Rathenower bricks, iron and cement. The lower floor is divided by a large massive wall into two parts, which have separate entrances, a larger and a smaller, the upper story representing one room. The dimensions of the buiding, which has large windows on both the longest sides are: length, 30 meters; breadth, 11 meters; height, 4 meters. The floors throughout are of massive stamped cement, and are sloped so that there is a thorough flow into the sewer. The walls are covered with glazed brick to the height of a man, over which is a coat of white paint. The cows stand on so-called food tables, which are placed at right angles to the longest side of the stable. These tables are made of cement, 2 meters wide and 8.50 meters long, in which mangers of glazed clay are placed. In the upper stable there are three such tables which are arranged for seven cows on either side, so that forty-two animals can be kept in the entire stable. The food tables are more practical than the mangers which run along the whole wall, because one can better oversee and observe each animal separately. The separate stands for the cows are raised and are 2.75 meters long, sloping with a heel in the back. In the standing and lying position the buttocks of the cows stick out over the stand so that the animals very seldom lie with the udder in the dung. The water-supply is furnished by means of an automatic working "self-drinker," which is attached to the water-works. The animals can in this way drink when they want to, the waste water being replaced by running fresh water.

The larger portion of the lower stable is arranged exactly like the upper portion. There are two feeding stands intended for procuring milk from 28 cows fed on dry fodder only, the smaller portion contains six stands for the observation of specified cows. This serves as a quarantine, and isolating stable for newly-acquired cows, and eventually for cows which show signs of sickness. In all the stables the cows stand on sawdust, which, on account of its cleanliness, is more approved than the dark black turf grass, the filth being more noticeable and calling for a better cleaning. The disinfecting element of the turf-grass is less advantageous than that of the sawdust. The stables are cleaned by washing and flooding the floors and the tiled walls; also by frequently whitewashing the walls. The manure is pushed through convenient openings directly into brick pits built in the yard adjoining the walls.

The dairy is entirely separated from the stables, and is in a special building. This is very light, and is on a level with the cellar, where an evenly cool temperature is obtained. It is finished throughout—the floors, walls and ceiling—with flat white bricks, has well-water supplied by the water-works of Berlin and a cooling apparatus. Here the fresh-drawn milk from the stable is filtered, cooled and put into the cans ready for transportation. Utensils and cans in which the residue of milk remains can not be brought into this space. In the same manner we prohibit the entrance of dairymen, drivers and others not employed in this department. All soiled utensils are placed in a special wash-room adjoining the dairy, entirely separated from this room by means of a wall, and having a distinct entrance.

The cows belong to the Holland breed, and are under constant veterinary supervision. All animals are injected with tuberculin and only those animals totally free from tuberculosis are put to use. The injection of tuberculin is repeated several times. If the weather permits, the animals are given several hours of outdoor exercise, which has proved of great advantage.

The feeding is done in two ways. The animals whose milk is to be used for infants are given dry fodder. Swill is entirely forbidden for those receiving moist fodder. It has been frequently noticed that from the residue made by the distillation of brandy from potatoes and corn, animals have a tendency to diarrhea, and their milk has a tendency to produce toxic conditions, the nature of which can not be proved by either bacteriologic or chemical examinations. The dry-fed cows get the best of clover, certain residues from a brewery, wheat, bran and rye, and to stimulate the appetite, small quantities of dry cut molasses. The cows receiving moist fodder are given turnips, rye-bran, wheat-bran and hay. The proportional quantities of the amount of the entire feeding are the following:

Dry fodder: To 500 kilo., live weight, 12.5 kilo. clover, 2.5 kilo. rye-bran, 2.5 kilo. wheat-bran, 1.5 kilo dry treber.

Moist fodder: To 500 kilo., live weight, 22.5 kilo. moist fodder, 20 kilo. turnips, 0.75 kilo. rye-bran, 0.75 kilo. wheat-bran, 4 kilo. hay.

From this feeding we receive 8 liters of milk per day with dry fodder and 10 to 11 liters with moist fodder. The animals are milked three times a day, at 3.30 a.m., and 12.30 and 4.30 p.m.

Before milking, the damp stable is cleaned. The dirt is swept together after the dampness has disappeared, and the passageways are flooded with water. Immediately before beginning work, the dairymen are compelled to thoroughly cleanse themselves, and especially wash and scrub their hands with soap and water, and then to carefuly cleanse the udder of each animal with soap and warm water, and a clean cloth. On thorough cleansing of the udder great stress is laid, because therein lies the greatest chance of infecting the milk from the dirt of the stable, hair, etc. We believe that by using the above-mentioned precautions, we can safely dispense with milking machines.

The freshly drawn milk must be immediately taken from the stable and brought to the dairy. When there are a large number of cows, the milk taken from the first must not remain until all are milked. The reasons for this immediate removal of milk are the danger of contamination with bacteria, which are found in the air of the stable and are mostly of the hay and potato variety and are very hard to destroy, and the fact that warm milk easily absorbs odors, such as perspiration from the cow, so that it tastes like a "cow stable." The milk is immediately filtered and cooled in the dairy. The filtration is done through linen cloths, which are boiled each time after being used; the cooling is done by the aid of a cooling apparatus. By this careful method of collecting the milk, its filtration through boiled and clean linen cloths has proved sufficient. This is a very simple and inexpensive method. Filtering apparatuses, if the filter is not carefully cleaned—by steam—are very good harbors for dirt and bacilli. The filtering cloths, on the contrary, easily can be kept clean and sterile by thorough boiling. The cooling machine is a square zinc-plate box, whose broad front, back and sides are made of tin. Through openings made in the narrow side-walls a stream of cold water flows down on the inside and flows out again through openings in the opposite side. The milk flows through a cooled interior, and has its outflow in a receptacle placed below. The spaces between the separate indentations are very small, so that the milk can not flow off too rapidly, as part of it is retained through its capillarity. In this way the slowly-flowing milk is cooled by passing over a large area. The cool water flows from a deep well and may be cooled still further by passing through an ice-box. The cooled milk at the time of the delivery has a temperature of 10 C. The transportation utensils —milk cans—in which the milk is transmitted to the hospital, are made of galvanized tin, and can be opened to ensure thorough cleaning. If the cans can not be cleaned immediately after the milk has been emptied they are filled with water, as dried milk residues are very hard to remove and might be overlooked. Milk is obtained three times daily, and sent three times to the hospital. It is strictly forbidden to deliver milk which has stood some time. (See article on "Milk Control.")

In the hospital the milk is received bv a maid especially employed for this purpose, who has no other duties but the storing and sterilizing of milk and attending to all duties pertaining thereto. She is especially instructed regarding her duties, and the fact is made clear to her that the life and health of the children depend on the careful and strict fulfilment of her duties. She must therefore see that her body is kept absolutely clean. Her uniform consists of a wash dress and a large white apron, covering the entire body. Before beginning her work she must cleanse her hands with a brush, soap and lukewarm water. The dairymaid inspects the cans as to their cleanliness on receiving them and tests the temperature of the milk. Irregularities, such as the non-delivery at the stated times, poor measure, improper cleaning of cans, wrong temperature of the milk, etc., must be immediately reported to the chemist of the institution, who has this under his control. The delivered milk is utilized at once. The milk for the use of the house and the older children is cooked in copper vessels, then put into clean receptacles and into the ice-box, because it is not immediately sent to the hospital. The milk for infants, which is either full milk or a milk mixture, with hot-water or oatmeal gruel, according to the prescription of the physician, is put into bottles and sterilized.

The greatest stress is laid on the absolute cleanliness of the bottles. These are put into hot soda-water, washed with a bent-handled brush, and cleansed of any particles of milk which may have adhered; they are then placed in a specially constructed rinsing machine connected with flowing water, and rinsed with coarse sand, then with clear flowing water, and finally washed again with sterile water. The empty bottles from the infectious wards are first put through a disinfecting process in a large disinfector of the hospital, and are kept in steam for thirty-five minutes at a temperature of 104 C. The bottles are graduated in cubic centimeters and are made after my own model, in sizes of 300, 200 and 100 c.c. After the bottles are filled, a plug of cotton is inserted in each, and after being sterilized in like manner, are sent to the different wards. As the milk is carried in baskets, it is unnecessary to have any other stoppers.

The sterilizing is done after the Soxhlet method in a Henneberg milk-sterilizer, which holds 264 bottles; for extra use there is a reserve apparatus after the Autoclave method, consisting of a large copper cylinder, having steam connection, in which two frames, each containing 32 bottles can be placed. The cylinder can then be made air-tight. The Henneberg sterilizer consists of a forged iron cabinet resting on legs, which has an air-tight door in front. On the inside of the cabinet there are movable grates, as a protection for the bottle-holders. The steam flows into this cabinet by means of a very fine pipe through the bottom, surrounds the milk bottles and replaces the specifically heavy air which is carried out by means of a second pipe in the bottom, into a chimney and out into the open air. The machine is, furthermore, supplied with an air valve for quickly removing the steam after the sterilizing is finished; a safety pipe to prevent too great pressure, and also with a thermometer. The temperature can be raised to 105 C. We sterilize at 100-101 C., and after the temperature reaches 100 C. the milk remains in the sterilizer thirty minutes.

The criticisms which have recently been made against the strict sterilization of milk I can not approve. I have never seen any harm arising from the use of fresh sterilized milk, and I believe that those authors who declare that sterilized milk causes Barlow's disease, really mean that the prolonged use of sterilized milk, procured from public milk-sterilizing laboratories, which frequently have a large stock of sterilized milk remaining on hand for possibly several months before being used, has unquestionably produced Barlow's disease. Even if it be admitted that the sterilization of milk for the feeding of children is combined with disadvantages, one can hardly use any other than sterilized milk in a children's hospital. In young children, with a tendency to intestinal disease, the danger of infection by means of bacteria existing in the milk is very great. We have every reason to be satisfied thus far with the sterilization used in our hospital.

Regarding the dilution of milk and its use in the varying dilutions, I can hardly see how we can do without this for sick children, notwithstanding the fact that French physicians have recently advocated the use of full milk. I am convinced that pure milk does not agree with dyspeptic children in the hospital, and as often as I have tried this, even with small, measured quantities of pure milk to nourish severe cases of dyspepsia, I have been forced to stop on account of the reappearance of vomiting and increase of diarrhea. I therefore can not dispense with the diluting of the milk. Numerous additional substances used in the diluting, such as water, gruel, rice-gruel, barley-gruel, etc., I hold to be absolutely necessary in diarrheal diseases. I see no reason for doing away with our present methods.

Suture in Tiers Without Buried Threads.—The silk thread or silver wire is passed through the deepest tier of tissues for one stitch. The ends are then drawn and held tight with forceps. A piece of No. 3 catgut is then passed around the thread below the forceps and tied in three tight knots. The upper tiers are then sutured together in the same manner, with the ends of the thread emerging from the deep tier and tied around the catgut close to each tier of tissues. Each stitch is thus directly above the one beneath. This method was exhibited by Hagopoff at the International Medical Congress for the first time.

THE RELATIVE VALUE OF HOMATROPIN AS A CYCLOPLEGIC: A CLINICAL STUDY.*

E. C. ELLETT, M.D.

Ophthalmic and Aural Surgeon to St. Joseph's Hospital, City Hospital, Lucy Brinkley Hospital, Children's Home, Shelby County Poor and Insane Asylum and Leath Orphan Asylum.
MEMPHIS, TENN.

The question of the value of homatropin as a cycloplegic was brought before the Section last year by Dr. Culver; nevertheless I believe we can profitably discuss it again. On account of the short time required for the effect of homatropin to pass off, it is a cycloplegic much to be desired provided it is effective, and this is a matter in regard to which opinions vary. I am a firm believer in the necessity of using a cycloplegic for measuring the refraction if we desire to do work which will be lasting in its effects and which will reflect credit upon us in its results, though I am aware that there are many men whose opinions carry much weight who seem content with the results obtained by estimating and correcting the dynamic refraction. I take it, however, that we can dispense with any arguments as to why we are interested in the subject of cycloplegics and why we habitually use them. Suffice it to say that most of us are satisfied from clinical experience that they are not only justified, but demanded, and that we do use them for two purposes: 1. To obtain complete rest for the eyes, and thus relieve choroidal congestion and low-grade inflammatory processes in the deep tissues of the eye. 2. For the purpose of accurately measuring the errors of refraction. While we may not agree as to the theoretical indications for the use of a cycloplegic, I believe that when practically confronted by a patient, the majority of us would be of one mind as to whether or not to use such a drug in that particular individual.

Atropin, the best cycloplegic we possess, in the vast majority of cases produces complete cycloplegia, which lasts sufficiently long to give the eye a thorough rest and permits of several examinations on different days. With homatropin, the most fleeting of cycloplegics in its effects, we are usually compelled to be content with one examination, and, as ordinarily used, the rest it affords is so short as to have little or no therapeutic virtue. Various drugs stand between these, viz., scopolamin, hyoscyamin and duboisin, the last two at least being chemical accidents, and may be looked upon as modified atropin. The question with which this paper has to do is: Does homatropin produce a sufficient effect on the ciliary muscle to be a reliable agent, and if so, in what manner and in what dose is it best to use it?

The fact that so many persons can not afford the time necessary for the use of atropin compels the use of a more quickly acting drug. I began using homatropin hydrobromate in solution and tried it in the strength of 8 and 16 grains to the ounce, instilling one drop every five or ten minutes for an hour. I finally settled on a solution of 12 grains to the ounce as giving, as I thought, satisfactory cycloplegia with a minimum of risk of constitutional effects. This solution is irritating, producing conjunctival and ciliary injection, to avoid which I preceded it by a drop of 4 per cent. cocain solution. I used this solution when I could not use atropin, with tolerable satisfaction for about four years, and then I began the use of the discs of homatropin and cocain, prepared after the formula of our colleague, Dr. Casey Wood. Each disc contains 1/50 of a grain each of homatropin and cocain (alkaloids). My method of use is the same as that proposed by Dr. Wood, and is as follows: First, a drop of cocain solution is instilled for its anesthetic effects, as the use of the disc is somewhat painful. Then the patient is directed to look down, and the disc, carried on the end of a cotton-tipped applicator, is placed on the conjunctiva above the cornea, and the eye closed before any winking can occur, which might expel the disc, and the handkerchief is placed over the eye. In the same way, a disc is placed in the other eye and the patient keeps both eyes closed. A second and then a third disc is introduced into each eye at the end of thirty and sixty minutes, respectively, and thirty minutes after the last one is applied the patient is ready for the test. In testing the refraction my reliance is placed chiefly on the test lenses and the shadow test. Many eyes thus treated will be found to present, at the end of ninety minutes, considerable irritation, with both conjunctival and deep ciliary injection. This may be relieved by instilling another drop of cocain solution.

Comparative studies have been made to ascertain the relative efficiency of the different cycloplegics, especially comparing homatropin and atropin. I might refer to those of Wood, Coleman, Starky, Jackson, Oliver and Risley, as indicating that while in many, nay most, cases the efficiency of homatropin has been proved, in a respectable number atropin reveals the more hyperopia, and sometimes more astigmatism and sometimes a change in the axis of the astigmatism.

It may not be amiss to refer to the reasons which Dr. Wood has advanced for using the drug in connection with cocain, in a gelatin disc and in this dose. He believes[1] when homatropin in aqueous solution is dropped into the eye, 90 per cent. of it escapes by the tear passages or over the cheek. When applied in ordinary solution, they dim the cornea while the gelatin is completely absorbed and yields the drug slowly. The addition of cocain increases the absorptive power of the corneal epithelium, and the disc of most useful size will contain only 1/25 of a grain of an alkaloid. Further, the method of keeping the eye closed is a protection to the corneal epithelium from the deleterious effect of cocain. This disturbance of the epithelium is urged as an argument against the use of the combination, by Thorington,[2] but I have searched carefully with oblique illumination and the loupe, and have failed to detect its presence. I would further suggest that closing the eyes prevents expulsion of the disc from the conjunctival sac, and intensifies the cycloplegic action of the drug by removing incentives to the exercise of the accommodation, and by excluding the light.

Aside from the vulnerability of the particular ciliary muscle, the question of the efficacy of homatropin seems to me to depend largely on the methods of its use and the dose. The discs as indicated, furnish a means of applying the homatropin almost continually for ninety minutes. Jackson[3] says that we can not rely on single or hourly instillations—referring to solutions—but must use them at intervals of a few minutes. He uses a solution of 12 grains to the ounce. With many of those who have gone on record as finding homatropin unsatisfactory, we can see the reason in their method of its use. This is certainly true in the case of Holt,[4] who used a 3 per cent. solution nine times in sixteen hours, and hourly for four hours before the examination. Coleman,[3] however, was dissatisfied with the results, after using all sorts of solutions and discs. In looking over Coleman's table, the difference, where difference exists, is in most cases slight compared to the total error, and can not be laid wholly to the door of ineffectual cycloplegia until the personal equation of both tester and tested can be eliminated.

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Trans. Pan-American Medical Congress, 1893.

[2] Refraction and How to Refract.

[3] Trans. American Oph. Soc., 1889.

[4] Ibid.

I will present here in tabular form the results in some cases which I have had the opportunity of examining, first under homatropin, and later under atropin. These observations are clinical, not experimental, and represent cases in which the correction prescribed under homatropin was for some reason unsatisfactory. They are not selected cases, and are, moreover, made on eyes suffering from eye-strain. It would appear that such observations have value, for we use cycloplegics on such eyes in more instances than we do in eyes not so affected, and the object of the study should be to determine the relative value of the cycloplegics on pathologic eyes. The only fact that detracts from the value of the table is that the second examination was made several months after the first, and it is possible that in a few instances a real change in the static refraction may have occurred. The results are those obtained by the test lenses, all the cases being private patients and all tested as carefully as I know how.

Case.	Homatropin and Cocain.	Atropin.	Case.	Homatropin and Cocain.	Atropin.
1	+ .25	+ 50	27	Em.	+ .50
2	Em.	+ 25	28	+ .25	+1.00
3	+ .50	+1 00	29	— .25	— .25
4	Em.	+ .25	30	— .25	— .75
5	+ .50	+ 50	31	— .25	— .25
6	+ .75	+1.00*	32	—1 25	—1 00
7	+ 25	+ 75	33	+1 50	+1 25
8	+ .25	+1 25*	34	+1 75	+1.75
9	+ 75	+1 00	35	+1 50	+1.75
10	+1.50	+1.75	36	+1 75	+2 25
11	+1 00	+1.75	37	+1 50	+1 75
12	+1.50	+2.00	38	+2 00	+2.25
13	+1.50	+1 50	39	+1.50	+2 00
14	+2.00	+2 00	40	+2 00	+2 50
15	+1 50	+2 00	41	+1.00	+1 50
16	+1 25	+2 00	42	+1.50	+2 00
17	Em.	— .50†	43	+3.00	+3.50
18	+ .50	Em.†	44	+3 50	+3.50
19	Em.	Em.	45	+2 50	+2 50
20	+ .50	+ 50	46	+3 50	+3 50
21	—2 00	—1 00	47	+2 75	+3 00
22	+2.00	+4 00	48	+3 50	+3 50
23	—1 00	Em.	49	+ .75	+1 00
24	+1 50	+3.50	50	+ .75	+1.00
25	+ .25	+ .50	51	+ .75	+1 25
26	+ .75	+1.25	52	+ .75	+1.25

* Obstinate case, prolonged atropin.
† One year between tests.

In 52 observations the following results are noticed: Gains for atropin were .25 D. 14 times; .50 D. 14 times; .75 D. 3 times; 1.00 D. 3 times; 2.00 D. 2 times; total 36; average gain .54; results identical 12 times. Homatropin gains were .50 D. 3 times; .25 D. 1 time; average gain for homatropin .44. Average gain for atropin in 52 observations (meridians) .385.

In two of the cases showing a gain for atropin of 1 D., and in the two cases showing a gain of 2 D. the first examination was made with homatropin in solution, the second with atropin about three or four years later. It is hardly fair to compare the two drugs in this way. In addition to these differences, I have noted the following changes in the cylinder[6] axis; 5° once, 15° three times, 30° once, 60° once.

The results shown in the table are not what I thought they would be. Homatropin has been most effective in aiding in the selection of glasses, which have proved satisfactory after glasses prescribed without cycloplegia both by myself and by others have failed to do so. If the four observations to which I alluded be eliminated, we find a variation so slight that it will hardly affect the clinical result. I have noticed that in many cases tested with homatropin the shadow-test will indicate a glass .25 or .50 D. stronger than that which gives the best vision. As regards the cylinder axis I am not prepared to say that this is altogether due to more efficient cycloplegia, as the tests in most of these cases was made on individuals and under circumstances which made accuracy difficult to obtain.

The principal practical objection which I have to homatropin and cocain discs is the pain they cause, this being especially objectionable in children. I have demonstrated to my satisfaction in the same patient the superiority of discs to the solutions, and am not disposed to return to the use of the latter.

I may summarize as follows the conclusions which seem justified:

1. The necessity of cycloplegia in order to *accurately* test the refraction of young people is established, though *satisfactory* fitting can doubtless often be done without it. (Note the distinction between accurate and satisfactory.)

2. Atropin is, all things considered, the most reliable cycloplegic, but a great objection to its use is the length of time consumed.

3. For testing the average case, without much chorioretinal irritation or marked ciliary spasm, homatropin, properly used, is sufficient.

4. The best method is that of the homatropin and cocain discs, made after the formula and used after the method of Dr. Casey Wood.

5. In many cases atropin must be used, to relieve spasm, to procure rest and thus to allay chorioretinal irritation. In these cases the patient can no more justly object to its use than he can to its being used in iritis. In both cases his time and his business interests are secondary to the ultimate attainment of useful vision.

DISCUSSION.

Dr. C. M. Culver, Albany—Ever since studying with Dr. Nettleship, in Moorfield Hospital in 1881, I have considered that what has been said may be taken for granted, that the most complete cycloplegia is obtained by the long-continued use of atropin sulphate; but we must meet conditions that so often present themselves in practice where patients come without any premonition of long-continued treatment and expecting an optical prescription in a relatively short time. In using the atropin sulphate for determining refractive errors, I use it exactly as I do homatropin, that is, by the instillation of a few drops at intervals of five minutes until six instillations have been made, and then waiting until an hour, from the time of the first instillation, has elapsed. The comparisons that I have made show that in no practical way is the atropin sulphate superior. It still seems as if, in actual practice, a 1 to 40 solution of homatropin is that most useful. The transient action is desirable from one view-point and undesirable from another. While for a long time I used the disks, which seemed quite useful, there seemed to result from this use a roughening of the corneal epithelium that detracted from the accuracy of the optical examination and, contrary to the experience of Dr. Ellett, I came back to the solution which, comparatively, seemed to me to be the more effective.

Dr. Casey A. Wood, Chicago—After the discussion of this subject, both this and last year, I am sure I would be taking up your time unnecessarily if I were to repeat what I said on former occasions; but, if you will permit me, I wish to say that I still use the preparations for which I am responsible, and still believe that where we are unable to use atropin some such combination as I have recommended is desirable. It is, however, like a sharp instrument—good when properly employed, and harmful when not properly used. It must be in-

---

[5] Annal Oph. and Otol. January, 1893.

[6] The cylinder in each of these cases was a .25 D.

sisted on that when the disks are placed in the eye the latter must be closed, for if the eye be left open for any length of time the anterior epithelium of the cornea becomes dry and may interfere with the subsequent measurement of the refraction. When the lids are closed this loosening of the epithelium by the cocain allows of the rapid absorption of the homatropin, and is the agent that brings about cycloplegia.

Dr. Ellett referred to the use of the disks in children. I have lately discontinued their use for this purpose, chiefly because children's time is not, as a rule, of much importance, and I generally insist on the use of atropin, but when business men and women come to us and say, "I have a half-holiday on Saturday and must get to work on Monday," we have no choice. I believe it is better to use cocain and homatropin than to try to insist on the use of atropin, even though the latter drug may be thought preferable. In my experience I find it wise to tell the patient that if the disks are not satisfactory atropin or scopolamin *must* be used. There is an important fact to be borne in mind when making studies of the comparative value of cycloplegics. If one makes a second examination within a short time, no matter with what cycloplegic, there will often be found a difference in the refraction. I made a number of tests with this result some years ago, using atropin alone and waiting for ten days after the first to make the second examination. Not uncommonly, a greater amount of hypermetropia, or hypermetropic astigmatism, and a smaller amount of myopia, was discovered on the second trial, and the same was found in the case of homatropin and cocain. To arrive at proper conclusions, therefore, I am persuaded that at least a month must elapse between the two examinations.

Dr. A. D. McConachie, Baltimore—While I endorse entirely all that has been said in favor of homatropin, I want to report some unfavorable experiences with it. I reported two cases in the *Philadelphia Medical Journal* a year and a half ago under the title "Two Cases of Homatropin Intoxication or Substitution, Which?" I thought the cases either idiosyncrasy or substitution. Further evidence by experiment and observation proved that the patients had not gotten homatropin. My usual prescription for homatropin is ½ gr. of the salt to ½ dram of distilled water, with directions to put 2 drops in each eye every ten minutes for six instillations; that means twenty-four drops of an 8-gr. to the ounce solution. After I had criticised the pharmacist, an investigation was taken up by our state pharmaceutical association, and I was arraigned for considering it substitution and dealing wrongfully with them. One of our ablest pharmaceutical chemists, however, examined the specimen, which, by the way, bore Merck's label, and found that it was not pure homatropin, but some salt allied to atropin. Merck, when consulted, said that it should only be used in .5 per cent. solution, and that I had used a solution strong enough to be poisonous—yet my solution is but half the strength recommended here. I was vindicated before the society by a pharmacist, however, and they admitted that there was substitution perhaps, not by the druggist, but by accident, and that some other drug had gotten into the bottle.

My object in referring to these cases is to impress the members of the profession of the dangers attending the use of homatropin of uncertain composition.

Dr. F. C. Hotz, Chicago—I think there can be no difference of opinion among us that homatropin, on account of its transient effect, is a valuable remedy. The question narrows itself down to whether homatropin is reliable in refraction work, because the majority of our patients who present themselves for refraction examinations have healthy eyes. I agree with the essayist in so far as I consider homatropin a reliable cycloplegic in the majority of cases. There are cases in which you may fail and have to resort to atropin. I have not made any comparative tests by using homatropin and following that in a few weeks by a second test under atropin, but I have had, in the course of a few years, a number of patients who returned for a second examination, and inasmuch as the first examination was made under homatropin, I decided then to examine them under atropin. I regret I have not had the time to go over my records to select a number of these cases, but as far as I can remember, many of the examinations showed the same results. In regard to the method of applying the remedy, I think to instill it every five minutes is a waste of homatropin. I use a drop of 2 per cent. cocain solution, and five minutes later a second 2 per cent. solution of homatropin. Fifteen minutes later a second application is made, and in 30 or 40 minutes after the first application I find the accommodation practically suspended and the eyes not irritated.

Dr. J. L. Thompson, Indianapolis—I have had some experience with homatropin ever since it came out. At first I used the salt on the end of a probe, and afterward the disks. I always re-examine my patients whenever I can, about two years after the first test. In the great majority in which I used homatropin I find, under scopolamin or atropin, that I had not gotten out the full degree of the anomaly that existed, but occasionally you find a case where one or two applications of homatropin has been just as effective as atropin. Then, again, I have found that occasionally atropin does not bring out the full degree that exists. Duboisin I find the most reliable of all, and generally it makes the patient sick at the stomach. In about one-half of the cases in which I used homatropin I believe the full amount of correction was not brought out. Scopolamin has suited me a great deal better.

Dr. William Thomson, Philadelphia—I think it would be better if each gentleman would explain to us the methods he uses to determine whether he has obtained a full degree of cycloplegia. My method of detecting it is to make an artificial far point by the use of a 3 D. lens, with small type for test.

Dr. W. L. Pyle, Philadelphia—I do not think the argument that a subsequent examination under atropin will bring out more defect is valid, for I have often made examinations under homatropin and cocain after a lapse of eighteen months or two years from the tests under homatropin, and even atropin, and found quite as much increase in refractive error as these gentlemen report after using atropin following homatropin.

Dr. S. D. Riley, Philadelphia—I wish simply to urge the importance of using the mydriatics for their therapeutic value, even in correcting errors of refraction. Some one, in this discussion, made the remark that the majority of refraction cases coming to him presented healthy eyes. I must say this is not in accord with my own experience. A large number of my patients have fluffy choroids, headaches, etc. I feel sure that no rapid method will meet satisfactorily the requirements in these cases. The time limit is an important one, and if we use homatropin it should be for many days, until the hyperemia of the fundus has disappeared and the attending asthenopia symptoms have subsided. Until this is accomplished no certain correction can be made.

Neither subjective nor objective methods suffice to determine accurately the static refraction of such eyes when in a state of health. I prefer in these cases to use the more vigorous mydriatics, and the one I prefer above all others is the hyoscyamin sulphate, for it holds the accommodation in its grip more firmly than atropin and it subsides many days sooner—provided you get hyoscyamin. It is difficult to secure a trustworthy preparation, because in its manufacture too great heat or excess of alkali converts it into atropin. The only way to differentiate between them is by polarization. A chemist can not tell which is which in the laboratory, for they are isometric.

The strong mydriatics, if kept in a sufficient length of time, i. e., until the irritation subsides, permit the accurate and easy correction of any existing error of refraction to be made, but this can not, in my judgment, be done until that point is secured. I therefore insist upon the use of a mydriatic for its therapeutic value as well as its cycloplegic effects.

Dr. E. C. Ellett—In regard to Dr. McConachie's experience with poisoning by homatropin, I have noticed it twice in using solutions, but not at all in using the disks. These two patients were young ladies of the same age, and resembled each other strongly in appearance. About the irritation of homatropin, which Dr. Hotz thinks he avoids by preceding it with cocain, I have seen the same irritation produced by the disks, and relieved by cocain.

As regards determining when we have cycloplegia, I have used the same method Dr. Thomson suggested. I generally use a + 4 D. lens and then test with J.1, which is small enough to give a very short range of vision, and if there is any latitude at all I conclude that cycloplegia is not sufficient. I think where we wait for a year or more and then retest our cases an increase in the strength of the glasses may be indicated from the fact that the patient has worn glasses for that long, and that there has been a small amount of hypermetropia concealed by ciliary muscle tone or action that could not be overcome by the cycloplegic. I fully agree with what Dr. Risley has said with regard to the use of mydriatics in these cases of deep irritation. I said in the paper that one of the uses of these drugs is to procure rest, and mydriatics are as much indicated in certain cases of eye-strain as in iritis, and can not be replaced by any other substance.

SOME FACTS ABOUT APPENDICITIS, MEDICAL AND SURGICAL.[*]

J. H. CARSTENS, M.D.,
DETROIT, MICH.

Experienced surgeons make the statement that if they should have 100 consecutive cases of appendicitis and should operate on all of them as soon as the diagnosis was made, they could show a better list of perfect recoveries and a smaller death-rate than if 100 similar cases were treated on the expectant plan and those only operated on which were finally selected by conservative practitioners. I agree with the above statement, but not with the assertion of the ultra-conservative members of the profession when they say that the radical surgeons insist that every patient should be operated on immediately. I never heard a surgeon say so. Surgeons say that it would be better if every case could be operated on, but every careful surgeon selects the time and method of operation in each case. And each case varies. Even if we say that every case ought to be operated on, that does not mean that we recklessly rush in and operate without due consideration of the condition of the patient, the environment and the necessary treatment. We are called to consult in a case in which the patient has been ill for several days, and on our arrival at the house we find a decided change for the better has taken place. We see that the turning-point has been reached and that the patient is going to recover. Does any one operate under such circumstances? I know of none. We say that when the acute symptoms subside, and if the patient has had similar attacks before, we can operate in a few weeks. If, however, we see the patient during a first mild attack, then we suggest that the patient wait, since we know that about 15 per cent. never have a recurrence. But should there be another attack, we advise an operation. Many advocate waiting until firm adhesions have taken place. This has never seemed right to me. It can be justified only when one expects to get one of those very large, appendicular abscesses containing a pint or more of pus, with the sloughed-off appendix floating in it. Such cases simply require an opening of the abscess and drainage; but before one case reaches that stage fifty cases, at least, would end in death.

Furthermore, if the adhesions are firm—which is very good in "let-alone" cases, but a very troublesome condition when you have to break up the adhesions and remove the appendix—you are liable to strip up the peritoneal covering of the intestines.

Another idea which seems to me very objectionable, is that waiting in such cases is a good thing. "Wait until the power of resistance of the individual has been developed." When has it reached its acme? There is a limit to nature's power of resistance and I think this power as a rule is greatest in every case, when the disease has existed the shortest length of time. This brings us to a consideration of phagocytosis and leucocytosis—the power of resisting and eliminating microbe infection. As the infection becomes greater, nature offers more barriers to the onslaught, but a limit is reached in these cases also, and nobody can make me believe that a person who has been subject to a septic condition for five days is a better case for operation than one who has been subject to septic infection for two days, neither can any one make me believe that ten, fifteen or twenty days after the microbic infection, when all the reserve powers of the system have been exhausted, is a better time to operate on the patient than in the first twenty-four or forty-eight hours. It is so unreasonable, so opposed to all ordinary laws of health and to common sense that I have always rejected the idea.

There is a class of cases in which the surroundings are not conducive to aseptic surgery. We sometimes hear in medical societies, or even read in medical journals, of wonderful operations, performed in the little hovel or flat, where whole families were cooking, sleeping, eating and living in one room. We hear of these most wonderful recoveries under the most adverse circumstances, but we never hear of the thousands of deaths following operations under similar conditions. In those cases in which the environment and the after-care are bad, it seems to me that the surgeon ought to trust more to nature than to surgical skill, which will be nullified by the ignorance of the nurses in whose charge he leaves the patient.

Accurate statistics, furnished by surgeons, show one side of the question, but it is very difficult to get statistics of cases—recoveries and results—from general practitioners. It is almost impossible for the general practitioner to keep statistics if he wants to. When he attempts to write out his records, he is disturbed and must rush away, and so it goes on every day. He is tired out at night and can not sit down and write for an hour or two. But occasionally, a person can take pains in one particular branch. I would like to see a hundred general practitioners keep accurate records of appendicitis, say for a year or two, and then report them. They ought to have the age of the patient, the number of attacks, the line of treatment pursued, and the final results. Then we might come to some conclusion on the medical side of the question.

The kind of microbes, it seems to me, has little to do with the severity. We know in all cases the bacillus coli communis is found, which gives us cases with low temperature, and very deceiving cases on that account, as they are jogged along by the general practitioner for a week or ten days when suddenly leakage takes place into the peritoneal cavity and when the surgeon arrives the patient is beyond help. Cases with mixed infection of bacillus coli communis and staphylococcus pyogenes aureus have a very high temperature and rapid pulse. These are cases that frighten the general practitioner and induce him to call in a surgeon in time. I have also found cases where the appendix had not ruptured and the peritoneal fluid contained staphylococcus albus only, but with the most severe symptoms. How they get there I do not know. We also find bacillus or diplococcus fetidus and many other kinds, so that all around it seems to me that the variety of bacteria or germs has little to do with the severity of the case or the danger to the patient.

---

[*] Read before the Allen County Medical Society, Fort Wayne, March 20, 1899.

Sometimes an appendix is removed, especially during the interval, which does not seem to be diseased macroscopically; the patient, nevertheless, gives a clear account of having had repeated attacks. If, however, a microscopic examination be made, you will find that the appendix is ulcerated, strictured, etc., and what is better proof, the patient becomes well afterward. Repeated attacks in the same individual vary very much. The first attack may be very light or severe, the second or third may be light or severe, or either of them severe. We can never tell. Many patients are what I call chronic invalids, simply from repeated attacks of appendicitis and the resulting sequelæ.

I think there is no medical treatment that is specific. I think ice or hot applications, or painting with iodin or anything else, are of little value. I do not believe in opium, and still, if the patient is in pain an occasional dose is indicated. Starving the patient, as has been suggested by Ochsner, is certainly efficacious, but does not cure the case; they will have recurrences and require operations.

The diagnosis is generally easy, if the physicians will only look for appendicitis, although the first day the symptoms may point to the stomach on account of the vomiting, or to the bowels on account of the constipation or diarrhea, but after that the well-marked pain in the region of the appendix and the rigidity of the muscles over that part is so clear that a mistake is seldom made. I have operated on cases where I found a malignant growth or a perforation of the bowels, but the mistake was not serious, as this kind of cases equally requires surgical intervention. Morris and Richardson have recorded a large number of cases that show a mistake is made in 3 or 4 per cent. I am perfectly satisfied that I do not make a mistake any oftener and I think every general practitioner in the course of his practice is a splendid diagnostician if he does not make more than this.

The tumor develops as the result of plastic exudate, which walls in the appendix. The appendix becomes attached to the side or the back of the pelvis and finally ruptures, still being well walled in. It sometimes ulcerates through the peritoneum at the side or the back, and the pus works its way upward toward the crest of the ilium, or behind it below the kidney, where it breaks or is opened. These are exceptional cases, patients with the peculiar power of the peritoneum to throw out fibrous exudate, layer over layer, and prevent the rupture into the peritoneal cavity. In fact, the whole question of medical treatment, it seems to me, depends on the health of the individual, especially on his power to throw out the plastic exudate of the peritoneum, and I think that our surgical success depends on the same power. If we operate carefully, restrict contamination of intestines and peritoneum to a minimum, remove the pus, and put in a drain, in a few hours the cavity or the opening we have made is surrounded by plastic lymph and well walled in, and our patient recovers. If, however, the patient's peritoneal secretion is thin and does not coagulate, the bacterial infection is spread all over the peritoneum and we have general septic peritonitis.

I looked over the death record of the city of Detroit for 1899 and I found that 37 cases are put down as having died from appendicitis. There are 54 put down as dying from peritonitis, and though some of the latter cases may be due to pelvic diseases, I am sure that more than half are due to appendicitis, treated with poultices and opium, and finally disposed of with a pious exclamation, "The Lord's will be done."

The death records of these 37 patients were signed by 19 different physicians, and I thought by inquiring from them I might be able to arrive at some kind of conclusion. I received answers from 12, who reported on 25 deaths. Fourteen of these cases had been subjected to operation and eleven others died without any operative interference. As the members of the medical profession who had signed these certificates had been able to properly diagnosticate the cases, and were first-class men in good standing, I thought I might also get further information from them and asked them to give me the number of cases they had had during the year, and how many died with or without an operation. I received reports of 218 cases of appendicitis. Of these, 160 were operated on during the acute attack or during the interval, in fact, at any time when the surgeon thought it was proper. Of these 160 cases, 14 died. This list of surgical cases includes naturally the reports of the principal surgeons and gives a death-rate of about 8 per cent., counting everything—easy interval cases, severe cases, purulent peritonitis, and those actually moribund. The number of cases not operated on, that is, medically treated, were 57, with 11 deaths, giving a mortality of over 20 per cent. From the reports of the physicians in nearly every case, the operation had been urged, but refused by the parents of the patient, or by the patient himself.

I do not want to place these figures forward as positive proof of the result of one line of treatment over the other, because the number is limited. Still, taking them up at random from men who know how to diagnosticate appendicitis, they certainly must be very near the truth. We certainly can not accept the figures of those who do not know what appendicitis is, never diagnose it, and never have a death from it. We must take our statistics from men who are able and progressive and who keep a record of the number of cases; so many were operated on; so many were not operated on; so many died following an operation; so many died without an operation." These statistics from such men must certainly be very near the truth. I would like to have a larger list, but as stated above, one can not expect general practitioners to keep the statistics of all kinds of diseases.

This proves that cases of appendicitis die under medical treatment. This is often denied. I have here the proofs. If I should hunt up all the cases which were put down as peritonitis in the death record, and get the report of them, I feel quite sure that I would increase the above-given record of death of medically treated cases of appendicitis 50 per cent., if not 100 per cent. The general average given by nearly all surgeons is that at least 15 per cent. of appendicitis cases die: 15 per cent. never have a recurrence after the first attack, and about 60 per cent. have recurrences and die off, one by one, at the rate of 15 per cent., unless relieved of their appendices. In conclusion I desire to make the following points:

1. It ought to be a general rule that every case of appendicitis should be operated on as soon as the diagnosis is made, but when it is the first attack and very mild, or no proper facilities are at hand either to perform the operation or to take care of the patient afterward, it is often good policy to wait and watch the case.

2. In cases of second or subsequent attacks, however, the patient should be sent to a hospital, even though it is at quite a distance—unless good facilities can be had at home—and an operation promptly performed.

3. Statistics of cases operated on as they come along.

good, bad and indifferent, by experienced surgeons, give a mortality of only 8 per cent.

4. Statistics collected by general practitioners who are able and up to date, and who advocate surgical interference, show that medically treated cases have a death-rate of at least 15 to 20 per cent.; that at least 60 per cent have recurrences; while the cases operated on are absolutely cured.

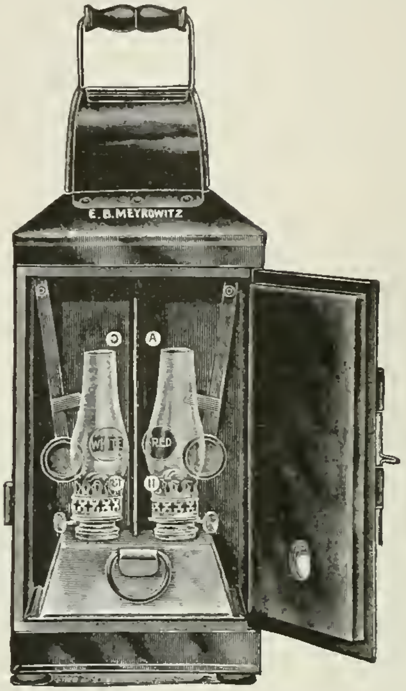
IMPROVED LANTERN FOR TESTING COLOR PERCEPTION.*

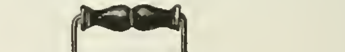
CHARLES H. WILLIAMS, M.D.
BOSTON.

This lantern is an improved form of the one I showed at the meeting of this Section last year. It puts in more practical form the principle which has for many years been carried out on the railroads of Holland, where a color-test both by worsted and a lantern, of more complicated construction, is required. The lamp is arranged with two burners, and in the front of the lantern are two openings so that two colors can be shown at one time, as red and green, two reds, or two greens of different shades, a red and white, etc. In this way a comparison of signal colors can be had, as is often the case in service; or, by moving a diaphragm one light can be cut off, and only one color at a time is then seen. There are thirteen colored glasses, and variations of intensity of color are arranged by a difference in the shades of the colored glasses and by combining them with smoked glasses placed in another disk. Also, the size of the colored area can be varied by a diaphragm moving between the disks.

The lantern is square in shape, about a foot high and six inches on each face. On its front are two revolving disks. The lower carries thirteen glasses, five reds and five greens of different shades, including a red glass that with the spectroscope is seen to transmit a certain amount of green light in addition to the red, and a green glass that transmits a certain amount of red in addition to the green, although not enough in either case to interfere with the general color of the red or green glass when seen by a normal eye. Such glass is often found in signal lanterns, and if a person is defective in his color perception for red and green there is more chance of his mistaking the color of such signals than when the glass transmits light of a purer shade. In addition to reds and greens, this disk carries one yellow, one blue and one colorless glass. The upper disk has several empty spaces and three different shades of smoked glass, and any of these can be combined with any of the glasses of the lower disk to give a variation in the intensity of color. Between the disks is a movable diaphragm arranged so that colored areas of three different sizes can be shown, or so that one light can be completely cut off.

Inside the lantern are two movable pieces of ground glass, which can be put in the path of the light or withdrawn, and the combination of these ground glasses gives very much the same effect as is produced by fog and smoke on the appearance of the colored signal lights. The darker smoked glass should not be used with the smallest opening of the diaphragm, for it will reduce the light too much, but with the larger openings any of the glasses may be used. With each colored glass is an illuminated number, and with each smoked glass a letter, illuminated by the lamp of the lantern, so that the examiner can see it, but screened from the person being examined. In this way it is easy to keep a record of the color shown in every case, together with the name given to it by the person tested. This lantern test is easy to make either by day or night, a darkened room being used by day. These colors do not fade. They resemble very closely the colors and appearance of signals in actual use; and will detect small defects of color perception in the central portion of the retina that may be entirely overlooked by the worsted test.





During the past year I have had four cases who passed the Holmgren test without difficulty but who made so many mistakes with the reds and greens of the lantern as to show that they were unable to distinguish correctly the true colors of signal lights seen at the usual distances. One of these cases who had been twice examined with the colored worsteds and passed as having satisfactory color perception made the following mistakes with the lantern: No. 2 (green) he called red; No. 4 (green) he called red; No. 5 (red) he called yellow; No. 8 (red) he called green; No. 9 (green) he called red; No. 10 (green) he called red; No. 12 (green) he called red; and No. 13 (white) he called red. On testing him in my office he made some of the characteristic mistakes with the colored worsteds, but his former examiner had passed him, and I do not think this mistake would have been made if the lantern test had been used in addition to the worsteds.

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The lantern gives some information that we do not get with the worsted test, especially in regard to small defects in the central portion of the retina, in regard to the recognition of signal colors when affected by fog or smoke, and in regard to the ability to give correctly the proper name to the color shown. On the other hand, the test with the colored worsteds, in which the colors are selected by comparison with certain test colors, as proposed by Professor Holmgren, and which when properly made is a true test by comparison of colors in which no names are used, gives some information that the lantern does not give. Both tests should be used in order to get satisfactory results and make sure that all the dangerous cases of defective color perception have been discovered.

IMPROVED METHOD OF TESTING COLOR PERCEPTION.*

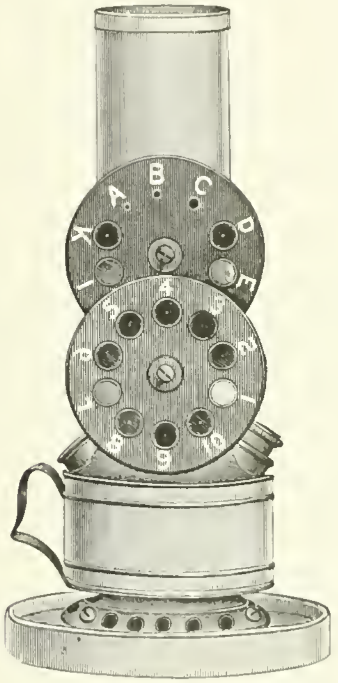
WILLIAM THOMSON, M.D.

PHILADELPHIA.

Dr. Williams' remarks leave but little to be said in favor of the use of a lantern for examination of the color sense. In the system in use of the Pennsylvania Railroad the lantern of Donders has been advised for the testing by the ophthalmic expert, but I am now convinced that a test of this kind should be used in conjunction with the colored wool stick by all the examiners who act under the direction of the division superintendent. Two-fifths of the time of a railway employee's life is spent in governing his action by colored lights by night. The lantern furnishes the test. It also gives us the means of detection of central scotomata, or the color defects caused by central amblyopia induced by tobacco and alcohol. It consists of a small kerosene lamp, or spring candle-stick on which can be placed an asbestos chimney seven inches in height. This can also be placed over an argand burner or an electric light. Two disks of metal are attached so that they can be partly superimposed. Each disk has ten openings, the upper marked by letters from A to K, the lower by the figures from 1 to 10. They are too small to be distinguished at the proper distance. The lower disk has its openings, 10 mm. in diameter, filled by the four colored glasses used on the roads, viz., white, red, green, and blue. This is for the examination in chief, the upper for the cross examination. The upper disk has four openings, from 1 to 10 mm., which can be brought over the lower glasses to diminish their size. The other openings have dark London-smoked and ground glass to indicate the effect of storm, snow, rain, or fog. G, H, and I are efforts at imitation of confusion colors, and are called and seen as white by the color-blind. They are light smoke, pink, and blue-green to the normal eye. The last is K, a cobalt transmitting both red and blue light, both evident to the perfect eye, but appearing as blue only to the color-blind. The yellow color of the kerosene flame prevents the blue from being well seen in the pink and blue-green openings, which therefore appear white to the color-blind. The examination is made in a dark room, the man being placed 5 meters away. As the examiner turns the disk, the man is directed to call out the colors presented. Any mistakes are at once detected and if it be required can be recorded on proper blanks by using the figures or letters employed.

The degree of color defect can be determined by the use of the openings from A to D. A man with full color sense should perceive the colors when the smallest openings, 1 mm., are used. If he fails, the larger ones are used, and if at 5 mm. he fails to see the light through 10 mm. opening he is much under standard, having only 1/10: by placing him at 1 meter he may again fail and show a defect of 1/50.

No man should pass who would call the red signal, green or white; the green one, red or white: or the white one, red or green. The man should also be asked to tell what the lights indicate as signals, the white, safety; green, caution; red, danger, halt; the blue, the inspection light, indicates that a car should not be moved showing a blue light.



To enable the officers of the road, the examiners or others, to appreciate partly the defect of color-blindness the chimney may be placed over an alcohol lamp having mixed with the alcohol a quantity of common salt. The colors are then all destroyed for those having normal sight. The illumination of the color stick, or of other colored wools in a dark room by this yellow light apparently destroys the colors, and closely imitates the defect of the color-blind. With the addition of this convenient lantern to the color stick the so-called Pennsylvania Road System[1] may be regarded as more complete. It has been in use for twenty years on that road, and has been adopted by other corporations estimated to control in all 150,000 miles of track. The lantern and other instruments mentioned in the P. R. R. system can be obtained from Queen & Co., Philadelphia, accompanied by certificates of their accuracy signed by Dr. Thomson.

---

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Published in full in the 6th edition, Nettleship on Diseases of the Eye.

CUTANEOUS MANIFESTATIONS IN DIABETES MELLITUS.*

S. SHERWELL, M.D.
BROOKLYN, N. Y.

In company with its direct analogue, histological as well as in some degree functional, the skin suffers many insults from the glycosuric state, subjectively, and often bears decided objective symptoms resulting therefrom.

It never should be forgotten, though it often is, to what large degree vicarious elimination of morbid and effete matter is carried on by the skin, in its natural effort to relieve other organs in the human economy, more particularly the larger splanchnic glands, as for example the liver and kidneys, as evidenced in those cases by icterus, uridrosis, etc.

In fact, the integument must really be recognized, taken in its totality, as the largest eliminating organ of the body, which perhaps is only another way of putting the aphorism of Æsop, "that there is nothing like leather."

Skin symptoms are frequently the first to call our attention to the presence of the morbid condition which is being considered in its various aspects by this Association, and which from its most noteworthy and constant index, presence of sugar in urine, we call glycosuria.

To enumerate all the subjective and objective phenomena which this morbid condition may produce in and on the skin would almost seem like having to give a list of the ordinary diseases thereof, certainly of all the so-called primary lesions. I shall content myself with commenting on a few of the more usual, and easily recognized—though not always so by the general practitioner—and one or two of the rarer manifestations. This list may be made out in the order of relative frequency, as follows:

1. Xeroderma, or a condition of dry skin.
2. Pruritus, without any, or at least any noteworthy, objective lesions, the genital regions in both sexes apparently suffering most.
3. Eczemas, partly neurotic, at other times catarrhal, having as chief seats the genitals, and flexures of the body and limbs.
4. Furunculosis, often general in character, but sometimes regional. This is often the case with the very common occurrence of its analogue—carbuncle. The seat of preference seems to be the extensor aspects of the body, as nucha, gluteal region, etc.
5. Conditions of erysipelatous manifestations and gangrene; late symptoms as a rule will not be considered here, as they belong chiefly to the domain of general surgery.
6. Xanthoma diabeticorum, a disease accompanied by formation of xanthomatous new-growths, often in immense quantities, and more particularly over extensor surface of body and limbs.
7. Possibly, the recently recognized and not much investigated "blastomycetic dermatitis," in which tumors looking like verrucous lupus, or the so-called "tuberculosis verrucosa cutis," become fungoid in character, and on microscopical examination are found to be filled with the fungi of saccharine fermentation. There have been very few cases of this last disease noted or described, not, I think, over twelve in all. I have lately been in communication with its closest and earliest observers—Drs. Hyde and Montgomery, of Chicago—and have begged them to take its possible connection with the glycosuric state into consideration, which has hitherto been but imperfectly done; they have considered it a good suggestion. It would seem to me, from the nature of the cryptogamic parasite present, to be an interesting point for consideration.
8. Dermatitis herpetiformis—Duhring's disease.

In considering the few points given above in something like sequence, I would say that the dry skin of glycosurics is capable of a simple explanation. The parched lips, the dry throat, the dry condition of the mucous membrane, from excessive excretion of water by the kidneys, are their own explanation. This condition should always excite suspicion in the medical mind. As to their relief as far as practicable, the means are obvious, viz., local treatment, and appropriate diet and medication.

The second in order, pruritus, is always suspicious, and the urine should be carefully studied, not only that of the morning, the so-called "urina sanguinis," but that obtained after a full, rich evening meal. Sometimes the latter shows considerable sugar, when that of the morning does not. A list of palliative and curative remedies is altogether too long to be treated of here. Naturally, always the chief objective point is to relieve the diathetic condition.

Eczemas that occur so frequently, especially in the sites mentioned, may be dismissed briefly. Often the fermentation parasitic element, as well as its congener, the trichophyton, can be detected around the genitals. Lotions mildly parasitic in character usually seem to act better, and are cleanlier than salves in these conditions.

Furuncles and carbuncular states need appropriate treatment. I need not give any specific recommendations; the recognition of the cause and the attention as needed to the local condition are generally plain. I will, however, say here that in conjunction with local treatment mild dosage with arsenic and the use of Startin's old tonic are of manifest and great advantage.

I shall not consider the purely surgical questions of erysipelas and gangrene, as the gentlemen preceding me have done it so fully. I would say, however, that the only cases I have ever seen of erysipelas of the fauces and upper air-passages occurred in diabetics.

The sixth condition, that of "xanthoma diabeticorum," is now a well-recognized and striking disease of the skin, and I may be pardoned perhaps for a few moments in its description, as I very lately have had a very striking example of this condition, in the person of a woman aged about 40. [Photographs were exhibited.] It will be seen that she is covered with an immense number of papular, tubercular, and nodular tumors over extensor surfaces and limbs. These in the natural light appear of a yellow—xanthomatous—color and almost exactly resemble the tumors one sees around the eyelids, especially in the upper lid around and near the internal canthus.

This woman has now suffered nearly six years with this affection, always constantly present, but decreasing somewhat in summer, and every year becoming relatively worse. The disease in question has now been recognized for about fifteen years, first, I believe, by Malcolm Morris, of London. There are only about thirty-five cases reported in dermatological literature, of which two are my own. In all these cases glycosuria, generally of a pronounced character, was found. In the case above referred to, over 10 per cent. of sugar was present. In fourteen days of anti-diabetic diet alone she improved at least 30 per cent. in general condition. The case was treated last winter. In about two months, under that regimen and a little medication, the tumors had entirely disappeared, not even a macular pigmentation being left. The sugar decreased *pari passu* with improvement of her condition, and now, as I see her about every fortnight, I find the sugar reaction is very slight. Objectively, as well as subjectively, to all intents she is a well woman. I presume, however, indiscretion in diet, or laxity in treatment, would allow the disease to return.

---

*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

DIABETES MELLITUS IN CHILDREN.*

HENRY DWIGHT CHAPIN, M. D.

NEW YORK CITY.

One who proceeds to investigate this subject will be at once surprised at the little that has been written on it. A large portion of the works on diseases of children say nothing at all about this disease, while others treat of it in a few lines. It is undoubtedly a rare affection in children, yet it does occur, and certain phenomena in connection with the disease should lead us to be on the lookout for it. Gerhardt has recorded 111 cases at various ages from 11 months to 16 years. In the last volume of Keating, 1895, a case was reported in which grape sugar was found in the liquor amnii of a diabetic pregnant woman. Unfortunately the infant was deadborn; but Roosa meet with a similar case in which the infant lived long enough to have the urine analyzed. In this case the examination of the urine of the baby gave a negative result, although the mother's urine and the liquor amnii showed the presence of glucose.

I report two cases which I have seen during the past year in consultation. The first one was seen with Dr. Charles Jackson, of New York, last October. The patient, a boy of 4½ years, had always been delicate, but had never had any special disease. He was taken to see the Dewey parade, and was perhaps unduly exposed and fatigued. Following this he seemed to be out of condition, and to have a slight fever. A physician was called in, who diagnosed malaria, and the child was accordingly put on quinin, but did not improve. Dr. Jackson was then called in, and found no cause for the failing health until he examined the urine and discovered that it was loaded with sugar. The child passed from 105 to 110 ounces of urine daily. I was called in consultation on October 10, Dr. Jackson having first seen the case on October 6. I examined the case very carefully, and could find absolutely nothing in any of the organs to account for the atrophy of the child. There was no evidence of tuberculosis. I gave a very bad prognosis. The child died three days later. There had been no other symptoms except loss of appetite and interest, and emaciation. The course of the disease was apparently about three weeks.

The other case I saw in consultation with Dr. McPhee, of Harlem. This occurred in a boy of 6 years, and the duration of the disease was between three and four weeks. On examination, I could find no cause for the rapid atrophy evidently taking place. The only feature of the physical examination was hydrocele of the right tunica vaginalis. When I saw the child he was in a state of semi-stupor; it could hardly be called coma. A few days later Dr. McPhee sent me word that the child had lived four days after the consultation. The coma had diminished following a free sweating and relaxation of the bowel; then it had gradually deepened until the end. In both of these cases the urine contained approximately 5 per cent. of sugar. The sugar continued to be present in about the same quantity up to the last. The respirations rose to 56, and the temperature to 101.2 F., while the pulse ranged between 110 and 110 during the last few hours of life. The only nervous manifestation was a peculiar reaching movement of the hands. The pupils responded to light. His emaciation was so rapid that it could be distinctly noted in the four hours elapsing between the visits of the attending physician.

In my experience, I have met with only a very few cases of diabetes mellitus. I believe we can sum up our knowledge of this disease very briefly. First, I would call attention to its exceeding rarity. I have the urine examined of all the children in the babies' wards of the New York Post-Graduate Hospital, and also in the Willard Parker Hospital, and of the Riverside Hospital; yet it is exceedingly rare to find any sugar in the urine. The next point that I should make is that the disease is exceedingly fatal in young children. Why this is so, I am at a loss to explain. In both of the children referred to there was no evidence of assimilative disturbance, and the children had been in a state of good nutrition.

In looking up the literature I found one case which was reported to have recovered. In the light of our present knowledge of this disease, and particularly what we have just heard about testing for glucose in the urine, I should doubt if in this case the diagnosis was correct.

The third point I should make is that this disease in children is accompanied by exceedingly rapid emaciation. A few weeks ago a little girl of 10 years was sent to me, a diagnosis of diabetes mellitus having been made. The mother stated that three or four specimens of the urine had shown sugar. A specimen was sent to me, and I failed to find sugar by Nylander's test. I found the child to be fairly well nourished, and during the four or five weeks that the glycosuria was said to have lasted she had not failed materially. I therefore felt justified in stating that the child was not suffering from diabetes mellitus. Subsequent examinations have failed to show any glycosuria. I believe whenever a child is brought to the physician with a rapid atrophy he should examine the urine for sugar. I wish to emphasize the statement that this is one of the diseases of childhood which produces rapid atrophy.

Vacancies in Medical Corps of Navy. A naval medical board of examiners for examination of candidates for admission to the medical corps of the navy is now in session at the Naval Laboratory, Brooklyn, N. Y., and will remain in session for several months. There are now seventeen vacancies in the list of assistant-surgeons. Congress at its last session passed a law taking assistant surgeons. out of the steerage and making them ward-room officers as soon as they entered the service, giving them the rank of junior lieutenants and the pay of assistant-surgeons in the army. Candidates must be between the ages of 21 and 30. Circular of information can be obtained on application to the surgeon general of the navy, navy department.

---

*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

INFLUENCE OF SEA-AIR AND SEA-WATER BATHS ON DISEASE.*

W. BLAIR STEWART, A.M., M.D.

Late Assistant Professor of Pharmacology and Physiologic Action of Drugs, Medico-Chirurgical College; Surgeon to Atlantic City Hospital; Member American Medical Association; American Academy Medicine, Etc.

ATLANTIC CITY, N. J.

The purest air in nature is that found on the high sea after traversing hundreds and thousands of miles of pure sea-water, uncontaminated by smoke, dust, and the exhalations of cities. Saline mists and fogs clarify, purify, ozonize, and vitalize the air. Sea-air is tempered by its surroundings; in summer it is cooled by radiation from the lower water-temperature and in winter warmed by the higher water-temperature. Moisture is also taken up by it and a doubtful infinitesimal per cent. of salt. The so-called trace of iodin is very questionable and can not be positively demonstrated. Sea-air is classed as an alterative by some, but not on account of its supposed iodin.

Outside of an island in mid-ocean, Atlantic City is probably situated in the best location for pure sea-air; better than any point on the eastern coast of the United States. Its geographical location is on an island of pure sand, five miles from the mainland, and twenty miles seaward of the head of tide-water; at a point of a bend in the coast line, thirty miles northeast from Cape May and seventy miles from New York bay, where the fresh waters mingle with the ocean. It is surrounded by a body of salt water, uncontaminated by fresh water streams, and entirely free from malarial or any other paludal poisons. The salt meadows between the island and the shore are overflowed by tide-water twice in twenty-four hours. The gulf stream is about 125 miles from the shore and tempers the surrounding sea-water and the air so that in winter it is from 10 to 20 degrees warmer and in summer from 10 to 20 degrees cooler than interior cities. High winds are less frequent than at other points. Sea-air mixed with sea-fog is not injurious to most cases, as it contains no noxious elements, is non-irritant, and quite equable in temperature. The two great effects of sea-air are upon the nervous system and digestion.

Coming from the dense air of cities and the rare air of high altitudes, respiration and heart action are slowed, at once reducing the consuming energy of the body and lessening waste. Sea air is dense and ozone-laden and, therefore, it increases the oxidizing power of the blood and is Nature's best remedy for anemia. It assists in fighting the malarial parasite, and will, in time, eliminate the poison from the system. Malarious subjects come to the shore and often overload the stomach, overheat themselves, sit in the cold, indulge in promiscuous sea-bathing, thus bringing on acute paroxysms, and then blame Atlantic City. If care be exercised, the usual chill may often be avoided. Night air here is not injurious to these cases. Patients with heart disease do well here, as less work is thrown on that organ and oxidation is carried on better than in higher altitudes. Cardiac dropsy sometimes improves for this reason.

Convalescents from disease and those who have been debilitated, over-worked, and confined to rooms and offices, invariably improve, if they live hygienically, and follow proper dietetic rules. The effects of sea-air are stimulant at first, and add vigor and tone. Appetite is increased decidedly and a drowsy feeling is almost sure to follow its satisfaction with a refreshing night's sleep. Many business men come to Atlantic City periodically to get a full night's rest and sleep. Strumous and tubercular children and adults will improve rapidly if they live in the sea-air and follow proper dietetic rules. Many such cases have been apparently cured here with little medicine. Tuberculosis in its early stages is amenable to treatment in sea-air and sunlight. Such cases should invariably act under physicians' advice. Consumption in its later stages is best at home, as it will not improve here. Many cases of bronchitis are permanently cured by sea-air. There is less danger of pulmonary hemorrhage in sea-air at sea-level than in high altitudes, owing to the 15 pounds pressure to the square inch here and the density of the air; in higher altitudes the internal blood-pressure is not so readily equalized at first and often gives rise to hemorrhage. Many cases of asthma and emphysema do well here, while others are made worse. Trial only can demonstrate. Hay-fever almost invariably disappears in sea-air, but when the wind comes from the land it may be aggravated.

It is a mistaken idea to think that one can not catch cold at the seashore, but one coming here with an acute cold will throw it off more rapidly than in the interior. Some people cure their colds by sailing every day and living on the board walk. Hot and close rooms are to be avoided at the seashore, as they are productive of colds and depression. Laryngitis and acute catarrhal troubles do well at the shore if properly managed; but do poorly, if smoking, late hours, and carousing are encouraged. Acute lobar pneumonia is rarely seen in Atlantic City, and when it is it usually runs a very mild course. Cases of Bright's disease and diabetics in the early stages do well. Contrary to the writings of some, many cases of eczema and skin troubles improve perceptibly and are cured in sea-air. This is particularly noticeable in young strumous children. Digestive troubles are very amenable to treatment if proper rules are followed.

Neurasthenics do particularly well in Atlantic City in the fall, winter, and spring months, but not in July and August, when the large crowds are here, unless they go to parts of the island that are isolated. Insomnia soon leaves and nerve tone rapidly improves. Melancholia and insanity are usually aggravated by sea-air. Hysteria may or may not be improved, acording to the cause. Neurasthenics may find the first few nights here unpleasant and restless, but these soon give way to sound sleep. These cases should be closely watched to prevent abuse of surf, hot, and cold sea-water baths.

Sea-water is a physical and chemical mixture and varies in the quantity of constituents in various localities. Its strength is affected by admixture with fresh water; the depth from which it is taken; the air, temperature, and ocean currents. Chemists say that it contains about 3.5 per cent. solids and 96.5 per cent. of water. The main solid constituents are sodium chlorid (2.7 per cent.), magnesium chlorid (0.3 per cent), magnesium sulphate (0. 2 per cent.), calcium sulphate, calcium carbonate, potassium chlorid, magnesium bromid, traces of carbon dioxid, iodin, etc. One chemist figures 3½ grains of bromin in 100 pounds of sea water. Salt baths are necessarily medicated baths and must be taken under limitations by the sick and well.

No form of sea-water baths is so generally used and abused as the surf bath. It combines the effects of cold and violent exercise. On entering a cold bath there is a shock, with contraction of the skin and muscles, pallor, quickened respiration and heart action, slight depression, shivering, and reduction of temperature. This lasts for a few seconds or minutes, when a reaction sets in. Respiration slows; the heart acts less vigorously; a general glow comes to the skin, and a sense of invigoration or stimulation follows. If continued beyond this point, depression again follows with weakened heart action, blueness of skin and lips, shivering and chilling, and a feeling of prostration and drowsiness. If still persisted in, coma, syncope, throbbing headache, apoplexy in the aged, congestion of the internal organs, subnormal temperature, or death from general depression will follow. All these symptoms are intensified in the presence of exercise and in moving sea-water. It is well known that moving water will abstract much more heat than still water.

---

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Wave force and pressure varies with the depth of the water, direction of the wind, ebb and flow of tide, and the pressure of breakers. Exercise beyond the breakers where the waves regularly follow each other is not so violent. A slight jumping or rising motion is sufficient to float over the wave without much shock; but if one stands and receives its full impact the shock is terrific. This soon produces physical strain and soreness. Floating and swimming beyond the breakers is quite invigorating. Most force is expended by bathing in the breaking waves (breakers), and it is practically a series of blows that soon exhaust. Many prefer the washing effects of the broken wave and return flow to be obtained by lying just to the shore side of the breakers. This is the least exhausting form and best suited to children.

Many do not experience a reaction after entering the ocean and come out of the water with so much depression that days and sometimes weeks are required to recover. Such subjects should never take surf baths nor even cold tub baths. The proper time to leave the surf or cold bath is during the height of exhilaration or reaction, which comes on in from three to fifteen minutes in the strongest subjects. Leave the bath and immediately go to the bathroom and rub briskly with a coarse towel and then rest. Many lose the real benefit of the bath by exercising too freely afterward. Daily bathing is usually too depressing to the average person; every other day is best. If stimulants are necessary to bring about reaction it is harmful and should be avoided. It is my custom to begin, in many cases, with tepid or cool baths in the tub or pool and gradually accustom the patient to cold before permitting a surf bath. The temperature of sea-water at Atlantic City varies from 65 to 75 or 80 F. in summer, and from 45 to 60 in winter.

It is unwise for any one to enter the surf bath before his morning meal and never until three hours have elapsed after eating. Cold baths retard digestion. Never come from the water and go directly to meals until reaction has been thoroughly established. Great excitement of any kind is a contrary indication to entering the water; also immediately after exercising freely, or indulging in intoxicating drinks, as alcoholics prevent healthy reaction. Patients with bad varicosities are liable to rupture them in the surf. Children under three years and real old persons should never bathe in the surf or cold bath, as their resisting and reacting power is too low. Never force young children into the ocean, as it is productive of harm. Other contraindications to surf bathing are advanced heart disease, atheroma, bronchitis, menstruation, advanced Bright's disease, pregnancy after third month, rheumatism, acute gout and acute diseases.

Mild forms of neurasthenia, insomnia, anemia, indigestion, and debility by too close confinement are most benefited by surf or cold sea-water baths. Tepid and cool salt baths are best for convalescents, those whose reaction is very poor, and young children. Sea-water baths act upon metabolism much more than fresh water. Tissue oxidation is increased and elimination much improved. Weight at first decreases but later increases.

Warm salt baths at 85 to 97 F. are used to encourage slight perspiration, relax the skin, reduce internal congestions, and carry off a part of the body poisons through the skin. These baths should always be taken in a warm room and never prolonged over ten minutes. They should be followed by a good rub with alcohol or cocoanut-oil and a rest of at least one hour. Many prefer this bath at bedtime to induce sleep. Some aged neurasthenics and those with low resistive power do best with these baths. My policy is to give the salt bath only every other day. When continued too long there is headache, flushed and throbbing temples, great prostration, languor, and rapid elevation of temperature, and body oxidation is reduced. Warm baths are used in all cases where relaxation of the sudorific glands is required, and in reduction of many forms of pain. The hot sea-water bath is rarely of much use except in uremia and to produce profuse perspiration. The practice of so many people taking warm and hot sea-water baths indiscriminately is productive of much more work for the physician and harm to themselves. Untrained attendants will always put your patients into baths that are too hot and keep them there too long. It is always wise to lay down explicit rules for each case and enforce them. Never tell a patient to take warm or hot sea-water baths and then trust to his knowing how to take them.

THE IDENTIFICATION OF DEXTROSE IN HUMAN URINE.*

HEINRICH STERN, Ph.D., M.D.

Professor of the Diseases of Metabolism, College of Physicians and Surgeons, St. Louis; Visiting Physician, New York Red Cross Hospital; Attending Physician, St. Elizabeth's Hospital; Member American Medical Association; Member American Chemical Society; Fellow New York State Medical Association, etc.

NEW YORK CITY.

Dextrose, in insignificant traces a constituent of almost every normal urine, can be readily demonstrated in the renal excretion, provided it occurs in sufficient amounts. The moment, however, that urinary grape-sugar is detected by the more commonly employed methods, it indicates a deviation from the normal systemic state. Thus, in glycosuria, no specific pathologic element makes its appearance, but a regular constituent of excessively increased quantity. While, as a rule, glucose can be positively identified in urines containing 0.5 per cent. or more of it, great difficulty in this respect is often experienced when smaller amounts are present.

Glycosuria, a well-defined condition, resulting from or concurring with some systemic anomaly, is most always recognized by the painstaking physician; yet, certain systemic occurrences—physiologic or pathologic—may be erroneously diagnosed as glycosuria, when, as a matter of fact, grape-sugar in appreciable quantities was never discharged by the urine. Coinciding with pseudoglycosuria, there may be other symptoms apparently pathognomonic of the diabetic state; thus, I know of a number of instances where individuals underwent treatment for diabetes without ever having been subject to this affection.

---

*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

Glycosuria is frequently noticed first by the medical examiner of a life insurance company, and there is no reason to doubt the correctness of the diagnosis in the great majority of instances; however, many spurious cases, which came under my observation, were originally interpreted as glycosuria by life insurance examiners.

This pseudo-glycosuria, or diabetes, which has absolutely nothing in common with the true condition, debars the applicant from obtaining any life insurance.

In the *Medical News* of June 4, 1898, under the title of "The Life-Insurance Company and Its Encroachment upon Personal Rights," I referred to the following instance: "A colleague, aged 45 years, of good physique, good family history and good habits, applied for life insurance in one of our companies. He was rejected on account of diabetes. Numerous examinations of his urine did not reveal to me any glucose, nor does his general condition warrant the assumption of a glycosuric or diabetic state. The applicant himself was, and still is, in the habit of examining his urine from time to time, and as yet has never detected any grape-sugar or any other abnormal constituent. The inefficient examiner was evidently mistaken and negligent. Possibly his Fehling's solution had deteriorated; possibly the few pieces of chemical apparatus used were not previously thoroughly cleaned. No matter what caused the apparent copper reduction, it was this official's duty to apply at least one control test to ascertain the presence of glucose. Had he done so the rejection of the applicant on account of diabetes could not have occurred. I have selected this case from a number of others which I have in mind, as it occurred recently, and as the applicant is a well-informed, conscientious and trustworthy physician."

I repeat, that in the case just alluded to, not a single abnormal urinary constituent was present, that transitory glycosuria, as experimentally proved, had to be excluded, and that the reduction of the copper solution was due to either its deterioration, or to unclean apparatus, or to inexperience of the examiner, or to any two or all of these possibilities together.

Gross negligence, to say the least, is often exercised when testing for dextrose in the urine. I distinctly recall three cases designated as "diabetes" by life-insurance examiners, where the reduction of copper in alkaline solution was caused by tartronyl-cyanamid in excess. Had the analysts performed one or two control tests, such an error would never have occurred. Some instances of apparent glycosuria were in reality such of creatininuria. The application of the Weyl-Šalkowski test for creatinin left no doubt as to the true reducing factor.[1]

A case of supposed diabetes referred to me for treatment in 1895 turned out to be one of urobilinuria. Urobilin, which was present in greatly increased amounts, imparted to the urine reducing qualities; hence, Trommer's test, when applied by the family physician, gave apparently positive results. A few control tests divulged the non-presence of glucose, and urobilin in rather abnormal quantity was detected by two very simple processes.[2]

Another case of assumed diabetes which I encountered proved to be one of intestinal hyper-putrefaction, with accompanying indicanuria. Evidently the family physician who rendered the original diagnosis was only acquainted with the bismuth tests for the detection of dextrose, for urine rich in indican possesses the property of reducing the bismuth salt. It was an easy matter to disprove the occurrence of glycosuria, and to point out indoxyl-potassium sulphate as the reducing substance.[3]

Alkaptonuria, so-called, is of comparatively infrequent occurrence; however, when it is first recognized in an applicant for insurance or in a patient, it is most always mistaken for glycosuria. The reducing effect of the alkaptonic acids upon alkalin copper solutions is similar to that of dextrose.

These acids, however, do not undergo fermentation, and do not reduce bismuth subnitrate like glucose, although they may cause a precipitation of a brownish substance; alkapton does not reduce picric acid in the presence of a free alkalin hydrate, and does not respond to the phenyl-hydrazin and polariscopic tests for dextrose. Exposed to the air, its solution resumes a much darker tint. A young man, aged 19, in 1894, was rejected by one of the large New York life insurance companies on account of what they pronounced "diabetes." The applicant's medical adviser, who felt satisfied as to the presence of glycosuria and some of its apparent concomitant manifestations, instituted a rigid antidiabetic diet and prescribed a preparation of opium. The supposed glycosuria was not diminished at the end of four or five months' treatment, and the patient, finding himself growing gradually weaker, called in some other practitioners, who were of unanimous opinion as to the nature of the affection. A consultant of great prominence, not questioning at all the correctness of the diagnosis made by the other physician, finally advised a prolonged sojourn at Carlsbad. An analysis of the patient's urine made soon after his arrival at Carlsbad revealed the presence of 2.5 per cent. of glucose. Uranalysis, performed by the same chemist, just before the patient's departure from that town, demonstrated 0.5 per cent. grape-sugar only.

---

[1] Weyl-Salkowski test for creatinin. Reagents. 1. Ten per cent. solution of sodium nitroprussiate; 2. Ten per cent. solution of sodium hydrate; 3. Acetic acid.

Detection: If to a specimen of urine containing creatinin a few drops of the freshly prepared sodium nitroprussiate solution and some of the sodium hydroxid in solution are added, a transitory ruby discoloration of the urine, soon turning into yellow, is produced. Addition of acetic acid and subjection to heat when the yellow color is obtained imparts to the mixture at first a greenish and then a bluish tint. Finally, a precipitate of Berlin blue is thrown down. The reaction will occur only if the mixture has been heated.

[2] *a.* Detection of urobilin: Reagents—Ammonium hydroxid and solution of chlorid of zinc. The urine, rendered alkaline by the addition of ammonia, is separated by filtration from the phosphatic deposit. To the filtrate, a few drops of a chlorid of zinc solution are added. The occurrence of a green fluorescence denotes the presence of excessive amounts of urobilin. The mixture, on spectroscopic examination, shows the characteristic absorption band on the intersection of green and blue, between Fraunhofer's lines *b* and *F*.

b. Reagents—Chloroform, alcoholic solution of chlorid of zinc, and absolute alcohol. Detection: The urine and a few c.c. of chloroform contained in a test-tube, are repeatedly, but gently, shaken together. After separation of the chloroform, one drop of an alcoholic solution of chlorid of zinc is added to it. If urobilin is present in appreciable amounts, a rose-red discoloration with green fluorescence will ensue. In case the mixture has become turbid, it will clarify on the addition of absolute alcohol. (E. Wirsing: Verhandlungen der Würzburger phys. med. Gesellsch. N. F., xxvi, No. 3).

[3] Jaffé's test for indoxyl—potassium-sulphate. Reagents—Hydrochloric acid: concentrated, freshly prepared solution of chlorid of calcium, and chloroform or ether. To 10 c.c. of the albumin-free urine in a test-tube, add an equal volume of concentrated hydrochloric acid and heat. Next add, drop by drop, of a concentrated, freshly prepared solution of chlorid of calcium until the maximum blue tint is reached. Following this the mixture is well shaken with 2-4 c.c. of chloroform (ether, Salkowski). The chloroform-extract of indican, on standing, settles on the bottom of the test-tube, and the depth of its color may serve as an approximate indicator of the amount of indoxylpotassium sulphate contained in the urine.

After an examination of the young man's urine made by me I stoutly contended that its copper-reducing constituent was not dextrose, but one of the alkaptonic acids. Numerous analyses of the same urine, which I subsequently performed, confirmed my original assumption in every instance.[4] I have examined the urine in question prior to the gentleman's departure for Europe and also soon after his return, and I assert that he never excreted any urinary glucose before he left nor ever after he came back. The inferences to be drawn from this instance are obvious, and this case drastically illustrates the methods in vogue at certain continental watering-places.

Negligence, above all, is responsible for the errors in diagnosis in the instances heretofore cited. Such mistakes are never made by conscientious and painstaking examiners, for, if they do not feel themselves competent to definitely diagnose a given case, they invite efficient assistance, and thus untold anxiety and many an unjust rejection may be averted. A patient is free to change his physician when he has found him incompetent, but this advantage is denied him when he is an applicant for life insurance, for, in this case, the medical examiner is virtually an autocrat, whose opinion—"Roma locuta, causa finita"—leaving the benefit of the doubt always to the company employing him, is decisive. In many instances the life-insurance examiner is not chosen for his ability and reliability in matters medical. On the other hand, even if all necessary precautions are taken, it is not always an easy task to positively identify grape-sugar occurring in small, but still, pathologic, amounts. This is due to the limited resources for chemic research at the disposal of the general practitioner and his lack of special training for more exact analytic work.

The delicacy of a test for glucose is dependent upon the character of the latter's solution, hence, a test for dextrose, in point of sensitiveness, responds differently if applied to a watery solution than if used with the urinary fluid. Furthermore, the delicacy of a glucose test is not the same in all urines, being dependent on quality and quantity of the other urinary constituents. Sensitiveness of a method for the detection of glucose in the urine is by no means identical with its accuracy and reliability. Thus, Trommer's test, for instance, is an exceedingly delicate one, if skilfully applied to certain urines; in the great majority of instances, however, its trustworthiness can not be relied upon for amounts of dextrose less than 0.5 per cent. The same may be said of the other testing methods in general usage. Böttger's or Johnson's picric acid or the fermentation tests are equally delicate under favorable conditions, but, according to my experience, their employment should be restricted to urines containing 0.5 per cent. and more of grape-sugar.

By the application of tests most generally used, pathologic quantities of urinary glucose may be overlooked altogether, or grape-sugar may be confounded with a number of other urinary constituents. Especially is this the case where the other concomitant manifestations are equally ill-pronounced. I have prepared the following list to show the limit of sensitiveness and that of reliability of the different tests:

Tests for Dextrose in the Urine.	Limit of Sensitiveness. Percentage.	Limit of Reliability. Percentage.
BISMUTH TESTS.		
Böttger's	0.1	0.5
Nylander's	0.1	0.3
Brucke's	0.2	0.4
Maschko's	0.2	0.4
COPPER TESTS.		
Trommer's	0.1	0.5
Salkowski's	0.5	0.5
Seegen's (filtration of urine through animal charcoal)	0.01	0.05
Fehling's	0.3	0.3
Worm-Mueller's	0.25	0.3
Haines'	0.2	0.3
Elliott's	0.2	0.3
Pavy's	0.2	0.3
Phenylhydrazin test	0.03	0.05
Moore-Heller's	0.5	0.75
Penzoldt-Rubner's (ammonia-lead acetate)	0.1	0.2
Methylene-blue test	0.04	0.3
Picric-acid test	0.1	0.5
Sodium sulpho-indigotin	0.1	0.5
Hoppe-Seyler's (Nitrophenylpropiolic acid)	0.5	0.75
Penzoldt's (Paradiazobenzolsulphonic acid)	0.1	0.3
Furfurol tests	0.02	?
Horsley-Pratesi's (caustic potash, potassic silicate, potassic bichromate)	0.4	0.75
Fermentation test	0.1	0.5
Polarization	0.01 with best instrument.	1.0 and over by instruments in gener'l use.

In the following I have recounted those disturbing factors which impair the value and mar the lucidness of the different processes commonly employed for the detection of dextrose in the urine:

THE BISMUTH TESTS.

1. Böttger's Process.—This test depends on the reduction of bismuth subnitrate in an alkaline fluid to black metallic bismuth in the presence of sugar.

Disturbing factors and sources of error.—Excessive amounts of pigment, glycuronic acid, mucin and other urinary constituents containing sulphur by the production of bismuth sulphid, which in appearance is similar to bismuth reduced by sugar. (If but traces of sulphur are present, a reddish-brown sediment is produced.) The grayish tint often imparted to the bismuthic salt is by no means indicative of the occurrence of minute amounts of urinary dextrose.

Prevention.—The coloring matter should be separated by filtration through animal charcoal. Most proteid substances are removed by boiling of the acid urine, by acidifying and boiling of neutral or alkaline urine. The coagulate is allowed to settle and the test is performed with the clear urine.

2. Brücke's Method.—The separation of albumin—a possible source of error—Brücke accomplished by the aid of Fron's reagent, an acidulated solution of bismuth—potassium iodid—[5] which, by supplying bismuth oxid, serves at the same time as a detector of urinary glucose. A precipitate of bismuth-iodid is produced in the diluted solution. This sedimentation would, consequently, also occur on the addition of the reagent to the unacidulated urine. As, however, an excess of acid would redissolve the albumin-precipitate called forth

---

[4] Detection of the alkaptonic acids: 1. Reagent—Chlorid of iron. Chlorid of iron added to a solution of homogentisinic acid produces a transitory blue discoloration; added to a solution of uroleucinic acid, the ensuing discoloration is green. 2. Millon's reagent—In unheated alkaptonic acid solutions, Millon's reagent slowly produces a yellow precipitate, gradually turning to orange; the color of the precipitate, on being heated, readily changes to light terra-cotta red. Other tests for the presence of these acids or the methods for their preparation are too complicated for execution by practitioners of medicine. The darker color, when exposed to the air, the negative results obtained with the bismuth, the picric acid and the fermentation tests, the optic inactivity and the heretofore-mentioned tests, suffice for the recognition of alkaptonuria and for its discrimination from glycosuria. However, the definite identification of the acids is possible only by their preparation from the urine.

[5] Preparation of reagent: One and one-half grams freshly-precipitated bismuth subnitrate is heated with 20 grams distilled water to the boiling-point; 7 grams potassium iodid are afterward dissolved in the mixture, which then assumes a red coloration. The whole is finely acidulated with 1.5 grams hydrogen chlorid.

by the bismuth, it is essential to ascertain what quantity of hydrogen chlorid has to be added.

The following process is, therefore, recommended: Two test-tubes are filled to the same height, the one with water and the other with the urine to be examined. Sufficient hydrogen chlorid is added to the water contained in the one tube so that a drop of the reagent does no longer produce turbidity. In this manner the amount of HCl necessary to keep the bismuth-iodid in a known volume of the reagent still in solution, is learned. The urine is then acidulated with the quantity thus ascertained, following this the reagent is added, and when precipitation seems complete the whole is filtered. To the filtrate, which should show no turbidity, on the addition of HCl or the reagent, an excess of potassium or sodium hydroxid is added and the mixture treated as in Böttger's test. Bismuth-potassium iodid produces also precipitation of the albumoses (pepton), which does not take place when the common process of albumin coagulation is employed.

Disturbing factors and sources of error.—Glycuronic acid ($C_6H_{10}O_7$) and glycuronic anhydrid ($C_6H_8O_6$), in my experience, invariably impaired the end reaction. An excess of certain pigmentary bodies, especially uro-erythrin, produce a grayish to black deposit of earthy phosphates in urine, rendered alkaline by potassium or sodium hydroxid.

Prevention.—Glycuron and glycuronic acid and its combinations can not be readily separated by means at the command of the medical practitioner. All he can do is to resort to a number of control tests. The coloring matters may be partially eliminated by above-mentioned methods.

3. Maschke's Method.—In this process a solution of sodium tungstate in acetic acid[6] is employed for the separation of the protein substances in the following manner: The addition of the reagent to one-fourth or one-third volume of the urine in a test-tube, causes precipitation of the albuminous material. The urine is then filtered and again treated with some drops of the reagent. If no new precipitate appears in the filtrate, half the latter's volume of concentrated sodium hydroxid and a small amount of bismuth subnitrate—about 0.05 gram—are added and well shaken together. In case the bismuthic salt undergoes a brownish or blackish discoloration before the mixture is subjected to heat, then sulphur combined as hydrogen sulphid is contained in the urine. The removal of the latter is accomplished by agitating a new sample of the urine with acetic acid and bismuth nitrate, the filtrate being afterward treated with sodium tungstate as above. Glucose is only then present when on the application of heat immediate blackening of the bismuthic salt ensues. A brownish hue of the bismuth oxid appearing on heating, or a black discoloration of the precipitate on boiling, for a more protracted period, indicates the occurrence of normal amounts of sugar.

Disturbing factors and sources of error.—Urinary pigments, glycuronic anhydrid, glycuronic acid and its combinations, hydrogen sulphid. Almost every normal urine blackens bismuth oxid when the amount of potassium or sodium hydroxid utilized is far in excess. The reducing substance, however, is not sugar.

4. Nylander's Test.—Almén's[7] solution is the reagent employed in this method. One part of the reagent is added to ten parts of the suspected urine. On boiling for from two to five minutes the white precipitate which is produced by the addition of the test solution to the urine, gradually assumes a more pronounced discoloration, turning finally black in the presence of dextrose. A very small percentage of sugar produces a brown hue of the precipitate; a dirty yellow or a grayish discoloration is of no significance as to the presence of dextrose. A secondary blackening of the precipitate, which may take place when the urine mixture in the test-tube is cooled off, does not evince the occurrence of abnormal quantities of grape sugar. Uric acid and creatinin do not reduce the bismuth salt. Pure peptone does also not influence the reaction. The test boils over easily; this may be prevented by putting the test-tube into boiling water.[8]

Disturbing factors and sources of error.—Pigmentary bodies, principally uro-erythrin, hematoporphyrin, indoxyl-glycuronic acid and other glycuronic-acid compounds, ammonium carbonate in decomposing urines, hydrogen sulphid, mucin, albumin and other urinary constituents into whose composition sulphur enters. If the reagent is added to a 0.6 per cent. albumin solution, a red precipitate will be produced; in urine containing 1 to 2 per cent. of albumin the ensuing precipitate is black, and in appearance easily mistaken with the reduced bismuth salt. The reaction is yet a fair one if 0.2 per cent. albumin occur together with 0.1 per cent. sugar; it is but faint if 0.35 per cent. albumin occurs simultaneously with the same quantity of sugar; if the reaction will not take place, 0.45 per cent. albumin is contained in a 0.1 per cent. sugar solution. Saccharin is among the substances preventing the reduction. Reduction of bismuth oxid has been noticed after the administration of a number of drugs, as antipyrin, acetanilid, arsenic, salicylic acid or salicylates, quinin, sulphur, mercurials, salts of iodin, turpentin, kairin, rheum, senna, santonin, tannic acid, chloral hydrate, tincture of eucalyptus, salol, benzol, sulfonal, trional, sodium benzoate, large doses of creosote (Stern), podophyllotoxin (Stern). There is little doubt, in my opinion, that the administration of some of these drugs is followed by an increased output of urinary pigmentary substances to which the reducing qualities have to be ascribed. In other instances, as with rheum and senna, the reducing power seems to lodge with the newly-ingested chrysophanic acid ($C_{15}H_{10}O_4$).

Prevention.—Separation of the coloring matters, removal of the hydrogen sulphid by agitation with lead oxid, elimination of proteids. Specimen of urine should be voided in a period during which no medicinal agents were administered.

THE COPPER TESTS.

The various copper tests so extensively employed in clinical work depend upon the power of dextrose to reduce cupric oxid to a lower degree of oxidation in strongly alkaline solutions.

Trommer's Test.—The filtered urine is rendered alkaline by the addition of one-third its bulk of sodium and potassium hydrate. Then, drop by drop, a 5 to 10 per cent. solution of copper sulphate is added under constant agitation until the blue precipitate of cupric hydroxid—$Cu(OH)_2$—which appeared upon the addition of the first drop of the copper sulphate solution, does not dissolve any longer. After this the mixture is slowly heated, but never to the boiling-point. If sugar is present, the dark-blue color disappears, and a yellow or red precipitate of cuprous oxid (CU_2O) is rapidly produced while in the course of heating.

---

[6] Preparation of reagent: Crystallized sodium tungstate, 30 parts; acetic acid—30 per cent.—75 parts; distilled water, 120 parts.

[7] Preparation of reagent: Potassium and sodium tartrate, 4 grams, and basic bismuth nitrate, 2 grams, are, under heat, dissolved in 100 grams of an 8 per cent. solution of sodium hydrate. When cooled the yellow bismuth oxid is filtered off and the solution, which does not deteriorate for a long time, is kept in a dark bottle.

[8] The reduction or pseudo-reduction of the bismuth salt may be frequently due to substances other than dextrose. The chief value of this test, however, lies in its negative result, for the non-reduction of the bismuth positively excludes the presence of glucose in abnormal quantities.

Notes.—If either sugar, albumin, ammonia, tartaric acid or glycerine is contained in the urine to be examined, the precipitate of cupric hydroxid is redissolved and the fluid turns dark blue. If, on the other hand, the precipitate does not dissolve at all when the test-tube is strongly shaken, it may be concluded that abnormal quantities of dextrose do not occur in the urine. Should the blue mixture on being heated change its color to yellow without the production of a cuprous oxid precipitate, or should the latter appear only while the mixture is *boiling,* or when it has *cooled off,* it is dubious whether the reaction was caused by grape-sugar or not. It is solely the rapidly-occurring reduction of the copper salt taking place before the boiling-point is reached which is of significance as to the presence of glucose. An eventual deposit, on cooling, consists of flocculent earthy phosphates. Prolonged boiling may call forth a black discoloration of the mixture by the separation of copper oxid and metallic copper. As normal urine also possesses decolorizing qualities, and as the amount of urine necessary to perform Trommer's test is a comparatively large one, reduction of the copper salt may readily ensue by the action of urinary constituents other than dextrose.

Disturbing factors and sources of error.—There are two classes of urinary substances which interfere more or less with Trommer's and other copper tests. 1. Such bodies, besides glucose, which cause copper reduction. 2. Such elements, which, when present in increased amounts, will prevent the reduction. To the first category belong uric acid, the urates, creatin, creatinin, hypoxanthin, allantoin, hippuric acid, indican, alkaptonic acids, nucleo-albumin, urinary pigments, glycuronic acid, brenzacatechin, hydrochinone, lactose and other carbohydrates. The urine possesses copper-reducing qualities after administration of alkaloids, arsenic, tannin, gallic acid, pyrogallol, camphor, copaiba, cubebs, chrysophanic acid, salicylic acid and salicylates, oxalic acid, chloral hydrate, acetphenetidin, turpentin, glycerin, sulfonal, thallin and benzoic and carbolic acids. These urinary constituents and drugs, however, call forth but an incomplete reduction, viz.: Discoloration of the fluid without production of precipitate, or formation of precipitate on boiling only or when cooled off. Among the substances which when present in increasing amounts prevent or retard the reduction, we find albumin, parapepton, peptone, salts of ammonia, saccharin. Urine rich in ammonia—after the decomposition of carbamid into ammonia carbonate—may keep the cuprous oxid in solution. Such a urine may become decolorized, but it may retain its transparency on boiling. Albumin prevents the separation of cuprous oxid, but mere traces of albuminous substances do not interfere with the test.

Prevention.—For the purpose of eliminating these disturbing factors a number of suggestions and modifications have been advanced. Dilution of the urine with water has been recommended to neutralize the influences of reducing agents other than glucose. The diluent, however, must not be added in such excessive quantities as to prevent the copper reduction by the grape-sugar itself. Sr. Johnson believes that all reducing substances, with the single exception of dextrose, may be separated from the urine in the form of mercuric oxid combinations. The process recommended is this: To the suspected urine 0.05 its volume of cold saturated solution of sodium acetate and 0.25 its bulk of cold saturated corrosive mercuric chlorid solution are added. Forty-eight hours after, the precipitate containing uric acid and creatinin is filtered off. If by the careful addition of ammonia the excess of mercuric oxid is removed from the filtrate, glucose in normal urine can not be detected any longer. However, if the mercury is separated from the filtrate with aid of hydrosulphuric acid (H_2S) and the latter is removed by boiling, the fluid is said to reduce more perfectly than it did in its original composition.

(To be continued.)

MEASUREMENTS OF CHICAGO SCHOOL CHILDREN.*

(Concluded from p. 623.)

W. S. CHRISTOPHER, M.D.

Professor Pediatrics, Medical Department, University of Illinois; Professor Diseases of Children, Chicago Policlinic; Chairman Child Study Committee, Chicago Board of Education.
CHICAGO.

RELATION OF INTELLECTUAL AND PHYSICAL CONDITIONS.

As a result of his examination of 33,500 school children in St. Louis, in 1892, Dr. W. Townsend Porter concluded that there is a physical basis of precocity; that dull children are lighter, and precocious children heavier than the average child; that mediocrity of mind is associated with mediocrity of physique. At the outset of my observations I determined to reinvestigate Porter's proposition, and have to say that such facts as we have been able to collect go to confirm it.

There were met, in the course of these examinations, 503 children, aged 12, who were distributed throughout the grades from the second to the eighth, inclusive. A few were also found in the high schools. The physical peculiarities of these children, in each of the points examined is set forth graphically in the following charts. In these figures the averages of each particular measurement of the children of this age in each grade are taken, in the belief that with the small numbers, averages are closer to the truth than means.

Fig. 29 represents the average height of all of the 12-year-old children in each of the grades. It will be noted that the curve representing these averages rises with striking regularity from the second to the seventh grade. A slight decline is noticed in the eighth grade, probably due to the small number of children found in that grade. The grading of the pupils is upon an intellectual basis, hence the chart shows superior intellectual capacity is associated with superior stature, and inferior intellectual capacity with inferior stature, the age being the same throughout.

Figs. 30 to 33, inclusive are constructed in a manner similar to that employed in drawing Fig. 29, except that each is based on a different physical measurement, as indicated on the figure. In constructing these, the 12-year-old children alone have been charted, for the double reason that a single line is more illustrative, and because children of this age are more widely distributed through the grades. The other ages have been examined sufficiently to show that the laws here illustrated hold good for them. The close correspondence between the curves of height, weight, strength of grip, and vital capacity is very striking. The slight variation in the ergographic curve should not be considered until the examination of a larger number of pupils determines whether or not it is accidental.

My observations, therefore, so far as they go, support Porter's conclusion: that superior mental and physical qualifications are generally associated, and inferior mental and physical qualifications are likewise generally associated.

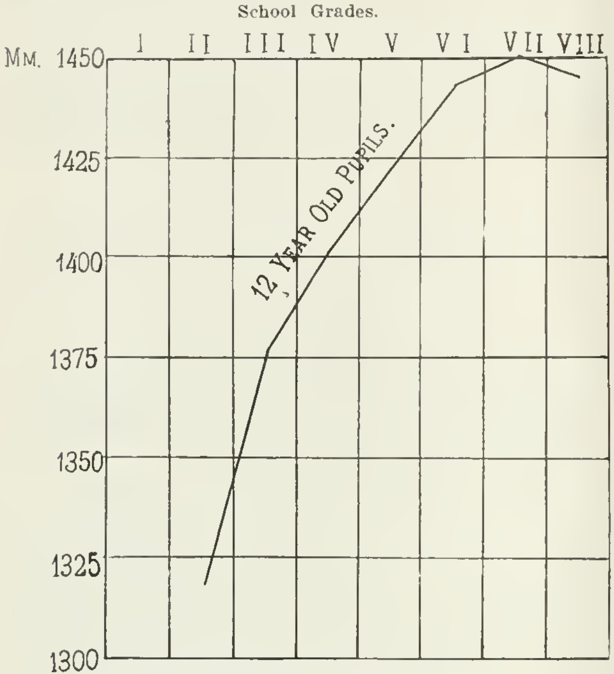


Fig. 29.—Height and School Standing.

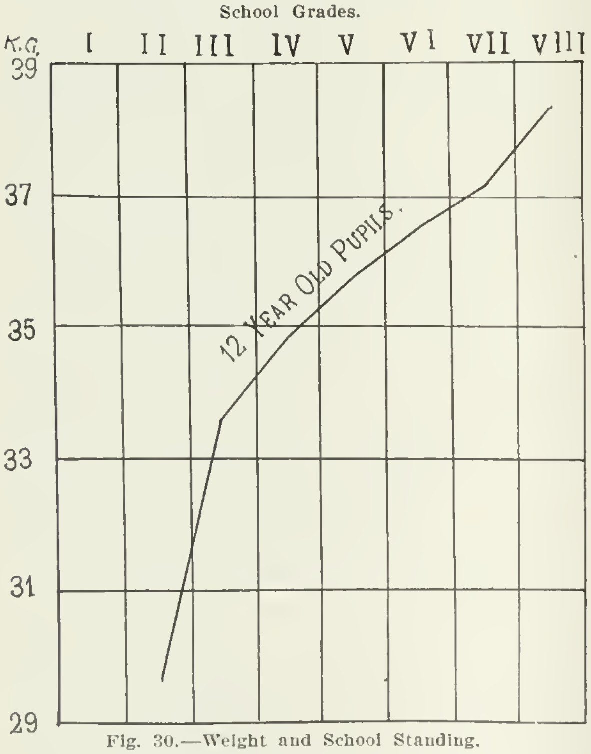


Fig. 30.—Weight and School Standing.

PHYSICAL EXTREMES IN EACH ROOM.

Figs. 34 to 38 illustrate the extreme maximum and minimum measurements met with in each of the twenty-four rooms at the Alcott school. From Fig. 34 it appears that the difference in height between the tallest pupil in the first grade and the shortest pupil in the eighth grade is very slight, being, in fact, only 18 mm., or less than three-quarters of an inch. The greatest range of stature is found in one of the fifth-grade rooms, and amounts to 530 millimeters, or 21 inches. These facts I have used in the Board of Education as an argument for the use of adjustable desks. The chart of extremes in weight shown in Fig. 35, as might be expected, is more irregular than that of extremes in height, since obesity and slenderness are nutritional manifestations dependent on several other factors than those concerned in the determination of stature.

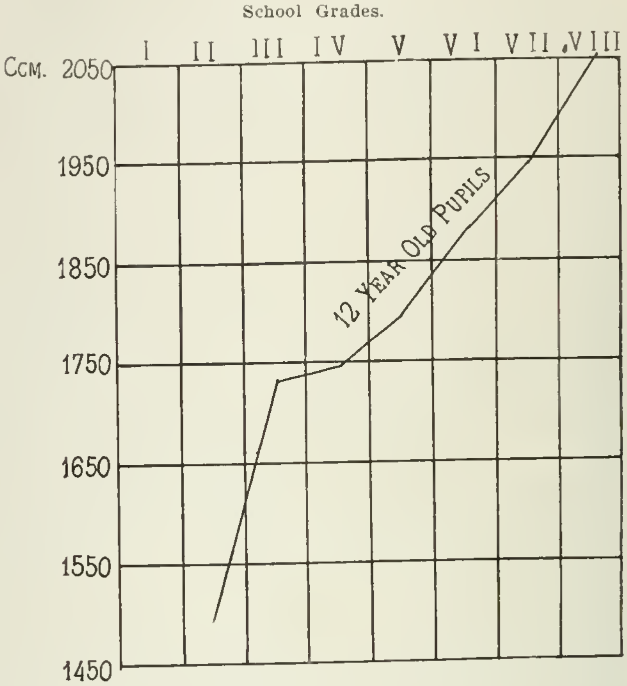


Fig. 31.—Vital Capacity and School Standing.

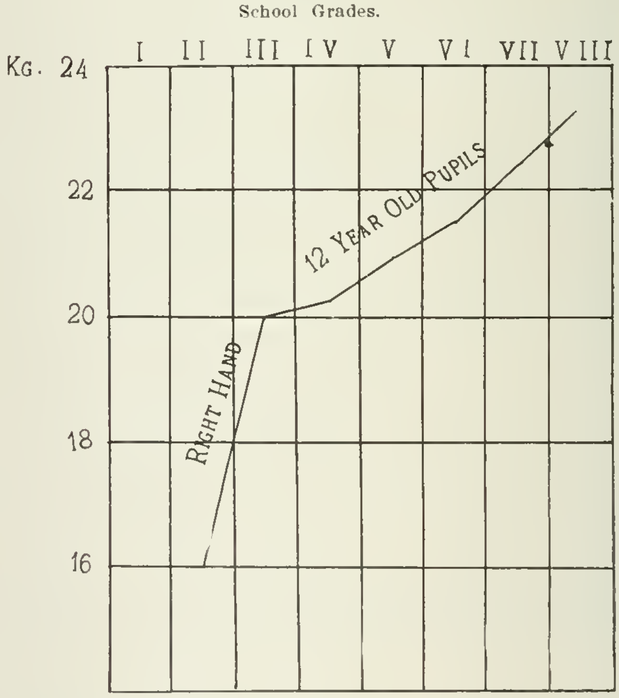


Fig. 32.—Strength of Grip and School Standing.

The extremes of ergographic work shown in Fig. 36 are very instructive. In the first grade the minimum endurance is 28.3 per cent. of the maximum endurance. This percentage continuously decreases until the seventh grade is reached, where the minimum endurance is only 18 per cent. of the maximum, and in the eighth grade it is 18.5 per cent. The actual differences are even more striking than these relative differences. A glance at the chart shows that the minimum endurance is almost the same in each of the grades, while the maximum endurances differ widely from each other. Figs. 37 and 38, giving extremes in strength of grip and in vital capacity, show essentially the same conditions as those found in the other charts of extremes. The most striking fact shown by these charts is the increase in the range of the extremes as we advance through the grades. Even before the causes of this increase in the range of the physical extremes in the upper grades is determined, the fact itself calls for greater elasticity in the work of those grades.

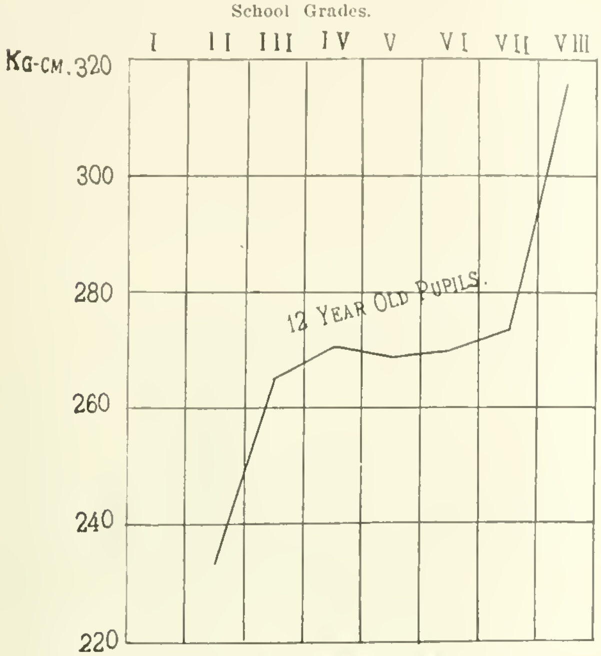


Fig. 33.—Ergograph and School Standing.

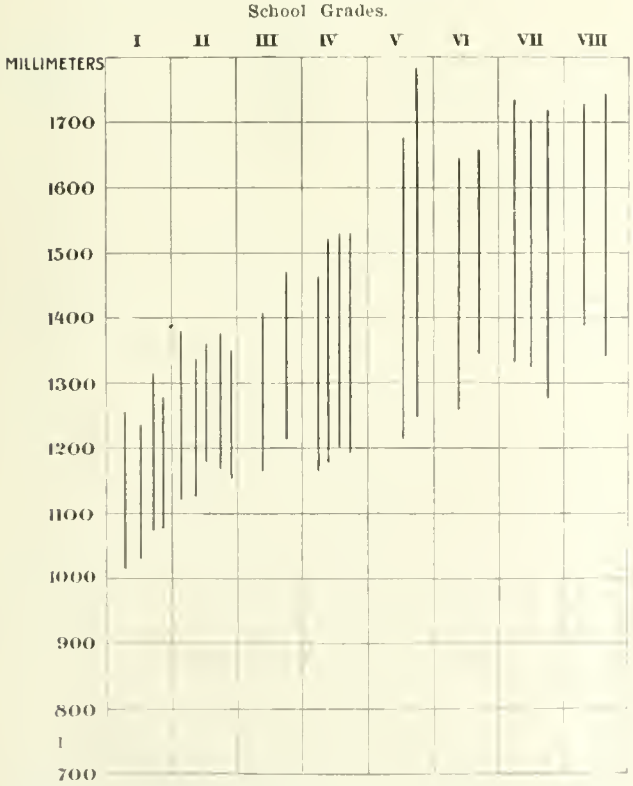


Fig. 34.—Differences in Stature Between the Tallest and the Shortest Pupil in Each Room of the Alcott School.

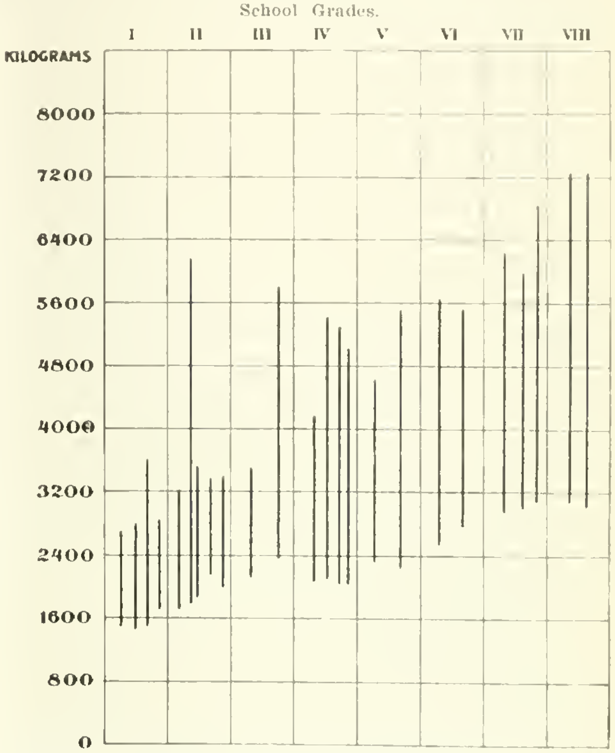


Fig. 35.—Differences in Weight Between the Lightest and Heaviest Pupil of Each Room of the Alcott School.

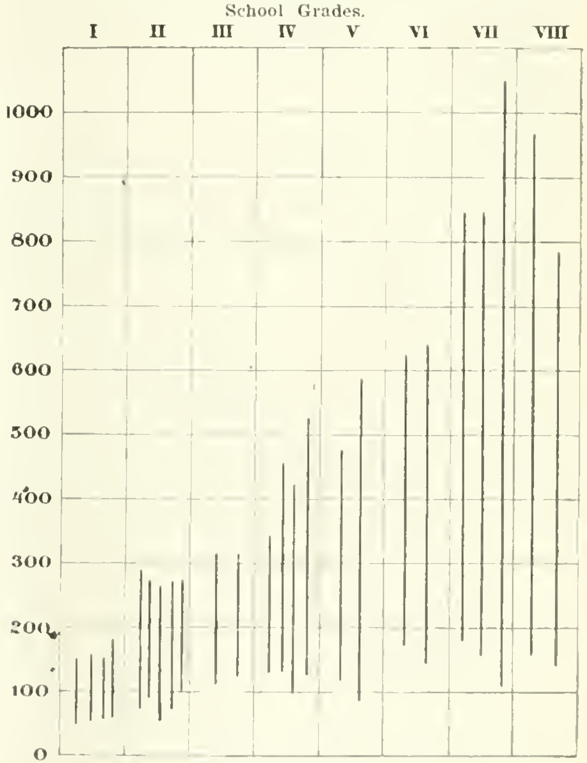


Fig. 36.—Extremes of Work on the Ergograph.

At present the work in physical culture in the schools is done by rooms, and the rooms are graded on an intellectual basis exclusively. This is, on its face, bad for the work in physical culture, but how bad it is could not be known until such facts as furnished by these tables of extremes had been worked out. If physical culture is to accomplish the most possible for the pupils of our schools, its classes must be graded on a physical basis and its work adapted to the needs of the pupils.

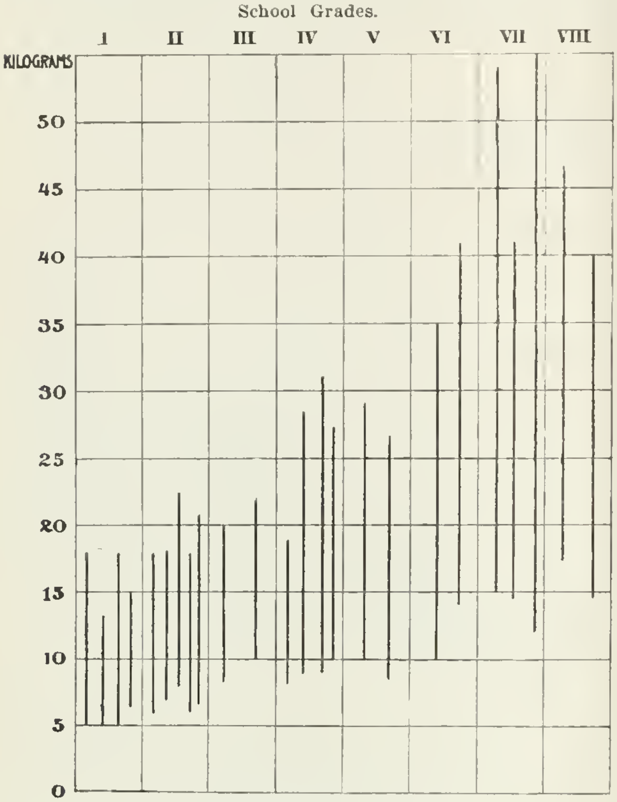


Fig. 37.—Extremes of Strength.

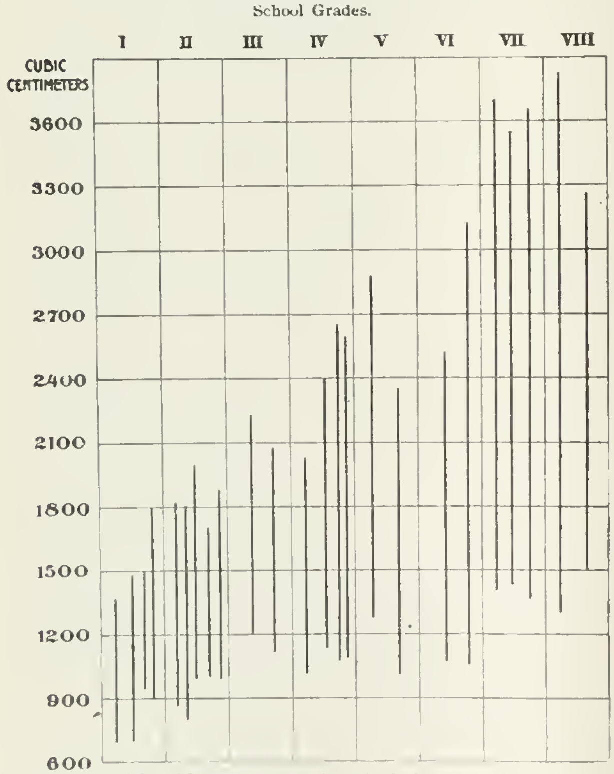


Fig. 38.—Extremes in Vital Capacity.

VISION.

From the work in vision done in the Chicago schools during the past year I select only the matter shown in Fig. 39. In this figure are charted the percentage of pupils of different ages having defective vision. The acuteness of vision was tested by Snellen's charts, and for the purposes of our present chart those pupils are classed as defective whose vision is twenty-thirtieths or below in one or both eyes. On this basis it is found that 30 per cent. of the 6-year-old children have defec-

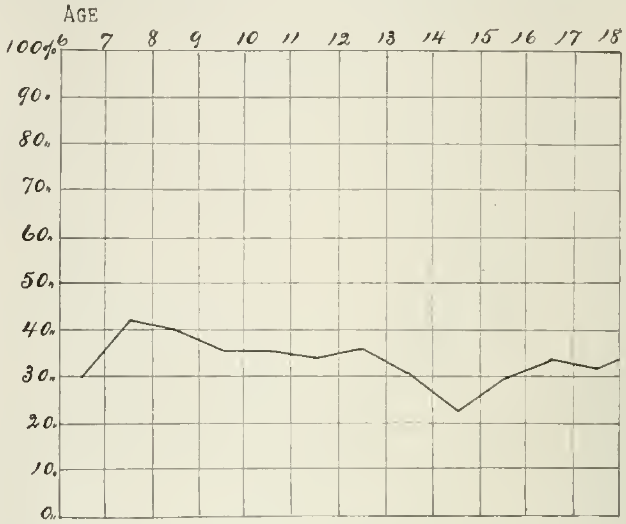


Fig. 39.—Per cent. of Pupils Having Defective Vision. Those Whose Visual Activity is 20-30 or less in one or both eyes.

Age.	Number tested.	20/30 or Below, in one or both eyes; per cent.	20/40 or Below; per cent.	20/70 or Below; per cent.	20/200 or Below; per cent.
6	264	32	7	1	0
7	363	35	8	2	1
8	351	38	13	3	1
9	343	44	17	6	1
10	364	43	18	9	2
11	385	41	17	8	2
12	364	36	16	9	2
13	373	30	14	9	2
14	450	32	14	9	3
15	521	32	15	9	3
16	475	32	16	11	4
17	339	32	16	12	4
18	173	32	16	10	8
Total tested . . .	4765				

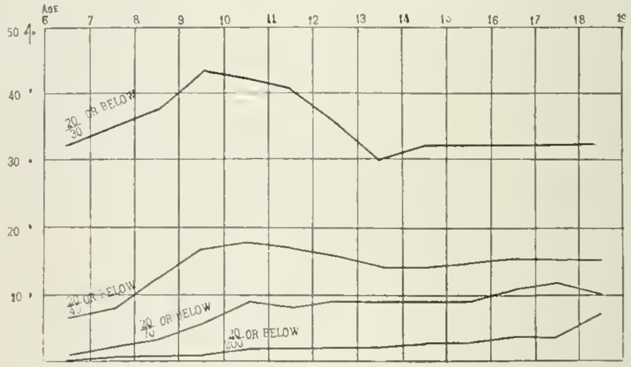


Fig. 40.—School Life and Sight. (Based upon Examination of 4765 Pupils.)

This figure differs somewhat from Fig. 39. It shows that the visual acuity diminishes during the first three years of school life, instead of only during the first year as indicated by Fig. 39. The improvement of vision at puberty, however, is still found to hold good.

Figure No. 39 is based upon the examination of about 1600 pupils. Since this chart was made the results of the examinations of the eyes of 4765 pupils in the Chicago Schools have been compiled. These results are shown in the following table, which gives the number of pupils of each age examined, and also the percentages of those in whom the visual acuity in one or both eyes was 20-30 or lower, 20-40 or lower, 20-70 or lower, and 20-200 or lower. The figures of this table are graphically shown in the accompanying Fig. No. 40.

tive vision, a percentage which rises to 42 at 7 years, dropping slightly immediately thereafter, and remaining essentially unchanged until the age of 12, where it is 36 per cent. Then comes a sudden drop to 23 per cent. at 14, with a return at 16 to the previous general standard. This chart certainly negatives the generally accepted idea that continued school life impairs the vision. I have no explanation to offer for the sudden impairment of vision between 6 and 7. The increased acuity of vision at 14, reaching a point of greater acuteness than is found even at 6 years of age, is so closely connected in time with the changes incident to puberty that it does not seem unwise to consider it as one of the conditions belonging to that period of florid growth and development.

BACKWARD CHILDREN.

It is in the study of backward children that the lines of thought of the schoolmaster and childrens' physician come together most intimately. In every large school system there is to be found a considerable number of pupils who are too backward mentally to keep up with their classes, or, indeed, to even drag along, and whose presence in the class rooms with normal children serves only to retard the latter without appreciably benefiting themselves. They are, however, not sufficiently backward to warant putting them in the state institutions for the feeble-minded. The defects from which these children suffer, and to one or more of which, in each individual child, is to be traced the cause of its intellectual deficiency, may be classified as follows:

DEFECTS FOUND IN BACKWARD CHILDREN.

Location.	*Kind.*	*Cause.*
Sensory tracts.	Structural—	Heredity—
Central Nervous System.	Developmental.	Environment.
	Acquired.	Nutrition.
Motor tracts.	Functional—	Infection.
	Developmental.	Climate.
	Acquired.	Dwelling.
		Clothing.
		Physical activities
		Mental activities.
		Discipline.
		Traumatism.

Diagnosis of a backward child consists in:

1. Determining the defects present—sensory, motor, or associative.

2. Determining the kind of defect—structural, functional—developmental, acquired.

3. Determining the causes of these defects—heredity, nutrition, infection, and other environmental factors.

In making such diagnosis it is evident that there is required the services of the practical pedagogue, the psycho-physiologist, and the medical man. So also in the management of the cases the practical knowledge of both educator and physician must be brought to bear. Moreover, they must work in consultation and not at long range. The close relationship between medical and educational work is thus readily seen in the management of the backward child. A moment's consideration will also show that this relationship is equally close in the management of all other children. While the physician and educator are ready to meet and combine their efforts on behalf of the child, it is unfortunate that the moral teacher seems not yet ready to come in to complete the trio.

A large part of modern education is devoted to processes of developing the senses, and the motor functions. From the natural limitations of his methods of work, however, the schoolmaster is often unable to have his subject in the best condition to profit by his methods. He can not fit spectacles, he can not remove adenoids, he can not supply deficiencies in food, whether quantitative or qualitative, he can not remove toxic influences. Some of these things the physician can do. These remarks on the subject of backward children, apparently somewhat remote from the subject-matter of this paper, have their reason in the results of an examination of twenty backward children in one of the Chicago schools last spring. These children were gathered together into a so-called "ungraded" room. There were sixteen boys and four girls. The average age of the boys was 11 years, 5 months, and 10 days; that of the girls was 10 years, 4 months, and 21 days. A number of developmental defects was noted among these pupils, which would suggest imperfect formation of the brain. Two are marked as being microcephalic, their heads being below normal in size. Seven of the twenty are recorded as having cranial asymmetry; eight as having asymmetrical faces. Six are noted as having peculiarly formed ears, and nine as having narrow, high, or imperfectly formed palates. Five of the pupils had decided eye defects, the visual acuity being twenty-thirtieths or lower, while thirteen had hearing so defective in one or both ears as to place them at a disadvantage in school work. That is, 60 per cent. reached a subnormal point in hearing, to which only 24 per cent. of the Alcott school pupils of the same age fell. Malnutrition was shown by marked anemia in two of the pupils. Want of muscular tonicity was noted in seven. The nervous ergographic tracings with most of these children and the small amount of work done on the ergograph by them would indicate the same condition.

The averages made by these pupils was lower in every particular than the averages made by the Alcott school pupils of the same age, as will appear from the following table:

Comparison of the averages made in the tests by the pupils of the ungraded room with the Alcott School averages, reduced to the same age.

	Net Height. mm.	Height Sitting. mm.	Weight. kg.	Work on Ergograph. cm. kg.	Combined Strength of Hands. kg.	Vital Capacity. c.c.
Girls of ungraded room	1,274	692	27,325	100	23.8	1,375
Alcott School normals for the same age	1,323	704	29,033	180	24.4	1,444
Boys of ungraded room	1,362	724	30,880	206	32.4	1,762
Averages for same age at Alcott School.	1,378	727	31,888	261	34.6	1,763

Signs of Pancreatic Affection.—Scherschewsky has noticed that hypertrophy of the pancreas consecutive to that of the spleen compresses the abdominal aorta and causes a murmur below. Pain in the stomach region immediately after eating is another symptom of a pancreatic affection, and also reflex pains from compression of the nerve roots, such as the girdle feeling and cramps at the neck of the bladder. There is also a palpable pulsation in the stomach region, accompanied by distress and palpitation. His article is published in full in *Vratch*, No. 38.

Gutzeit Test for Arsenic in Urine.—One c.c. of urine is mixed with 4 c.c. sulphuric or hydrochloric acid, a bit of sugar added, the tube plugged with cotton and covered with a piece of filtering paper moistened with silver nitrate. It is then set aside in a dark place. If there is arsenic in the urine a yellow spot will develop on the filtering paper, its size and intensity indicating the proportion of arsenic in the urine. Blumenthal, of the Moscow Institute for Bacteriology, endorses this test as absolutely certain and accurate.—*Derm. Cbl.*, August 1.

Army Surgeons Required.—The Surgeon-General of the Army announces that 100 additional medical officers—acting-assistant surgeons—are required for duty in the Philippines and China. Only experienced graduates of reputable medical colleges, under forty years of age will be accepted.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, SEPTEMBER 15, 1900.

FINSEN'S PHOTOTHERAPY.

Finsen's investigations of the therapeutic and other properties of light have been followed with a great deal of interest. In Copenhagen a public institute, founded by public and private means, has been in operation for some time and a great deal of work has been done, especially in the treatment of lupus and other cutaneous diseases, with concentrated light. Patients have been attracted from various European countries and from America; similar institutes are being or have been established in London, Moscow, and elsewhere. Medical men have visited Finsen's institute in Copenhagen, and the reports are unanimous in their praise of the well-known Danish open-handed hospitality, and of the true scientific spirit of Finsen and his assistants. The result of this treatment of lupus vulgaris is certainly satisfactory. Inasmuch as this is a new and striking departure in therapy, surely destined to grow in importance and usefulness, it may be as well to point out briefly some of the steps in its development.

In 1893 Finsen proposed a new treatment of variola. The patients were placed in a room from which the chemical or actinic rays of the solar spectrum were excluded by the use of red glass or red curtains. When patients with smallpox are so treated from an early period of the disease, the vesicles do not become pustules, suppurative fever is absent, and there is but little or no variolous pitting. At first this announcement was received with more or less incredulity, but it has been confirmed from various sources, and there is not the slightest doubt that the exclusion of the actinic rays greatly mollifies the course of smallpox.[1] Arrangements to carry out this treatment should be made in all our smallpox hospitals. Let it be remembered, however, that it must be instituted early in the attack, and before the pustular stage.

How is this action explained? The actinic rays all come from the blue and violet end of the spectrum; their action is largely chemical and they produce but little heat; in contradistinction from the rays from the other end of the spectrum—the red rays—whose action is principally heat-producing. All are familiar with the effects of solar and other forms of light on the skin when unduly exposed. The changes vary from increased pigmentation to violent and complex forms of dermatitis. Finsen and others have demonstrated that it is the actinic, and not the caloric, rays that cause these changes in the skin. This being the case, it is only natural to look for still greater morbific action on the part of the actinic rays on skin already diseased, as in smallpox; and the beneficial effect of excluding the ultraviolet rays shows this to be the fact. Consequently, the mechanism of the action on the skin of actinic rays, their influence on the chromatophorous cells in lower animals, and other interesting physiologic facts and phenomena need not be discussed at this time. We see that this method of treating smallpox, at first somewhat strange and incomprehensible, has a fairly solid scientific basis. So far, exclusion of the actinic rays in treatment of variola has not been found to have any general injurious effects on the patients.

Finsen's studies of light as an agent of excitability[2] have shown that here again it concerns principally the action of the actinic rays; these rays determine in a very pronounced manner certain movements in lower animals. These rays are therefore quite certainly carriers of energy of great biologic importance. In addition to heat and to light, the rays of light also bring chemical forces which have not received much special attention in medicine. These forces certainly merit careful study. Singularly enough, Finsen, who called attention to their noxious effects—and the treatment of smallpox by exclusion of the actinic rays resulted—is also the one to introduce the treatment of other diseases by exposure to actinic rays. Sun-baths are not new; they have been employed in various forms since antiquity. Even baths in blue light have been used. Finsen[3] notes the work of an American by the name of General Pleasanton, who utilized blue light in diverse ways for its effects on growing plants, and also in the treatment of disease. Pleasanton published a book, printed on blue paper, entitled: "The Influence of the Blue Ray of the Sunlight, and of the Blue Colour of the Sky, in Developing Animal and Vegetable Life, in Arresting Disease, and in Restoring Health in Acute and Chronic Disorders to Human and Domestic Animals."[4] Here the remarkable chemical qualities of the blue rays are magnified into a panacea.

Finsen's treatment of lupus vulgaris is based on the bactericidal power of light. Theoretically, light should have good effect on superficial cutaneous processes of bacterial origin; but the bactericidal action of light is slow, and on that account he uses mirrors and lenses to concentrate the rays at the same time as the ultra-red, the red, the orange, and the yellow rays are excluded, because when concentrated these rays would cause a burning or necrosis of the tissues. Thus the most actively bactericidal rays, namely, the blue, are allowed to play on the diseased tisues for a considerable time each day. While the sun is the best source of light, it is not always available, and in that case electric light is used. By experience it was found that concentrated light kills bacteria many times more rapidly than diffuse light. Without going into practical details, suffice it to say, that a large number of cases of lupus vulgaris have been cured by phototherapy at Finsen's institute after a prolonged treatment, and that the amount of scarring is only moderate. The method is beginning to be used in other cities and it is probable that its use will be extended to other diseases.

---

[1] See references in "Finsen, La Photothérapie." Paris, 1899.

[2] Loc. cit., 57-84.

[3] Loc. cit., p. 68.

[4] Philadelphia, 1877.

PERNICIOUS ANEMIA.

Despite the time and industry that have been expended in the study of so-called pernicious anemia, the true character and the intimate nature of the disease yet await elucidation. The most plausible explanation as yet propounded is that the disorder is a toxic process, although it has not been shown that it is dependent upon any known substance introduced from without, and it is not unreasonable to suspect that it may result from some obscure derangement in metabolic equilibrium—an autointoxication—and therefore of cellular origin. In no other way, scarcely, would it be possible to account for the variations in the course of the disease, the constancy of its symptoms, and generally its progress to a fatal termination. If this hypothesis prove to be correct, the interesting and important question will then arise as to whether we can hope to obtain a cellular or other product capable of neutralizing the evil effects produced, or of replacing the lost activity. Meanwhile, any addition to our clinical and pathological knowledge with relation to the disease must be cordially welcomed. In a communication presented at the recent meeting of the Association of American Physicians, Cabot[1] reports the results of an analysis of 110 cases of pernicious anemia in which the diagnosis was based in 19 on evidence yielded by autopsy—in addition to clinical investigation—in 60 on the presence of typical symptoms, signs, blood-examination and course, with a fatal termination—without autopsy—in 31 on the same phenomena except a fatal termination. Of these cases, 57 occurred in males and 53 in females.

The majority of patients came under observation after the 40th year, and only 28 earlier. No typical case was observed in a patient under 9 years of age; 63 were between 40 and 60, 19 over 60, 4 over 70, the oldest being 79. In 4 cases the symptoms set in immediately after parturition or during a previous pregnancy, and in 14 at the time when the menopause was expected. No definite relation with syphilis or internal parasites was noted in any case. A history of tertian malarial fever was given in 4 cases. Hemorrhage was a symptom in 37 per cent. of cases. Two cases were complicated by diffuse nephritis. No relation to carcinoma was noted in any case. Psychic factors were prominent in 3. The earliest and the most common symptom was muscular weakness. Next in frequency was pallor, in the majority with a yellow cast. Then, in the order of frequency followed dyspnea and gastric symptoms—nausea or vomiting. In more than half of the cases the gastric symptoms occurred paroxysmally, with intervening periods with relatively good digestion. Lack of appetite was complained of in not more than two-thirds of the cases. Swelling of the lower extremities was fairly constant, although relatively late. Palpitation was less complained of than dyspnea. In most cases functional heart-murmurs were present. In 17 there was evidence of mitral regurgitation and in 6 enlargement of the heart. The condition of the bowels was abnormal in the majority of cases. In 43 there was diarrhea, in 32 constipation. Vertigo was present in about one-half of the cases, headache in 34; ringing in the ears in 30, and signs and symptoms suggestive of changes in the spinal cord in 31. Difficulty of vision was mentioned in 20 cases. Retinal hemorrhage was found in 15 of 36 cases examined. Enlargement of the liver was present in 30 cases, and of the spleen in 13 cases. Evidence of emaciation existed in about one-half; elevation of temperature, in about two-thirds; albuminuria in 23, with tube-casts in 21. The urine was usually pale in color or normal. Only twice was it dark. The importance of making repeated examinations of the blood in doubtful cases is emphasized on account of the variability, from day to day, and a description of the blood conditions during remissions is given. When the red blood-corpuscles begin to increase in number, the color-index may remain high or become even still higher. As a rule, in the remissions the color-index is relatively low. Under the former conditions there may also be slight leucocytosis, made up largely from an increase in the polymorphonuclear neutrophiles and probably due to increased activity of the bone-marrow. At the same time, the percentage of lymphocytes diminishes, and the myelocytes disappear. The number of megaloblasts steadily decreases, and they are for a time replaced by normoblasts, although these also soon disappear. The size of the individual red cell is greater at some times than at others, but soon it becomes normal or subnormal. Abnormal staining reactions and oval forms disappear. The number of red cells falls to about the level of three million.

The following features are considered distinctive in the diagnosis of pernicious anemia: 1, a slow, insidious onset, without recognizable cause; 2, remarkable freedom from pain; 3, striking absence of emaciation—in most cases; 4, the frequent presence of symptoms suggestive of disease of the spinal cord; 5, paroxysmal attacks of diarrhea and vomiting occurring without any obvious relation to diet or to treatment, preceded and followed by periods in which digestion and absorption are performed without apparent difficulty; 6, the tendency to marked spontaneous improvement in all of the symptoms, followed by rapid and inevitable relapse:

---

[1] American Journal Med. Sciences, August, 1900, p. 139.

7, a reduction in the red corpuscles to a point below two million per cmm., without a corresponding reduction in the hemoglobin; a reduction in the number of leucocytes, and especially in the number of polymorphonuclear neutrophiles; the presence of large numbers of over-sized, well-stained red corpuscles, some of them containing nuclei—megaloblasts—together with a tendency to abnormal staining reactions, and to an oval shape in the red corpuscles. On the other hand, the following features are considered distinctive of the secondary or symptomatic anemia: 1, the presence of a well-recognized cause; 2, the steady progress of the symptoms, especially in cases of malignant disease; if gastrointestinal symptoms are present, they seldom improve spontaneously; 3, emaciation; 4, a relatively low percentage of hemoglobin, while the number of leucocytes, especially the polymorphonuclear neutrophiles, is likely to be increased, though by no means invariably. The size of the individual red cells is usually normal or diminished, and their centers are strikingly pale. Over-sized red corpuscles may be present, and may occasionally contain nuclei, but, as a rule, they are greatly in the minority, and such nucleated red corpuscles as are present are chiefly of the normoblastic type. The tendency to abnormal staining-reactions and to an oval shape in the red corpuscles is usually much less marked than in cases of pernicious anemia. Latent gastric carcinoma is practically the only disease likely to be confounded with pernicious anemia.

Of 90 of the cases, only 20 were progressive in course. In 70 there were one or more remissions, with great improvement, disappearance of the symptoms for the most part, while the color-index and the blood-count became nearly or quite normal. Emphasis is placed on the fact that pernicious anemia is not a progressive disease, but is attended with successive waves or paroxysms of alternate remission and exacerbation, for the most part without reference to treatment. Of 70 cases observed from beginning to end, the majority lasted less than two years, 12 more than three, 2 more than four, and the longest, five years. The number of relapses varied from 2 to 5 or 6. Out of the whole series, there was no case of genuine recovery. In treatment, Fowler's solution of arsenic, bone-marrow, and inhalations of oxygen were used, as well as laxatives or purgatives, but no good results are attributable to them.

PRIMARILY MULTIPLE PROLIFERATIONS OF BONE MARROW—MYELOMA.

The bone-marrow is a complex structure harboring many different kinds of cells and performing a corresponding number of varying and but little understood functions. On account of its hidden and well-protected situation, the bone-marrow generally escapes observation and hence the knowledge of its pathologic changes is not as widely spread as of the changes of more accessible tissues. In addition to the changes that occur in pernicious anemia and other blood diseases, primary and secondary, and to inflammatory and suppurative processes, bone-marrow may be the seat of tumors of various kinds, both secondary as well as primary; but the clinical and anatomical relations of the primary forms are probably not yet fully worked out. In addition to myelogenous sarcoma, with its interesting giant cells, and to endothelioma, there occurs a primarily multiple, primary tumor growth of the marrow of certain bones, especially the vertebræ, the ribs, and the skull-cap, that is, the red marrow of adults. So far, this tumor has not been found to develop from the normal yellow marrow of the long bones. The new tissue resembles red marrow in its general appearances, and it gradually replaces the bony tissue, causing more or less diffuse, as well as nodular enlargements of the affected bones; occasionally it breaks through the periosteum and forms small infiltrations outside of the bones, but on the whole the tumor tissue is closely confined to the marrow, from which it can not be distinguished. The ribs not uncommonly undergo spontaneous fractures, and sharp curvatures may develop in the spine, as in a case recently described by Winkler,[1] which developed after a fall of about six feet. Similar curvatures also develop in the sternum, which may become greatly thickened and swollen. In nearly all cases—Winkler insists that so far, in every case—the external organs have been free from metastases, the growth confining itself strictly to the bones. In the case described by Herrick,[2] however, there is a record of double ovarian tumors of the same structure as the infiltrations of the marrow. This case seems to have been an extremely well-marked example, and there is no apparent reason why metastases may not occur, especially in the latter stages of such luxuriant proliferations of the marrow as there described. The lymph-glands and the spleen are not enlarged. There develops a pronounced anemia, the exact character of which has not been studied sufficiently. And in the urine Bence-Jones' albumose has been observed by Kahler and Pick, Fitz, and others.

The microscopical structure of the new tissue is homologous with red marrow, in so far as the tissue consists almost wholly of round cells of the same size and with rather large nuclei; giant cells are not present, except for occasional osteoclasts in the Howship's lacunæ of the disappearing bone trabeculæ; fine fibrillæ and blood-vessels occur among the tumor cells. Wright[3] shows that a large number of the cells give the staining reactions of the plasma cells, being apparently derived from similar cells present in normal marrow.

It is clear that this tumor is peculiar and has a definite physiognomy. It should not be confounded with pseudoleukemia, lymphosarcoma, periosteal and myeloid sarcoma, or carcinoma of bones. From the homology of its structure with red marrow, v. Rustitzky, who described the first case, named the tumor myeloma, and this is the name the disease is destined to bear, although cases have been recorded under other and more misleading designations.

---

[1] Virchow's Archiv, 1900, 161, 252-310.

[2] Medical News, 1895.

[3] Journal of Boston Society of Medicine, 1900.

AN ADAMLESS EDEN.

The *Denver Republican* in a recent issue—August 26—analyzes some curious statistics of the population of that section, and comes to the conclusion that at present rates of progress Colorado will have before long only a feminine population. It says, with perhaps an excusable exaggeration considering the actual formidable figures it presents, that "though many more females than males are born in this state, there are two deaths of males to every death of a female." Hence, it foresees the day when Colorado will be an Adamless Eden, or very nearly one, for it is not expected that men will or can be kept out, in spite of the deadly effects of the climate or whatever else is thus affecting that region. The figures from the State Board of Health, which it quotes, show a range of from 30 to 70 per cent. excess of mortality of males over females each month of the present year, a ratio that would, if continued, soon exhaust the resident male population. How this comes about is hard to see, as no specially masculine pestilence is reported, but, of course, figures can not lie. The only suggestion that readily occurs is the proximity of Utah, but that state does not appear to be similarly suffering. The problem is left for solution to the local vital statisticians.

THE CENSUS AND MORTALITY STATISTICS.

Considering the fact that the increase of urban population is one of the tendencies of the time that troubles well-wishers of the race, and its outcome is looked on with some fearful questioning by economists, the insane ambitions of municipalities to exceed each other in population has a rather peculiar aspect. The revelations of the census have been a serious disappointment to many, and they already affect to some extent the health statistics of several municipalities, which suffer somewhat in the increase of their death-rate corresponding to the decrease of population from their estimate. It is probable that when the figures are fully in, some changes in this direction will be found to be quite general, though perhaps not extensive enough to materially affect the records. We notice a tendency to disregard the census figures in some quarters, the health officials claiming that they are in error. It seems to us that even if there is a possibility that such is the case it would still be better to follow them as the best accredited official records. The increase of death-rate would probably not be large in any case, and the data would be free from the suspicion that they had been affected or sophisticated through local feeling. A slightly too unfavorable record in this respect is better than the opposite; it has the advantage of being on the safe side and in such, as in many other matters, there is a certain power in understatement.

PATHOLOGIC ASEPSIS?

According to a German physician who recently spent some months in the Arctic region, the atmospheric conditions there have a very decided influence on germ infection and the behavior of wounds. When the air was clear and dry, putrefaction was arrested, and open wounds, though subject to constant irritation, did not inflame, but did not heal, nor show a tendency to form a scab. In damp, cloudy weather, on the other hand, mold and decomposition appeared and the slightest wounds inflamed and festered at once, though healing progressed rapidly after evacuation of the pus. A somewhat similar slowness of healing and irregular behavior of wounds have been noticed also by other Arctic travelers, and have been attributed by some to a scorbutic tendency thus manifesting itself. The fact, however, in the light of modern theories, suggests the notion that the healing powers of the system require the stimulus of germs and that an absolutely aseptic wound would go neglected and uncured. Even the most rudimentary form of inflammation may require a little sepsis for its start, and the old notion of "laudable pus" have at least a minute basis in fact. The idea is somewhat comforting on the whole, since it implies that absolute freedom from germs, so difficult to be obtained, may not be such a desideratum after all. Perhaps, when we have done our best we can console ourselves that we have left the little leaven of salutary irritation to stir up the organic processes of cure, and that this is as essential as the exclusion of the excess that would carry the process over the line of what we may call the normal pathology of reparative incipient inflammation.

SEA-WATER AND THE CELL.

A French physiologist, M. René Quinton, in a paper read before the last International Medical Congress maintains that all animal life, having first originated in the seas, still maintains for its cellular existence the same original environments; in other words, every organism, whatever its rank in the animal scale, is essentially a colony of marine cells. The first part of his proposition, that animal life had a marine origin, is sufficiently probable to be accepted; the primitive gill respiration, which he adduces as evidence, appears through the whole series of higher forms of animal life in its embryology, and all the simpler forms are of an aquatic type. The experimental evidences he offers of his main thesis are the successful displacement of all or the greater part of the blood of dogs by sea-water without causing death or damage other than necessarily due to the operative steps, and the persistence of the vitality of the white blood-corpuscles of all classes of organisms in the same medium, which he claims to have demonstrated. Lastly, he offers as evidence the identical chemical composition of the blood plasma and sea-water. The salts of the one are the salts of the other, seriating moreover in the same order of importance, viz., 1, sodium, chlorin; 2, potassium, calcium, magnesium, sulphur; 3, silicon, carbon, phosphorus, fluorin, iron, ammonia and iodin. Still further, he claims sea-water and blood contain in like proportion minute quantities of other elements, such as bromin, manganese, copper, silver, lead, lithium, etc. This may not be an absolutely novel conception; it may possibly have suggested itself to others, but we have not seen it put forward as fully and prominently elsewhere. It is suggestive in some practical ways; sea-salt normal solution, or sterilized sea-water itself, may turn out to be the best restorative and it is still further suggestive in connection with the comparatively recent researches of Morgan, Loeb, and others on the parthenogenetic development of certain organisms in differently modified marine media. There is possibly a large field for study and work in the direction here indicated.

ERGOGRAPHIC TESTS IN SCHOOL CHILDREN.

The article by Dr. Christopher, published in this and the preceding issue of The Journal, treats of a subject that has a more than passing interest. The welfare of the child, and especially at the critical period of puberty, is an important matter and it is easily seen how faulty educational methods may have a damaging influence that will be felt through all the future life of the individual. Dr. Christopher has utilized the methods of modern physiologic research and has availed himself of the services of assistants skilled in instrumental psychologic experimentation, which would naturally add to the value of the observations. From this study he demonstrates already some facts that are suggestive, if not conclusive, such for example as that shown by the power curve through the school-day and the corresponding ergograms. It is apparent, at least, that the child needs more frequent respite from school duties than is always given by modern pedagogues. School-teachers are liable perhaps more than others to become opinionated and arbitrary, hence the need of their proper instruction on matters that concern the welfare of their charges. It would be well, therefore, could they generally study such articles as that of Dr. Christopher, which illustrates by graphic methods the effects of mental work on muscular and nervous endurance. At present we have a strong suspicion that some popular teaching methods are unphysiologic and liable to produce serious effects by the overstrain of immature and, therefore, especially vulnerable organizations. The paper we publish is essentially a preliminary one, as the investigation is still being carried on. That it involves a possibility of important and beneficial results needs hardly to be stated.

MYOSITIS OSSIFICANS.

The calcareous degeneration of certain tissues is a well-known fact, but the formation of true bone in the tissues, not normally thus developing, and apart from any direct connection with the natural bony growths, is still to some extent a pathologic curiosity. This is especially true of the ossifications of the muscles, of which a comparatively small number of cases have been reported in medical literature. Dr. Lydia M. Dewitt reports[1] a case, with the discussion of the literature of this subject, in part honestly acknowledged as second-hand, with the theories that have been proposed to account for the condition. The fact that in certain animals the so-called splint bones occur has a certain physiological bearing, but the facts do not fully apply to the human subject. The curious malformation that has been observed in some 75 per cent. of the recorded cases of this disease of microdactylia and imperfection of the thumb and great toe is of interest, and is one of the unexplained but indefinitely suggestive peculiarities that we sometimes meet with in connection with obscure diseases. Dr. DeWitt's idea seems to be that on the whole the condition is not so mysterious a one as might be supposed. The fact that different members of the connective-tissue group change with special readiness into other forms of connective-tissue structure is, she holds, a probably sufficient explanation, lacking others a little more definite. She does not consider the suggestion of Gegenbaur, of specialized osteoplastic nuclei existing from before birth, as necessary to account for the pathologic bone formation. The cells which in certain regions act as osteoblasts are not, she thinks, necessarily histogenetically different from those which in other localities develop into fibrous connective tissue. The subject is by no means definitely cleared up, but her communication is a reasonable discussion of the facts and probabilities.

THE DISASTER AT GALVESTON.

The terrible disaster at Galveston, the reports of which have as yet only partially reached us, seems likely to be one of the worst on record, exceeding even Johnstown in loss of life and property. If commercial reasons make it inevitable that we shall build our cities where they are subject to such disasters as those that have twice afflicted Galveston, it would seem necessary that some special measures should be taken to ensure their protection. The building of houses directly in the sand, where they are liable to be flooded, appears to court disaster, and the chances for such a hurricane, even only once or twice in a century, should be kept in mind. The results of the catastrophe, aside from the direct mortality, are most serious, as there is said to be an immense number of injured and maimed, and the sanitary conditions, as in Johnstown and Titusville, following such a flood require thorough and immediate attention. This is a matter of more importance in the latitude of Texas than it would be farther north. More than this, the survivors, in their wrecked and dismantled homes, are exposed to still other perils and hardships, the water-supply is cut off, and, hence, the dangers of fire and of a water famine are also imminent. With all these things to affect the health, there is yet the moral effect of such a catastrophe, which can not well be estimated, but which can only be a factor in the total outcome of the misfortune. The revival of the city is, we trust, beyond question; and the injury it has received we hope may prove to be only a temporary one. It should and will have the active sympathy and aid of more fortunate sections of the country. It is to be hoped that engineering skill will, in repairing the mischief that has been done, find a way to insure against a repetition of the calamity.

THE LATEST DECREE OF THE ANTIVIVISECTIONISTS.

Among the numerous Congresses held in Paris during the past summer, there was one called the International Congress of Animal Protection Societies. While not ostensibly in the interests of the antivivisectionists, it was evidently captured by them. A resolution was introduced stating that "vivisection is a crime unworthy of the toleration of any people calling themselves civilized." A separate vote was taken of the anti-cruelty societies, and in them it was voted down, as they simply worked to restrict, not to abolish vivisection. The vote of the antivivisection organizations, which predominated in the Congress, was, however, so overwhelming that the resolution was carried by a majority of about two to one, so that, as one John Vedder, M.D., whose statement of the facts we follow, holds the "minds of the International Congress of Animal Protection Societies was for the total prevention of vivisection." This he claims as a great victory. The meeting was apparently an obscure one, as we have seen no mention of it elsewhere than in this communication to the *Boston Transcript*, but it is of sufficient medical interest to be mentioned here; it is well to know what the enemy is about. If the antivivisectionists and zoöphiles can so have their way, they will in time make it a greater crime to sacrifice an animal for the benefit of mankind than to murder one of their own species. Human life is little regarded by their co-believers in India, who butchered Englishwomen in Cawnpore, and the prejudices of the Hindoo population in this direction have created some of the most serious obstacles to the successful combating of the plague amongst them. The European and American antivivisectionists seem really little more open to reason than are their Asiatic confrères, and they certainly show a like intolerant spirit. There is nothing so inhuman as idolatry, and the individual who sets up a fad as his divine image and demands that others as well as himself shall bow down to it, is, in his way, as benighted a pagan as Nana Sahib or the Chinese Boxer of to-day.

---

[1] American Journal of the Medical Sciences, September.

A UNIFORM CLASSIFICATION FOR HEALTH STATISTICS.

Elsewhere in this issue—on page 705—will be found a brief report of the late session of the International Congress of Hygiene and Demography and its action regarding an international classification of diseases. The advantages of such an universal system are obvious if the data are to be utilized, and it may be that the Paris classification adopted is a good one for this purpose. It is not above criticism, however, for it appears to us, as given in the mortality reports in the Paris journals, as deficient in several respects. The only forms of nervous disorders included are: cerebral hemorrhage and congestion, paralysis, softening of the brain and simple tuberculous meningitis, that is, if we accept the classification as published in the Paris medical journals. It is possible that the arrangement is extended in the original records and the 15 or 20 per cent. of "other causes of death" lump together many cases of tabes, paresis, epilepsy, angina pectoris, and various other affections from which Parisians are certainly not exempt. Unless this is the case, and we can only assume that it is, in these and some other respects some of our American municipal classifications appear preferable, and it is to be feared that the recommendation of the Congress will not at once be universally accepted. The fact that it was composed, to a large extent, of laymen and that the largest number of medical delegates were probably Parisian, or at least French, may account for the selection of this system. If the one chosen is to be generally adopted, it is to be hoped that some provisions are to be made for the possibility of its early modification, provided that its apparent defects above noticed are not merely apparent ones. While an international system is a desideratum, it would be well if in our own country a more uniform system could be adopted by the different state and local authorities in making out the reports on which are based our mortality statistics. A uniform system of reports based on the best now used would be much more valuable in every way than the present unscientific lists that are sent out by many health boards. This is a subject worthy of consideration on the part of health officers, and others interested in health statistics.

Medical News.

ALABAMA.

Dr. Irwin W. Patton, of Huntsville, has been appointed acting assistant-surgeon in the army, and directed to report for duty to the commanding officer of the United States forces in China.

ARIZONA.

Dr. G. W. Greenleaf, of San Diego, Cal., has been appointed physician of the Fort Young Indian School, Yuma, vice Dr. William T. Heffernan, resigned.

The Sanatorium at St. Mary's Hospital, Tucson, will soon be ready for occupancy. It is a building in pavilion style, with twenty-four rooms, sanitary arrangements of the latest model, and will cost about $25,000.

CALIFORNIA.

Dr. William H. Flint has returned to Santa Barbara and resumed practice.

Dr. Fisher R. Clarke has returned to Stockton, after a two months' trip to Cape Nome, Alaska.

Dr. Barton Dozier and Miss Mary D. Boynton, both of Los Angeles, were married on August 27.

San Diego had only fifteen deaths in July, "thirteen white, one black and one yellow." No contagious disease exists in the city.

Dr. Alden M. Gardner, medical superintendent of the Napa Asylum for the Insane, will, it is reported, soon resign and establish a private sanatorium in the Ralston mansion, at Belmont.

"Helminthologists" are in trouble in Los Angeles because they have been practicing without first obtaining the required license to practice medicine in the state. "Dr." Genaro Yglesias was arraigned, and after making a strong fight, was finally convicted and fined $200 and costs.

The health officer of Jackson reports that on August 24 twelve houses were under quarantine for smallpox, with ten cases of the disease, all the patients being convalescent. Ranlett Station had one smallpox case, and neither Sutter Creek nor Rancheria Creek reported any spread of the disease.

The board of health of San Francisco has endeavored to obtain possession of a fund of $4000 reserved for epidemics, on the ground that there is one smallpox case in the isolation hospital, but the supervisors have refused to turn over the money, claiming that it was to be used only in case of the outbreak of an epidemic.

Dr. W. M. S. Beede, who for the last four years has been in the Orient, first as U. S. consular surgeon at Hongkong for three years, where he went through two epidemics of bubonic plague, and then as chief surgeon of the National Red Cross Hospital at Manila, has returned to Stockton and will resume practice there.

It is reported that five hospital tents are to be put up at the Presidio to accommodate the overflow from the General Hospital there. The San Jose *Mercury*, in commenting on this report, recommends the Berkeley hills, and condemns the present location, stating that "there is no excuse for a general hospital at the Presidio."

Mentone, San Bernardino County, is to have a new sanatorium. Several Los Angeles physicians, including Drs. William M. Lewis, Ralph Hagan and Josiah E. Cowls, have recently inspected a large tract of land on which it is proposed to erect a sanatorium, which the promoters claim will be one of the finest in the state.

A sanatorium for consumptives is to be established in Strawberry Valley, San Jacinto, by the California Health Company, at a cost of $50,000 to $60,000. The plans contemplate a center pavilion with forty bed-rooms, lounging, smoking, reception and consultation rooms: this pavilion to be surrounded by small cottages. Half a mile away a small village of cottages is to be built for patients who wish to do housekeeping in a small way.

The employees of the Southern Pacific Railway at Oakland have made a vigorous demand for prompt care of the injured. They claim that since the establishment of the main hospital for the company in San Francisco many injured men have been forced to wait and suffer for hours before removal to the hospital. Before the company abandoned its hospital work in Oakland, it is said, prompt ambulance service and hospital attention were rendered the sick and injured.

The report of the State Hospital for the Insane at Stockton shows that for the year ended June 30, 1900, the total number of patients under treatment was 1397. Of these, 96 were discharged as recovered, 35 as improved, 11 as unimproved, and 2 as not insane. The deaths were 154, and 9 escapes were reported. Of the 319 patients admitted during the year, 173 were native-born, and 30 of these were Californians. The causes for the insanity are given as follows: Intemperance, 23; religion, 6; morphinism, 4; "living alone and drinking unfermented wine, 1; "fear and excitement during initiation to a lodge," 1; "association with fortune-tellers," 1; "worry and wanting to get married," 1.

COLORADO.

Dr. Carey K. Fleming, of Denver, secretary of the State Board of Medical Examiners, was elected president of the Rocky Mountain Interstate Medical Association, at its recent meeting at Butte, Mont.

Three thousand school children in Denver have been vaccinated during the last weeks preceding the opening of the schools. Extra precautions in this regard are being taken by Dr. Thomas J. Carlin, health commissioner, on account of the prevalence of smallpox throughout the country.

The State Board of Health, in its latest circular, defends itself against the charges that it is persecuting consumptives and trying to run them out of the state, and quarantine against consumption. It disavows these charges and claims that its endeavors are solely to aid consumptives, as well as others. To this end it has promulgated rules for the education and guidance of consumptives.

CONNECTICUT.

Dr. Dean Foster, who was removed from the house staff of the New Haven Hospital for an infraction of discipline, which was apparently justifiable, has profited by his misfortune. He has been appointed resident surgeon at St. Vincent Hospital, New York City.

The regular practitioners of New Britain, indignant at being unrecognized by the corporators of the hospital at that place, treated with contempt by the directors, ignored by the executive committee, and snubbed by the matron, called a meeting, presided over by Dr. Samuel W. Irving, at which the following resolutions were passed: Resolved, that the members of the regular medical profession are entitled to at least one-third representation on the board of directors of the New Britain General Hospital, and that one of those aforementioned representatives should be a member of the executive committee of said institution; resolved, that the regular medical profession of New Britain nominate from its members a medical and surgical staff, and that said staff should have control of all things pertaining to medical and surgical matters.

DISTRICT OF COLUMBIA.

The Georgetown Hospital was the beneficiary of a lawn-fête, held on the campus of Georgetown University, September 4, 5, 6 and 7.

The two representatives of the medical department of the army, at the meeting of the American Public Health Association, at Indianapolis, October 1 to 5, are Major Charles Richard and Major William O. Owen.

The commissioners are meeting with difficulties in their efforts to secure a site for the new municipal hospital. They found a wide divergence between the prices asked for land and the ordinary valuation of the same property. This may act as a boomerang, as property-owners may be asked the reason for low assessments and tax payments on land which, under the present circumstances, they hold at so high a figure. Meanwhile matters regarding the hospital are at a standstill.

The District health report for the week ended August 30 showed a decided improvement over that of the previous week. Deaths amounting to 106 occurred in the week, making an annual death-rate of 13.71, as compared with 21.88 per 1000 for the week ended August 23. Typhoid fever caused 4 deaths, and 1 death occurred from whooping-cough. There were held in quarantine 33 cases of scarlet fever and 25 cases of diphtheria, an increase over the figures of the preceding week.

FLORIDA.

Dr. S. H. Woods, a graduate of University Medical College, Kansas City, has settled in Fort Meade for practice.

GEORGIA.

Dr. Harry M. Clarke, of Milledgeville, who moved to Atlanta early in the year, has returned to Milledgeville and resumed practice.

Dr. James F. Alexander, of Atlanta, one of the oldest practitioners in the city, has retired from practice on account of the rapid failure of his health.

The quarantine station at Savannah has been sold to the United States Marine-Hospital Service for $20,000. Since 1898 the station has been under the charge of the marine-hospital officials, pending report of the arbitrators appointed to fix the value of the station. Health Officer Brunner says that the station is the largest and the most important yet acquired by the Marine-Hospital Service, and should add to the prestige of that branch of the government service. If the results are good, it will lead to the acquiring of other stations, and it is therefore both the interest and the duty of the Marine-Hospital Service to give Savannah the best service of which it is capable.

ILLINOIS.

Dr. Merritt S. Jewell, of Olena, has removed to Little York.

Dr. Edgar E. Kilby has removed from Emden to Congerville, Woodford County.

Dr. Charles L. Koch, of Quincy, was married at Pittsburg, Pa., August 28, to Miss Susie F. Long, of that city.

Dr. J. R. Allen, of Custer, who has been suffering from a severe attack of appendicitis, is slowly recovering.

Dr. George E. Barth, who has practiced medicine in Rock Island for a quarter of a century, will remove to St. Louis.

Dr. L. D. Rockefeller will locate in Kewanee and will succeed Dr. John Murchison, who has removed to a mining town near Galesburg.

The barn of St. Joseph's Hospital, Joliet, the north end of which was used as an isolation ward, was seriously damaged by fire on August 28.

A partnership has been formed by Drs. Henry Hatch and John H. Rice, of Quincy. During the absence of Dr. Hatch, who sails for Europe in a few days, Dr. Rice will attend to the practice.

St. Clement's Hospital, Red Bud, is now ready for the reception of patients. The hospital is a three-story brick structure, is heated by steam and is elaborately equipped in every department.

Chicago.

Dr. William M. Harsha has returned from his vacation trip to Europe.

Dr. Albert B. Hale is lying seriously ill with typhoid fever at the Baptist Hospital.

The Post-Graduate Medical School has increased its capital stock from $20,000 to $40,000.

Dr. John A. Robison and wife have returned from their summer outing at Algonquin, Mich.

Dr. Henry T. Byford and family have returned from their summer home at Crystal Lake, Wis.

Drs. Homer O. Bates and Laura C. Bates have returned from their summer outing at Thousand Islands, N. Y.

Mount Sinai Hospital has been incorporated by Drs. Rudolph Menn, George M. Silverberg and Adolphus E. Berting.

Dr. Thomas Hughes was married to Miss Rose Myrtel Wakely, of Milwaukee, at St. John's Cathedral, September 5.

Dr. Morley Da Costa Bates, son of Dr. Homer O. Bates, was married to Miss Edith Gray Brown, also of Chicago, on August 29.

Boulevard Sanitarium has been incorporated with a capital stock of $2500, by Drs. Harry J. and Wellington T. Stewart and W. Clark Allen.

Harvey Medical College officers tendered a reception to the faculty, graduates and students on September 3. The lectures for the new term commenced on September 4.

The first regular meeting of the Chicago Gynecological Society for the year 1900 will be held in the Chicago Medical Society rooms, Friday, September 21, at 8 p.m.

Drs. A. J. Ochsner and A. H. Ferguson have been appointed professors of clinical surgery in the medical department of the University of Illinois—College of Physicians and Surgeons.

Dr. Archibald Church has been recently appointed professor of nervous and mental diseases and head of the neurological department of the Northwestern University School.

Dr. George P. Dreyer, associate professor of physiology at Johns Hopkins Medical School, has been elected to the chair of physiology in the College of Physicians and Surgeons, and will take up the duties of his new position October 1.

HEALTH DEPARTMENT.

The health department has been notified that it has been awarded one of the grand prizes at the Paris exposition for its exhibit of blanks, charts and other forms in use at the office of the department.

Bubonic plague is the text of an exhortation of the commissioner of health to the city and people to keep streets, alleys, homes and public buildings scoured and clean. He does not believe that the disease will gain a foothold even in the coast cities.

Controlling works at the junction of the river and the Sanitary Canal are favored by the health department, which deems such works necessary. At present it requires from eight to twelve hours to shut the gates at Lockport and stop the current, and during this time the garbage and sewage is prevented from taking its natural course through the canal, and the health of Chicago is thereby endangered.

Computed on the Federal census figures of Chicago's population—1,698,575—the death-rate of the last two weeks is 13.60 per thousand per annum, as against 15.75 per thousand for the corresponding period of 1899. This latter rate is computed on 5.44 per cent. less population than that of 1900. Since the unprecedentedly hot week of August 11, the weekly number of deaths has steadily declined, so that the total mortality for August—2138—is only 66 in excess of the average August mortality—2072—of the previous five years, and is 123 lower than for August, 1896. Should the present favorable condition of the public health continue through September, the total deaths for the year will hardly exceed those for 1899, notwithstanding that the first seven months indicated a much higher total. Deaths from the impure-water diseases continue to be gratifyingly few as compared with former years, the total for the last two weeks being 218, as against 269 for the corresponding two weeks of last year. Except for an unusual number of deaths from suicide and other forms of violence there is either no noteworthy increase or an actual decrease in the deaths from the principal causes. The deaths reported for the week ended September 1 were 443, or 32 less than for the corresponding week of last year; the death-rate per thousand was 13.70 as compared with 15.40 for 1899. Of males, 251, and of females, 192, died. The deaths of children under 1 year of age were 116; between 1 and 5 years, 56, and over 60, 67. The principal causes of death were: Acute intestinal diseases, 111; consumption, 40; violence, 39; pneumonia, 23; heart diseases, 22; nervous diseases, 18; Bright's disease, 16; cancer, 15; suicide, 10; typhoid fever, 6, and sunstroke, 4. During the week 628 births were reported. The total deaths for the week ended September 8 were 444, or 52 less than for the corresponding week of 1899. The death-rate per thousand was 13.61, as compared with 16.09 for last year. By sexes the deaths included 255 males and 189 females. By ages, 122 died, under 1 year of age, 51 between 1 and 5 years, and 68 over 60 years. The chief causes of death were: Acute intestinal diseases, 94; nervous diseases, 40; consumption, 39; violence, 39; heart diseases, 38; pneumonia, 16; cancer, 14; suicide, 12; typhoid fever, 7, and sunstroke, 2. During the week 562 births were reported. In the laboratory 139 bacteriological examinations were made; 10,540 vaccine tubes distributed; 100 antitoxin treatments given, and 339 samples of milk examined, 10.62 per cent of which were below grade. At the stockyards, 66,996 pounds of meat were condemned.

INDIANA.

Dr. William B. Blackstone, of Crown Point, will remove to South Bend.

A partnership has been formed by Drs. Samuel G. Todd and Edgar A. Doan, of Mishawaka.

The State Medical Board reports that 6115 physicians have thus far been registered in the state.

Dr. W. R. Amick, of "consumption cure" fame, died from heart failure at Columbus, August 30.

More than six hundred physicians have registered and are licensed to practice in Marion County.

Impetigo contagiosa is reported to be epidemic in Indianapolis, where it has commonly been mistaken for tinea sycosis.

Dr. F. W. Brown, assistant medical examiner for the Pennsylvania Volunteer Relief Association, has had his headquarters removed from Logansport to Fort Wayne.

Dr. D. R. Bbower, of Chicago, delivered an address at La Fayette, September 5, before the Tippecanoe Medical Society, on "New Things in Neurology, and Diagnosis and Treatment of Locomotor Ataxia." Stereopticon views were utilized to illustrate the important points.

The new buildings of the Longcliff Hospital, the Northern Indiana hospital for the insane, at Mishawaka, were formally opened on August 28, in the presence of Governor Mount, other high state officials and invited guests. Several hundred insane patients, who have been confined in the county jails and asylums of this district for lack of accommodation in the state institution, will be transferred to the new ward building.

IOWA.

Dr. Harold Bailey, of Charles City, has started for Europe, where he expects to spend a year in study.

Dr. J. H. Stanton has disposed of his practice at Harper's Ferry and has moved to Prairie du Chien, Wis.

Dr. Jesse B. Buck, of Iconium, has purchased the practice of Dr. L. T. Goisuch and will move to Moravia.

Dr. Frank La Force, of Ottumwa, is serving an interneship in the Illinois Charitable Eye and Ear Infirmary.

Dr. Lorenzo T. Gorsuch, of Moravia, has sold his practice on account of ill health, and will go to either Colorado Springs or Oakland, Cal.

Dr. Howard W. Seager, of Des Moines, has been appointed an acting assistant-surgeon in the army. He served as hospital steward in the Philippine campaign.

The physicians of Mason City held a meeting on September 3 to consider the question of a city hospital, and appointed a committee to look into the matter. Two sites for the proposed hospital have been offered gratis, and there seems to be no doubt that the funds for erecting and equipping the hospital will be quickly raised.

Muscatine County has been sued by Dr. F. E. Schmidt, of Muscatine, for $575, for services rendered during the recent smallpox epidemic in that city. The petitioner sets forth that during March, April and May, 1900, he was employed by the board of health to disinfect places and houses where smallpox patients had resided, or had been kept, and that his bill had been disallowed by the board of supervisors of the county.

KANSAS.

The College of Physicians and Surgeons, Kansas City, was formally opened on September 4, at Sixth street and Ann avenue.

The employees of the ice plant and packing house have contributed $50 and fitted up a room in the new hospital at Winfield.

Dr. Hubbard Linley, of Atchison, has been appointed to the chair of accidental and orthopedic surgery in the Central Medical College, St. Joseph, Mo.

Suit has been brought against a physician of Topeka for $5500. The complainant avers that his ankle was dislocated, was not properly set and that he is now a cripple.

MAINE.

Dr. E. H. Doble, a graduate of the Baltimore University School of Medicine, has located in Presque Isle.

Dr. Blanche Mansfield, of Old Town, a graduate of the Woman's Medical College of Philadelphia, will practice in Bangor.

Dr. John F. Hill, who was elected governor of Maine on September 10, is the second medical man to preside over the affairs of the state. In 1878 Dr. Alonzo Garcelon was elected governor, being the only democrat ever elected to that office in Maine. Governor-elect Hill was born in Eliot, in 1860, was graduated from Bowdoin Medical School in 1877, and ten years later took another course and received a diploma from Long Island College Hospital, Brooklyn. After a few years of practice he retired and became interested in various industrial enterprises in the state. He has been a member of the state legislature since 1892.

MARYLAND.

Dr. John H. Jamar, of Elkton, Cecil county, has inaugurated a movement for a drinking fountain in that place for man and beast.

Dr. William J. Todd has been appointed surgeon for the Northern Central railroad, at Mt. Washington, to succeed the late Dr. Josiah S. Brown.

At the annual graduating exercises of the Nurses Training School, connected with the Western Maryland Hospital, at Cumberland, on September 6, three nurses were graduated.

The ease with which deadly poisons can be purchased in this state for suicidal or homicidal purposes has been emphasized by the recent death of a young woman from morphin. There is no law in Maryland restricting or safeguarding in any way the sale of poison. Maryland is the only state without a pharmacy law. Legislation only extends to requiring druggists to qualify and become registered. The State Board of Pharmacy is taking steps to have this amended so as to have a complete law.

Baltimore.

Dr. James Bosley, health commissioner, has gone for a two-week's vacation to the Great Lakes.

Dr. Henry M. Hurd, superintendent of Johns Hopkins Hospital, will spend the month of September at Charmion, Pa. During his absence Dr. Andrew H. Whitridge will have charge of the Hospital.

Dr. Pierre G. Dausch has been sued by a widow for $20,000 damages. She alleges that on September 10, 1899, the doctor performed on her husband a surgical operation from the effects of which "he became sick, sore and disordered, and in consequence thereof, died on or about Sept. 14, 1899."

Dr. Flora A. Brewster has been indicted by the grand jury on a charge of establishing and keeping an asylum for the care of the insane at 1221 Madison avenue, without first obtaining a license from the state lunacy commission. Dr. George J. Preston, secretary of the Lunacy Commission, was the principal prosecuting witness.

Suit has been brought against Dr. Joseph C. A. Wunder for $10,000 damages. The suer alleges in his bill that he ran a splinter of wood into his hand and went to Dr. W. for treatment; that after being treated by the latter he failed to obtain relief, but was relieved by other professional skill. He also charges that an operation done by Dr. W. caused him to lose the use of a finger. Dr. Wunder says when the case comes to court he will be able to prove that his treatment of the case was correct.

Health Commissioner Bosley will not recognize, at least for the present, the population of this city as given by the U. S. census bureau, but will continue to estimate the mortality on a figure about 32,000 in advance of the census figures. The death-rate for the week ending September 1 was 19.70—whites, 18.53, colored 26.66—per thousand. Of these cholera infantum caused 25 deaths; consumption, 30; dysentery, 11; Bright's disease, 18; heart disease, 9; typhoid fever, 7, and diphtheria, 3.

MASSACHUSETTS.

Dr. Joseph H. Broadbent, Jr., of Roxbury, has been appointed pathologist at Roosevelt Hospital, New York City.

Dr. William A. Jackson, Jr., of Haydenville, has sold his practice and property to Dr. Victor S. Merritt, of Hartford, Conn.

Dr. Lionel A. B. Street, of Brookline, acting assistant-surgeon, U. S. A., who is now on his way to the Philippines, has been ordered for duty with the corps of engineers.

Dr. Frederick T. Clark has resigned his position at the state hospital at Poughkeepsie, N. Y., and will locate in his home, Westfield.

A large tract of land on Mount Auburn street, Cambridge has been transferred by the Cambridge Hospital to Harvard University. It will be used as the site for the new infirmary.

Dr. Carl E. Sleeper, a graduate of Dartmouth Medical School of 1900, has been appointed interne at the Burbank Hospital, Worcester, to succeed Dr. R. C. Cross, resigned.

Morton Hospital at Taunton has a thoroughly equipped operating annex. It includes a sterilizing plant and a special operating, anesthesia, recovery and accident rooms. It now asks to have two new wings built, one at either side of the main building.

Vaccination is called "assault" in New Bedford, the question being whether a physician of the board of health has the right to vaccinate a child against the wish of its parents. Dr. J. P. St. Germain, who was engaged in house-to-house inspection and vaccination, is said to have vaccinated two children against the wish of their parents. They have applied for a warrant for the vaccinator's arrest on a charge of assault and battery.

New Bedford is now going through the experience many Western states have had, and is agitated by the question whether its epidemic disease is chicken-pox or a mild form of smallpox. Little quarantine has been maintained and there are grave apprehensions as to the real nature of the disease. The board of health is now taking active measures to stamp out the malady.

MICHIGAN.

Dr. Harry S. Kiskadden, of Detroit, has been appointed health commissioner to succeed Dr. B. Howard Lawson, resigned.

Dr. A. Bruce Henderson, of Detroit, has been appointed acting assistant-surgeon in the army, and has sailed for the Orient.

The mortality of Detroit for the week ended August 18 was 113, 55 being children under 5 years of age. During the same period 56 births were reported.

Detroit reports 4927 deaths for the year ended July 1. Of this number 460 were due to pneumonia, 159 to cholera infantum, 34 to suicide, and 2 to murder.

The Woman's Hospital and Infants' Home, at Detroit, has been incorporated; this is merely a change of name from the Woman's Hospital and Foundlings' Home, and means only a reorganization.

Ludington physicians refuse to accept the appointment of health officer, because the salary has been fixed by the city council at $300. During the first half of the year there were six deaths in the city from preventable diseases.

MINNESOTA.

Dr. Ralph J. Sewall, of Two Harbors, expects to have his hospital ready for patients this month.

Dr. Alexander J. Stone, of St. Paul, will probably receive the democratic nomination for congress.

Dr. C. James Beise, formerly of Tracy, who has been taking a post-graduate course at Johns Hopkins Hospital, Baltimore, has located at Fergus Falls.

Norwegians in St. Paul have started a movement toward the establishment of a hospital for their countrymen. Dr. Eduard Boeckmann and others have organized committees to obtain funds for this purpose.

The public baths at St. Paul, established and efficiently managed by Dr. Justus Ohage, health commissioner, reflect great credit on the discernment and executive ability of that officer. Over 213,000 have bathed at Harriet Island; in the hot weather as many as 6000 to 10,000 a day have bathed there. The cost of the establishment has been less than $10,000.

Dr. Henry M. Bracken, secretary of the state board of health, makes the serious charge against Dr. Aretus K. Norton, health commissioner of Minneapolis, that owing to his failure to recognize smallpox, and properly quarantine, the disease has spread throughout the city and into the state. Up to July 1 there had been 377 cases of smallpox in Minneapolis and 359 at various points in the state directly traceable to Minneapolis, it is said. Cases at Janesville, Wis., and Wahpeton, N. D., had also been traced to this source.

MISSOURI.

Dr. W. E. Minor and family have returned to Kansas City from their trip abroad.

Dr. Joseph M. Harris, of Sedalia, is candidate for coroner on the republican ticket.

Dr. Charles W. Fassett and Dr. William T. Elam, of St. Joseph, have returned from their European trip.

Dr. Robert W. Renwick, of St. Louis, was married to Miss Blanche G. Becker, of St. Charles, at Belleville, Ill.

The University Medical College, Kansas City, has taken out a permit to construct an addition to the college, to cost $7000.

Central Medical College, St. Joseph, has opened with an attendance of more than forty. The fall term of Ensworth Medical College will commence September 17.

Dr. Herman L. Nietert, superintendent of the City Hospital, St. Louis, maintains that the surgical division of the new hospital should be able to accommodate 98 acute and 237 chronic cases, and that two wards should be provided for the detention of male, and two for female criminals.

The new hospital, for which $258,000 has just been appropriated, will not suffice, says President McMath, of the board of improvements, St. Louis. He claims that it will do for emergencies, but will "come far short of providing hospital accommodations that will enable the temporary city hospital to be vacated."

NEBRASKA.

Dr. Andrew Crawford, of Omaha, has removed to Harrisburg.

Dr. Lee Van Camp assumed his duties as physician of Douglas County, September 1. Dr. W. J. Redfield Ryan has been appointed to the interneship in the county hospital made vacant by Dr. Van Camp's translation.

Omaha needs an emergency hospital, and Dr. Victor H. Coffman, health commissioner, is endeavoring to persuade the city council to erect one before the advent of winter. The necessity is the more urgent in view of the possibility of a smallpox epidemic.

NEW JERSEY.

Col. George P. Olcott, of East Orange, has been appointed a member of the State Board of Health, to succeed the late Dr. Gaunt.

The managers of the Children's Seashore Home in Atlantic City are endeavoring to keep the house open until the middle of September in order to accommodate the large number now present there. They, however, report that up to this time the funds are insufficient, and an additional $1000 is asked for.

Dr. R. H. Parsons, of Mount Holly, president of the local board of health, has made a formal complaint to the New Jersey State Board of Health regarding the contaminated water furnished the city. The drinking water has been condemned by the local physicians, and an epidemic of typhoid fever is feared. Several cases have so far been reported. The present water-supply is obtained from Ranocas Creek, and it has become so low that pools had to be dammed up in order to get a sufficient supply. It is now stated that in many of these pools the water has become stagnant.

NEW YORK.

Dr. Julius E. Haight, of Matteawan, has been appointed medical interne at the State Hospital for the Insane at Utica.

The Unadilla Valley Medical Association was entertained at dinner at New Berlin on August 14 by Dr. and Mrs. J. B. Noyes.

Dr. Reid Gilmore, of the Cohoes Hospital, has been appointed house physician at the Ellis Hospital, Poughkeepsie, and has assumed his new duties.

The library of Syracuse University College of Medicine has received a bequest of sixty bound volumes and a number of pamphlets from the professional library of the late Dr. S. G. Ellis.

The main building of the New York State Hospital for Insane Criminals at Dannemora will be opened very soon. It is about 300 by 40 feet, two stories high, and has about 300 cells. Dr. Albert B. Lamb, of Matteawan, will be superintendent.

The women of Syracuse University College of Medicine have organized, during the past year, Zeta Phi, the first and only women's medical fraternity in this country. They esteem it an honor that Dr. Elizabeth Blackwell has consented to become a charter member, she having been graduated from this college and the first woman to receive the degree of M.D. in America. The purpose of the fraternity is to bring the women of the medical profession into closer touch with one another.

Buffalo.

The medical department of the University of Buffalo will open its fifty-fifth regular session on September 24.

Both the mayor and the postmaster of Buffalo are practicing physicians. Dr. Conrad Diehl is mayor and Dr. Samuel G. Dorr is postmaster.

The German Hospital will soon be completed. It is situated in the geographical center of a very large German population, and is modern in all its arrangements.

Dr. Marcel Hartwig, recently elected president of the Buffalo Academy of Medicine, has offered a prize of $50 for the best essay on a scientific subject, to be presented during the season of 1900-1901 by a fellow of the academy.

The health commissioner is trying to abate the nuisance due to the wetting and consequent fermentation of more than 600,000 bushels of grain which were in the elevators recently burned. Many complaints of nausea, vomiting and diarrhea have been made by the men working in this grain, and the effects of the stench on infants and invalids are said to be most deleterious.

The health report for July shows the annual death-rate to be 15.60 per 1000. There were 31 deaths from consumption, 24 from cancer, 94 from cholera infantum, and 25 from nephritis. The total number of deaths was 458—226 male, 232 female—as compared with 486 for the same period last year. The number of deaths under 5 years was 201, and 52 were over 70 years of age.

Dr. Ernest Wende, health commissioner, has called the attention of the councilmen to the urgent necessity of a new and commodious quarantine hospital. The present structure has outgrown its usefulness. The necessity is the more urgent in anticipation of the cosmopolitan crowd which will assemble in Buffalo during the Pan-American Exposition and the great danger resulting from a possible outbreak of contagious disease at that time.

The New York State Pathological Laboratory has secured the services of Mr. Clowes, of London, England, as chemist. The laboratory, which has already attained an international reputation for its original research work on the etiology of cancer, is a part of the University of Buffalo, and its present location is in the Medical College building. The director and his assistants have been very much hindered in their work by reason of the crowded quarters. Recently a bequest of $25,000 was made for the erection of a new and modern laboratory building. Enough money has already been collected by private subscription to buy a suitable site, so that a new building is assured in the very near future.

New York City.

Dr. Virgil P. Gibney and wife have been visiting for several weeks with friends in various parts of Kentucky.

Dr. Louis L. Seaman, late major-surgeon of the 1st U. S. Volunteer Engineers, arrived in New York September 1, after a short European trip.

On September 5, Dr. Godfrey Rogers Pisek was married to Miss Rosalie Scranton Paul, daughter of the late Dr. F. M. Paul, of Belvidere, N. J.

The prison commission will formally urge the hospital commission to select Dannemora as the site for the proposed State Hospital for Consumptives.

Ten physicians and twenty trained nurses from Bellevue Hospital started for Galveston, September 11, to assist in caring for the sufferers from the storm which devastated that city.

Two of the public baths, both well patronized, have been moored all the season almost directly at the mouths of sewers. There is little excuse for such gross carelessness, but it is comforting to read that immediate steps were taken to close the baths.

At the annual meeting, on September 6, the following were elected officers of the prison commission: President, Lispenard Stewart, New York City; vice-president, Nelson Davenport, Troy. Secretary McLaughlin was elected for a third term.

Dr. Justin Herold, an authority on legal medicine, and editor of a text-book on that subject, has brought suit against the Metropolitan Street Railway Company for $100,000, for injury to his right leg, sustained in a collision between two street cars on May 31. It is alleged that the injury was such that he will be a cripple for life.

The isolation of consumptives in the hospital on Blackwell's Island, after the removal of the insane patients therefrom, is a plan which Commissioner Keller is endeavoring to carry through. This will place the present phthisis ward at Bellevue Hospital at the disposal of the authorities for other work.

A boy, 13 years old, died a few days ago in the Harlem Hospital, of hydrophobia, according to the *Medical Record*. He was attacked while playing in the street by a dog, which bit his nose off. The first symptom of rabies appeared seventeen days later. It is stated that this is the seventeenth death from rabies reported in this city during the past five years.

Cornell University Medical College is now established in its new building in First avenue, between Twenty-seventh and Twenty-eighth streets. The building is still unfinished, but will be ready by the time for opening of term, October 2. Thus far more than twice as many students have registered as had registered in the corresponding period of 1899.

A famous surgical case was that in which, twenty years ago, Dr. Lewis A. Sayre and the late Dr. Thomas Sabine removed a tuberculous and ulcerated nose, and built up an artificial nose from the middle finger of a man's hand. At the time of the first operation most of the physicians believed that the man was dying from tuberculosis, but he survived and eventually left the hospital with his queer substitute nose. He has recently turned up again at the hospital with advanced Bright's disease, and refuses to believe that physicians of the present day are powerless to help him again cheat death.

NORTH CAROLINA.

Dr. G. M. Van Poole, of Spencer, who was recently appointed an acting assistant-surgeon in the army, has sailed from San Francisco for Manila.

The Clarence Barker Memorial Hospital at Biltmore, which was erected by the sisters of Clarence Barker, is to have an endowment fund; it has been started by his cousin, George W. Vanderbilt. The hospital was formally opened on September 4.

A sanatorium for invalids of moderate means is to be established at Asheville. Several years ago Mrs. M. Franklin Mallory, of Vermont, went to Asheville, and was impressed with the advantages of the locality for consumptives and with the impossibility of any except the wealthy availing themselves of these advantages under the existing condition. She therefore started a small establishment at which those of moderate means could live at small expense. The project proved so successful that she has purchased a large tract of land, has erected some buildings and will erect others which will be ready before cold weather. She has interested many Eastern and Chicago people in her work, and has already collected more than $4000 for the equipment of the home.

OHIO.

Dr. David R. Schall, of Del Roy, has located near East Liverpool.

Dr. Henry A. Furniss, of Galena, has opened an office at Constantia.

Dr. Ephriam W. Love, of Fayetteville, lost his residence by fire on August 30.

Dr. James E. Murray, of Middletown, has sold his practice to Dr. L. S. Krauss, of West Carrollton.

The late Dr. David B. Chamberlain, of Toledo, who died intestate, left an estate valued at $7200.

Dr. C. F. Clark, of Columbus, has just returned from his vacation in Canada.

Drs. Edwin H. and Allen M. Chilcote have sold their practice at Bloomdale to Drs. Rolla R. and John M. Adams.

Dr. U. S. G. Deaton, of Thackery, has received an appointment as acting assistant-surgeon in the army and has started for the Orient.

Dr. John A. Wilkins, of Delta, was made surgeon-general of the Grand Army of the Republic at its recent encampment in Chicago.

Dr. Samuel C. Lindsay, of Salineville, has been appointed acting assistant-surgeon in the army and ordered to report at San Francisco for assignment to duty.

Drs. George C. Skinner and John Francis, of Hamilton, sailed for Europe on September 5. Dr. Mark Millikin will have charge of Dr. Skinner's practice in his absence.

Dr. Clarence E. Drake, whose term as house physician at Zanesville Hospital expired on September 1, has been succeeded by Dr. Charles N. Hanna. The latter's position as physician at the Muskingum county infirmary will be assumed by the former.

An attempt was made to assassinate Dr. J. V. Cleaver, of Akron, August 30. Six shots were fired at him, fortunately without effect. He has been very outspoken in his remarks against the rioters, and it is thought that some revengeful rioter may be responsible for the attempt.

Dr. William J. Means, of Columbus, considers that his reputation has been injured to the extent of $25,000 and has brought suit against the *Citizen* Publishing Company for that amount. The casus belli is that the defendant journal stated that Dr. Mean's "mania for operating" might cause the death of Ray Chalfant, operated on at the Protestant Hospital.

OREGON.

Dr. D. J. McFaul, of Heppner, has concluded to locate at Pendleton.

Dr. Rupert J. Chipman has moved from La Grande to a larger field of labor in Portland.

Good Samaritan Hospital, Portland, suffered slight loss from fire, September 5. For a time there was apparently great danger, but thanks to the discipline and resolution of the nurses and attendants, the patients were all removed to places of safety.

The health report of Portland for August makes an excellent showing. No smallpox has been discovered for three weeks, and the pest-house is empty. Six cases of typhoid fever, and these isolated, are the only cases of contagious disease in the city.

PENNSYLVANIA.

Dysentery in virulent form is prevalent in Yocumtown and vicinity. All measures have been instituted to prevent it from spreading, but so far without result. All the local physicians have been taxed to the utmost to give relief to the sick. The disease is said to attack both old and young alike. So far seventeen deaths have occurred.

Dr. Fred A. Utley, of Carbondale, will locate for practice in Blossburg.

Dr. Hermanus L. Baer was married to Miss Mabel McKinley, niece of the President, at Somerset, on September 12. Dr. Baer is a graduate of the Jefferson Medical College, Philadelphia, of the class of 1900.

Meadville City Hospital is to have an addition built to accommodate patients suffering from contagious and infectious diseases.

Dr. Thomas A. Miller, assistant physician at Allegheny County Home, Carnegie, returned to Bellevue, September 1, on the expiration of his term of office.

Titusville is to have a hospital, through the generosity of David McKelvey, who donated the ground and several thousand dollars in cash. The building will cost $15,000.

Smallpox, which has prevailed at Erie for some time past, has assumed a more virulent type. All the schools have been ordered closed. So far, one death has been reported.

Philadelphia.

Drs. S. Louis Ziegler and G. E. DeSchweinitz have returned from Europe.

Dr. John H. W. Chestnut, who died a short time ago in Alaska, left an estate of more than a quarter of a million dollars.

During the past week the number of persons who enjoyed the public baths was the largest in the history of the institution, there being 418,958 visitors; of this number 100,939 were men, 309,550 boys, 6421 girls and 1639 women.

The trials of those accused of violating the pure food and oleomargarin law were held in quarter sessions' court beginning September 1. The indictments for violation of the oleomargarin law numbered 18, and 53 were on trial for selling adulterated food.

The Free Hospital for Poor Consumptives, in its second annual report, shows that during the year 124 cases were cared for, mostly at St. Agnes' St. Mary's and Rush hospitals. The receipts for the year were $9724.65, and the disbursements, $6748.34, of which $6118.54 was paid institutions for the board of patients.

The new children's hospital of Germantown was dedicated with appropriate ceremonies on Monday, September 3. Mayor Ashbridge delivered the dedicatory address. The dispensary of this institution was opened in June, and so far has treated 800 persons. At present there is accommodation for 25 persons, but it is hoped to double the capacity at an early date. The staff of physicians includes Dr. Ammon A. Apple, Dr. Charles K. Rowe, Dr. Marmaduke F. Van Buren, Dr. S. A. Cadwallader and Dr. Alexander Frazier.

Considerable discussion has ensued between the members of the board of health, the post-office authorities and the physicians in attendance on the child who died of diphtheria last week and whose body lay exposed in a parlor for several hours. It was first believed that the physician was to blame for not promptly reporting the case and he was censured by the board. It now develops that the physician in question gave the letter to the mail-carrier, so that it would appear he should be absolved from blame. This throws the cause for delay on the post-office authorities.

The Dairy and Food Commission of Pennsylvania have instituted suit against the firm of Burns, Metzger & Co., spice manufacturers, on the charge of adulterating cinnamon, starches and other articles. Thirteen charges will be presented at the hearing. The articles that have been subjected to chemical analysis are said to show considerable adulteration, such as cayenne pepper, 25 per cent. adulteration, with husks or mustard seed; cloves, 20 per cent. adulteration: white pepper, 7 to 8 per cent.; African cayenne pepper, 12 per cent.; plain black pepper, 17 to 20 per cent., and 12 per cent. adulteration of cinnamon. This firm has a plant valued at $100,000 and their goods are handled by many of the smaller dealers of the city. It is believed that warrants will be issued for other dealers in these products.

SOUTH DAKOTA.

Dr. Carl Laason, recently from Norway, has opened an office in Hetland.

Dr. E. W. Dickenson, of Webster, has bought the practice of Dr. John J. Fanset, of Millbank, and will succeed him.

Dr. Herman H. Hanstein has succeeded Dr. Bufort D. Black as resident physician at Homestake Hospital, Lead. Dr. Hanstein has been practicing in Kenosha, Wis. Dr. Black will leave for Mexico in a few days.

TENNESSEE.

Drs. E. D. Mitchell, L. L. Meyer and Marcus Haase have been elected to vacancies on the staff of the Memphis City Hospital.

Dr. Walter F. Rochelle, of Jackson, has purchased the interests of his partner, Dr. John T. Warford, in the Rochelle-Warford Sanitarium, and will conduct the establishment in future.

The suit for $500 against the Knoxville Traction Co., brought by Dr. Alfred S. Horsley for injuries to his wife and the destruction of his buggy, has been decided in favor of the defendant company.

An amendment to the Memphis Board of Health ordinance was recently offered by the mayor and passed on its first reading without objection, which makes it compulsory on physicians to report to the department of health any cases of typhoid fever or tuberculosis seen by them in practice, as the law now requires in smallpox and scarlet fever. It also provides that violation of this law shall be considered a misdemeanor.

The Memphis Medical Society at its last regular meeting adopted a resolution that the president of the society appoint a committee of three whose duty it shall be to correspond with other medical societies of the state with a view to securing unanimity in an effort to have an amendment to the state medical practice act adopted at the last meeting of the general assembly, rescinded at the next meeting of this body. The amendment referred to exempts graduates of the medical schools of Tennessee from examination before the State Board of Medical Examiners, to which graduates of all other schools must submit before they are granted license to practice in the state.

TEXAS.

A new medical practice act has been approved by the State Medical Association, which provides for three separate boards of medical examiners, from the three principal schools of medicine, no member of any of which shall be a member of the teaching force of any medical school.

The reports of the ravages of the sea and storm in Galveston are as yet only vague, but it is reported that among the buildings destroyed are the John Sealey hospital, with most of the patients killed; Orphans' Home, casualties unknown, and St. Mary's Infirmary, only eight saved. The capacity of the John Sealey Hospital was 125 beds, and that of St. Mary's Infirmary, 350 beds.

UTAH.

Dr. Chauncy M. Benedict, of Salt Lake City, has been commissioned major and surgeon in the National Guard of the state.

The report of the Salt Lake City Board of Health for the week ended September 1, shows 23 births and 16 deaths. Seven cases of scarlatina, four cases of smallpox and two cases of typhoid fever were reported during the week.

VIRGINIA.

Dr. Hamilton P. Howard, of Alexandria, has been appointed surgeon at the Virginia Military Institute at Lexington.

Dr. Benjamin Harrison, of Richmond, surgeon of the state penitentiary, is seriously ill with typhoid fever in Clarke county. Dr. James P. Roy is acting as *locum tenens* during his illness.

WASHINGTON.

The Everett Hospital is so crowded that it is obliged to turn away patients.

Dr. Millard G. Hinkle has removed to Seattle from Stockton, Cal.

The city health officer of Everett, Dr. John R. Hathaway, claims that diphtheria is entirely stamped out. No new cases have been reported for a week, all who had the disease have recovered and quarantine has been raised.

WISCONSIN.

Dr. Eugene R. Herring, of Manawa, has removed to Shell Lake.

Dr. Gilbert E. Seaman has returned from the Philippines, resigned from the army, and resumed practice in Milwaukee.

Dr. John Hund, who has practiced medicine and conducted a German paper in Athens for several years, has moved practice and paper to Marathon City, where he has entered into partnership with Dr. P. J. Taugher.

Dr. Frank C. Studley, of Milwaukee, has leased a six-acre tract of land on the upper Milwaukee river, for a sanatorium. The buildings now on the ground will be remodeled and enlarged and will be ready for use October 1.

An outbreak of typhoid fever, mild in character, is reported in the northwestern part of Milwaukee. Twenty cases have occurred, and two-thirds of these were reported in one day. The health department is endeavoring to ascertain the source of infection.

CANADA.

Dr. Morrison, a graduate of Queen's, Kingston, has been appointed house surgeon of the New York Polyclinic Hospital.

Dr. Haig, of Campbellford, has been appointed superintendent of the Kingston General Hospital, and will begin his duties on October 1.

Montreal is going ahead with its crematory. Arrangements have been made to accept Sir W. C. Macdonald's offer to build and endow the institution.

Dr. Gillis, medical superintendent of the Brandon Asylum for the past four years, will be removed from that office by the Macdonald government of Manitoba.

Dr. Lamont, Winnipeg, has returned to that city after finishing a trip of 2000 miles of Indian medical inspection on the Saskatchewan river and lakes Winnipeg, Manitou and Winnepegosis.

The province of Quebec is now practically free from smallpox. The last case was disposed of about a month ago. A few cases of scarlet fever still exist, but they are well under control.

Dr. E. Prose, late of the Manitoba Medical College, writes from Cape Town, August 1, saying that Dr. A. B. Bing, a fellow-graduate in the same contingent, had died of enteric fever at Johannesburg.

Dr. A. J. Douglas has been selected for the position of health officer for Winnipeg. The former inspector, Dr. Inglis, severed his connection with the department as a result of the recent smallpox controversy.

The New Brunswick Medical Society held its annual meeting at St. John on July 17; the following officers were elected; President, Dr. G. T. Smith, Monckton; vice-president, Dr. S. C. Murray, Albert; treasurer, Dr. G. G. Melvin, St. John; secretary, Dr. J. H. Scammell, St. John.

TO PREVENT CONSUMPTION.

The first annual meeting of the Ontario Association for the Prevention of Consumption convened in the City Hall, Toronto, on September 4, under the presidency of Dr. James Thorburn of that city. The draft constitution was submitted to the meeting and adopted. It defines the objects of the Association to be the collection and dissemination of information as to the contagious character of tuberculosis, and as to the methods and measures necessary for public protection; the education of public opinion; to encourage co-operation of governments, municipalities and philanthropic institutions to provide sanitoria. The fee for ordinary members was placed at $1. Provision was also made for the formation of branch associations on condition that they transmit to the treasurer one-fifth of the sums received as membership fees. Dr. James Thorburn was re-elected president and Dr. P. H. Bryce corresponding secretary.

CIVIC HEALTH REPORT, MONTREAL.

The annual report of the civic health department has been printed for 1899 and embraces a pamphlet of 132 pages. The total number of deaths during the year was 6871, including 692 illegitimate children and premature births, making a proportion of 24.51 per 1000 of the population. This is an increase of 3.85 per thousand of the population, including 1.86 per 1000 due to illegitimates and premature births over 1898. The total number of illegitimate births was 522. There were still remaining on Dec. 31, 1899, 4913 privy pits in Montreal as against 8891 in 1891. In the civic hospital for contagious diseases, 359 patients were treated, 217 for diphtheria, and 140 for scarlet fever and two for measles. Of the total number 151 were children under five years of age. The death-rate was 9.41 per cent. Over 1500 examinations were made in the bacteriological laboratory by Dr. J. E. Laberge, who is in charge of this department. The total appropriation for the department was $117,383 and the outlay $114,929. Dr. Nolin vaccinated 962 people, Dr. Daze 480 and Dr. Coyle 238, making a total of 1772. There were 1878 cases of contagious diseases in the city during 1899, made up as follows: Diphtheria, 678; diphtheric croup, 54; croup, 35; scarlatina, 568; typhoid fever, 260; measles, 270; varioloid, 18. Of these cases 706 were children under five years of age. The births numbered 9655. The birth-rate was 48.45 amongst French-Canadians, 20.81 amongst other Catholics and 22.29 amongst Protestants. The surplus of births over deaths was 2784.

MARINE-HOSPITAL NOTES.

LUSTIG'S SERUM.

In a report to the surgeon-general, U. S. Marine-Hospital Service, Dr. Geddings refers as follows to Lustig's serum, reference to which is occasionally made in the medical journals. Lustig's serum is for the prevention and cure of plague and is the serum of a horse immunized by toxins of plague precipitated after a particular method. Lustig and Galeotti have demonstrated that the toxins of plague belong to the class of nucleins and they prepare it by subjecting cultures of the bacillus pestis to the action of a 0.6 per cent. solution of caustic soda or potash. In three or fours days the bacilli are entirely dissolved and the nucleins set free are precipitated as usual by acetic acid. The substance is then collected and used for the immunization of horses, it being necessary to use a weak alkali, as sodium carbonate, for their solution. The toxin thus precipitated has about the same strength as ordinary plague toxins precipitated by ammonium sulphate. An effort was made in the Hygienic Laboratory to make practical use of this method, but it was found impracticable, owing to the very small quantity of product obtained by following the method as described by Lustig. The serum of a horse immunized with this toxin would probably have about the same antitoxic or curative value as a serum prepared by the ordinary methods, neither more nor less.

WHAT WAS DONE BY CONGRESS AT ITS LAST SESSION FOR THE MARINE-HOSPITAL SERVICE.

The continued growth of the Marine-Hospital Service, and the extension of its duties to Cuba, Porto Rico and the Philippines, made it necessary for Congress to be liberal in meeting the demands of the Service as explained to it by the surgeon-general. The office force of the bureau at Washington was increased by the addition of five new clerks, making a total of twenty-two clerks distributed among the seven divisions of the office under its reorganization. All these divisions are under medical officers, excepting one, and are as follows: 1, Division of marine-hospitals; 2, division of domestic quarantine; 3, division of insular and foreign quarantine; 4, division of sanitary reports and statistics; 5, division of personnel and accounts; 6, miscellaneous division, and 7, chief clerk. The hygienic laboratory, although not a part of the surgeon-general's office proper, is located in the same building, and the director is available for conference on many matters relating to scientific determination regarding infection and disinfection. For the Marine-Hospital Service, proper, Congress appropriated $8000 for a new surgeon's residence at San Francisco, and $16,000 for completion of pavilion yards at the marine hospitals at Boston, Cleveland, Detroit, Mobile and St. Louis, and made the general fund available for repairs and improvements. For extending and improving the national quarantine stations the sum of $359,050 was appropriated, including $131,000 for the San Francisco quarantine, $125,000 for the Florida quarantine stations—made necessary by the transfer of Tortugas to the navy department for a coaling station—$30,000 for the Savannah station, $23,750 for San Diego, $8000 for the Reedy Island, Delaware River, station, and smaller sums for the other quarantine stations at Delaware Breakwater, Cape Charles, Virginia; Brunswick, Georgia; Gulf quarantine, Ship Island, Miss., and South Atlantic quarantine Blackbeard Island, Ga. For the annual running expenses of the national quarantine stations, including those in Porto Rico, the sum of $235,000 was appropriated. Laws were passed placing the whole of the quarantine service of Porto Rico and of the Hawaiian Islands under the Marine-Hospital Service and appropriating $75,000 for the maintenance of the quarantine service in Hawaii. For the fund for the prevention of the introduction or spread of cholera, yellow fever, smallpox and plague, known as the epidemic fund, $500,000 was appropriated. The Marine-Hospital Sanatorium for the treatment of tuberculous patients of the service received the sanction of Congress after the whole scheme had been laid before a committee of the Senate, by being included in one of the appropriation bills for public buildings. A bill to increase the efficiency of the National Quarantine Service, providing penalties for infraction of the national quarantine laws, etc., passed the Senate and was reported on favorably in the House of Representatives, and will doubtless pass at the next session, there being no objection to it.

PLAGUE SITUATION IN GLASGOW, SCOTLAND.

In continuation of the same subject in issue of September 8, 1900: P. A. Surgeon A. R. Thomas, of the United States Marine-Hospital Service, now in Glasgow, reports, on September 7: "No new cases for three days. Conditions good." He has been directed to classify the freight leaving Glasgow, certain articles to be passed without inspection, other articles to be inspected and passed on a certificate showing non-infected origin, a third class to be entirely passed after disinfection, and a fourth class to be entirely debarred. Asst.-Surgeon John F. Anderson, after arriving in London, was ordered to Liverpool to carry out the same instructions as were issued to Dr. Thomas with regard to passengers and freight coming from Glasgow for shipment at Liverpool. Arrangements are being made for the ship's surgeons on transatlantic lines while plague prevails in Glasgow to take the temperature of all steerage passengers and crew the day before arrival in the United States for the information of the quarantine officer at the port of arrival. The Canadian government has requested that Dr. Thomas inspect all vessels leaving Glasgow for Canadian ports, until the arrival of their own representative in Glasgow, and this request has been granted. On September 1, the surgeon-general detailed an officer to confer with the quarantine officer of New York, as to the measures he was taking or proposed to take other than those laid down in treasury regulations, New York being the most important port in the United States having commerce with Glasgow. At a subsequent conference with Health Officer Doty at the bureau in Washington, it was agreed that he would continue what he had already begun; viz.; the taking of temperatures of all the steerage passengers and crew of transatlantic liners from Glasgow and other ports whence Glasgow passengers might take passage to the United States, and setting aside for further examination all persons who show any rise in temperature, such persons being submitted to glandular examination, as well as observation for a period of time. Orders were issued to all officers of the Marine-Hospital Service on quarantine duty and requests to all state and local health officers at ports where there is passenger traffic, to put in effect the same practice. The taking of temperatures as part of the ordinary inspection of vessels arriving at quarantine is now considered a very essential feature in quarantine administration. Mild cases of almost any infectious disease can "brace up" for the ordinary quarantine inspection and pass it, but this cannot be done if the temperatures are taken. The New York quarantine has been employing this practice for some time with regard to passengers from Habana, and the surgeon-general of the Marine-Hospital Service has instructed his officers at National quarantine stations to the same effect.

Correspondence.

Dr. Jacobi's Address and "Sectionalism."

New York City, Sept. 10, 1900.

To the Editor:—As a reply to the criticisms on some remarks delivered by me before the Thirteenth International Medical Congress, August 6, permit me to say to Dr. J. Wilkinson Jervey[1] that nothing is further from me than to harbor or try to create any sectional feelings. I deplore to have given him any such impression. The Doctor says himself that, "It is not the actual expression to which the Doctor gave tongue that is objectionable, but the inferential and insinuating quality of his remarks addressed to those good people across the water who know us not, save as existing, and who quite naturally accept the imputations and inferences." In this fear, Mr. Editor, I am happy to say, the Doctor is mistaken, and I feel sure he will be pleased to learn, in spite of his objections to some—shall I say unguarded?—expressions of mine, and your readers will learn with satisfaction, that not only was my address applauded by the Americans present, but that, from Lannelongue and Virchow down, the whole audience felt and appreciated (and expressed their appreciation) the claims of American medicine and medical men to recognition as full equals in the co-operative struggles of our international science and art. When I had finished, and ever since, I had the impression that I had simply continued in my life-long efforts to improve the estimation in which the American profession was held in Europe—both as a trifling proof of my gratitude for the endless acts of kindness bestowed on me personally by that profession, and as a demand of testimonial justice. Sad if I should have made a grievous mistake. But allow me to say that such references as I have been able to see in the medical and the lay press of Europe, justify that belief of mine. Besides, I refer you to the concluding paragraph, and to many others, of my address, as my defense—if defense there must be after my fellowship of nearly half a century in the profession, and after forty years of teaching and of other public work.

---

[1] The Journal, p. 638.

In your editorial remarks[2] you "regret the semi-apologetic accent of some portions of the address in regard to our national standing in medicine and science. Foreigners are condescending enough at present, and we naturally prefer such an utterance as that of Osler, who saw in the future of America a scientific Mecca, rather than even an equivocal admission of real or fancied national defects, in such an address." I think you refer to his address on the importance of post-graduate study, in which he says: "To students who wish to have the best that the world offers, let me suggest that the lines of intellectual progress are veering strongly to the West, and I predict that in the twentieth century the young English physicians will find their keenest inspiration in the land of the setting sun." In my address I say, "The time is fast approaching, I hope, when your students and doctors will travel with the sun to enjoy the light of the West." That does not exactly look like a "timid presentation" of our claims. And again, "There was a period when they asked: Who reads an American book? American books are now read the world over by privileged men, and even translated. Verily, verily, the time should come speedily when they will ask: Where is the ignoramus that does not know American literature?" Such are my convictions on that point, and I have quietly tried to turn the "condescension"—so that you call it—of European public opinion in different ways these forty years.

Lately, I received many letters remonstrating with one or the other view expressed in my address. Let it be understood that I pronounce my own opinions when I am speaking publicly; that the meeting before which I appeared was international, not national or European only, and finally that I can not enter into personal correspondence, or replies, or as a daily newspaper has it, "quarrels." But I may be permitted to say —I am referring to some opinions as expressed in my address, and criticised—on behalf of those who will not or can not read the address in full; that I am still of the opinion that we should study the Pharmacopeia of the United States and the formulary of the American Pharmaceutical Association more than the price-lists of the wholesale druggists, whom we allow to do part of our thinking; that we can find better employment than in discussions with their and publishers' agents; also that our 156 medical schools should be reduced to 25 and attached to a university and furnished hospitals of their own, and our 200 or 300 medical, or alleged medical, journals to 50; that those which are founded by professional men or by the profession at large, are preferable for many reasons, to those published in the interests of a publisher, a manufacturer or of a proprietary medicine owner; also that syndicates of medical men should see to the production and consumption of medical literature. I am still of the same opinion that I expressed in my address in regard to consultations with sectarians; and I still hold the same political views that I was rebuked for in an anonymous letter. Finally, I am still of the opinion that we should participate, not as sanitarians only, in the political and municipal affairs. Let me thank you, Mr. Editor, for the courtesy you extended me in opening your journal to these lines. Very respectfully yours, A. JACOBI, M.D.

---

[2] See p. 628.

A CIRCUS traveling through the province of Quebec, Canada, introduced the name of Dr. Sabourin, of Saint-Jean, into a song on the program. The doctor sued the company for $5000 and was awarded $500 by the local courts, the *Revue Méd.* reports.

Book Notices.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Price, $2.50. New York: The New York State Medical Association (Dr. Ogden C. Ludlow, secretary, 2309 Seventh avenue). 1900.

The Directory of the physicians of New York, New Jersey and Connecticut is a good illustration of what a state society can do to benefit its members and the profession, without depending upon commercial enterprise outside of its ranks. This directory bears evidence of being gotten up with the idea of giving all the information possible, so that it may be valuable to its possessor, rather than to make it a profitable commercial enterprise. The first page of the directory, on which is commenced a Street List of Physicians of Manhattan and Bronx, indicates this. It may not be often that one desires to know what physicians live on a certain street, but sometimes this information is decidedly important. The street index is given for all the large cities and boroughs. Following the street list is a list of physicians of Manhattan and Bronx, arranged alphabetically. Besides the address, there is also given the college and year of graduation, office hours, positions held, and to what society or societies each is affiliated. The list of Brooklyn physicians is printed on a different colored paper, to facilitate easy and quick reference—a most excellent idea. Following that of Brooklyn is a list of the physicians of the boroughs of Queens and Richmond. After this comes a vast amount of information about matters medical in Greater New York, such as the department of Public charities, of corrections, etc.; the various courts of justice and the civil boards; ordinances relating to physicians, midwives, etc.; list of hospitals, dispensaries, etc.; list of the various medical societies of Greater New York, with their officers, time and place of meeting, etc., and a list of registered pharmacists. The same general information is also given regarding other large cities in the three states covered. The homeopaths and eclectic physicians are listed separately, the name and address only being given. The whole makes a book of great value, especially to the physicians of the states it includes, and too much praise can not be bestowed on the committee for the successful way in which they have accomplished their task. The amount of labor it entailed can be appreciated only by those who have attempted such work. Every physician in New York, New Jersey and Connecticut should obtain a copy of the book, not only for its intrinsic value, but to encourage such an enterprise on the part of physicians.

FRACTURES. By Carl Beck, M.D., visiting surgeon to St. Mark's Hospital; to the New York German Poliklinik, etc. With an appendix on The Practical Use of the Röntgen Rays. 178 illustrations. Price, $3.50. Philadelphia: W. B. Saunders & Co. 1900.

In the introduction to his book, the author, after giving a brief historical description of the Röntgen rays, calls attention to their great value in the management of fractures, and mentions those in which the use of the rays is especially valuable as a diagnostic measure. By their use accuracy takes the place of ignorance and doubt, and painful manipulations cease to be necessary for diagnostic purposes. In Part I, is considered the classification of fractures, and the general process of repair and treatment. In Part II, is taken up in detail the management of the special fractures. The author's method of presenting the subject is simple, practical and easy of comprehension. There is a liberal supply of illustrations to graphically assist the reader in a thorough understanding of the text. The common, and many of the rare fractures, are represented skiagraphically. Practically all of the illustrations are new.

If the author had given as a subtitle "A Plea for the More General Use of the Röntgen Rays in the Diagnosis and Treatment of Fractures" it would have better described the character of his book. The preface reads as though the book was devoted to the Röntgen rays; the introduction is on the use of the rays, and an appendix of over fifty pages is on the practical use of the Röntgen rays. The latter, by the way, gives much valuable information in regard to the kind of battery to use, and its management. The author is evidently an enthusiastic believer in the great value of the X-rays, even in its present development. His enthusiasm convinces him that "exploratory laparotomy for suspected lithiasis will hardly be necessary any more," a conclusion which all surgeons are not yet ready to endorse. The author is not too enthusiastic, however, and his book can not but do good in extending the use of the Röntgen rays in the management of fractures.

Deaths and Obituaries.

Jacob M. DaCosta, M.D., died at his residence at Villa Nova, near Philadelphia, from heart disease, September 11, at the age of 67 years. He was born in the Island of St. Thomas, West Indies, received his literary and classical education in Germany and then began his medical studies at the Jefferson Medical College, Philadelphia, his preceptor being Professor Mütter. He was graduated in 1852, and after spending two years in the hospitals and medical schools of Paris and Vienna, he returned to Philadelphia and established himself in practice, devoting himself especially to diseases of the heart and lungs. His contributions to medical literature have been large and varied, many of his works, such as "Medical Diagnosis," being standard. He was for some time attending physician at the Episcopal Hospital and later at the Philadelphia and Pennsylvania hospitals. In 1864 he was appointed lecturer on clinical medicine at his alma mater, and eight years later was chosen to fill the chair of theory and practice of medicine in that institution. In 1895 he was made president of the Philadelphia College of Physicians. At the time of his death he was professor emeritus in Jefferson Medical College and a trustee of the University of Pennsylvania.

William S. Ward, M.D., a graduate of the College of Physicians and Surgeons, New York, in the class of 1849, died at Newark, N. J., September 1, at the age of 79. He had practiced medicine in Newark for more than fifty years. During the Civil War he was stationed at the Ward General Hospital, Newark, and there achieved a reputation for administrative ability. He served on the staff of St. Michael's and St. Barnabas' Hospitals and was attending physician at the Protestant Foster Home for more than thirty years.

Henry D'Huy, M.D., died at his home in Kansas City, August 28, at the age of 80 years. He was born in Hanover, studied medicine in Dresden and at the University of Leipsic. He was graduated in 1843, and came to America in the same year, locating in Newburg, N. Y. In 1856 he located in Winterset, Ia., where he practiced until the outbreak of the Civil War, through which he served, first as a private, then as acting assistant-surgeon. He moved to Kansas City in 1889.

Josiah S. Bowen, M.D., died at Mt. Washington, Md., on August 29, of heart disease, aged 68 years. In 1854 he went with a party of gold seekers to California, and later studied medicine in the University of Maryland, where he graduated in the class of 1864. He located at Mt. Washington, and practiced there nearly forty years.

Frank Stephen Milbury, M.D., a graduate of the Cincinnati College of Medicine and Surgery, in the class of 1888, died in his 44th year at his home in Brooklyn, N. Y., August 29. He was born in New Brunswick, became a dentist and practiced in Nova Scotia, and afterward in Mexico. He then took an extended post-graduate course in Europe and established himself in Brooklyn. At the time of his death he was a member of the American Medical Association and several other societies, besides being identified with Bedford Hospital and New York Eye and Ear Infirmary.

Jeremiah P. Eggman, M. D., died at Mullanphy Hospital, St. Louis, Mo., from the effects of heat exhaustion, August 25, at the age of 31 years. He was a native of St. Louis, graduated in pharmacy, then entered the medical department of Washington University and was graduated in 1892. He practiced until the outbreak of the Spanish-American war, when he went to the front with the 1st Missouri Infantry, U. S. V. At the termination of the war he resumed practice in St. Louis.

Easton Burchard, M.D., a graduate of the Kentucky School of Medicine, Louisville, 1889, assistant-surgeon U. S. Army, died of dysentery on September 2 aboard the transport *Grant* at Nagasaki. He was a native of Osage County, Missouri, and was a resident practitioner of Kansas City. He received his appointment as first lieutenant and assistant-surgeon, 40th Volunteer Infantry, August 17, 1899, and in October of that year embarked with his regiment for the Philippines.

D. V. Dean, M.D., died September 3 in the City Insane Asylum, St. Louis, at the age of 70 years. From 1876 till 1886 he was superintendent of the City Hospital. He was one of the pioneer bacteriologists of the West and served as a trustee and as professor of physiology in Beaumont Medical College. In 1896 evidences of mental disease became noticeable and in December of that year he was committed to the insane asylum.

J. Travis Taylor, M.D., a graduate of University College of Medicine, Richmond, Va., in the class of 1896, died in that city after an operation for appendicitis, August 31, at the age of 26 years. The Richmond Academy of Medicine held a largely attended special meeting September 1 and passed resolutions of sorrow and regret over the early death of so promising a member of the fraternity.

Joseph E. Traynor, M.D., who was graduated from the medical department of the University of Pennsylvania in 1900, and afterward passed the examination of the State Medical Examining Board of Delaware, died August 28 at Wilmington, Del., from consumption, after a long illness, at the age of 23 years.

William O. McDowell, M.D., died at Scotland Neck, N. C., August 15, at the age of 43 years. He was graduated from the University of Pennsylvania in 1876 and commenced practice in Union, but moved to Scotland Neck a few months later, and there practiced until 1895, when his health became impaired.

John G. Mennie, M.D., for many years well known as a practitioner of medicine in Toronto, Ontario, died at his father's residence in Fergus, August 24, after a long illness, from Bright's disease. He was born in 1854, and was graduated by the medical faculty, University of Toronto, in 1882.

Edwin H. Amoss, M.D., of St. Paul, Minn., was found by a policeman in a stupor, due to intoxicants or drugs, to the use of which he was addicted, and died in the City Hospital, August 27. He was a graduate of the University of Michigan medical department, in the class of 1884.

Joshua A. Gore, M.D., was found dead on a sandbar in the Missouri River at St. Joseph, Mo., September 1. It is supposed that he committed suicide. He was born in 1826, had lived in St. Joseph since 1861, and was one of the oldest practitioners in that city.

John K. McLeod, M.D., died at his residence in Moss Point, Miss., August 29, aged 60 years. He was a graduate of the medical department of Tulane University, New Orleans, La., in 1868, and had practiced for more than thirty years in Moss Point.

Henry B. Rupp, M.D., died at Hummelstown, Pa., August 27, at the age of 64 years. He was graduated from the department of medicine of the University of Pennsylvania in 1861, but retired from practice on account of ill-health, in 1885.

Richard I. Duckett, M.D., died suddenly of heart disease at Bakersville, Md., August 31, aged 56 years. He was graduated from the University of Maryland in 1866, and had practiced in Bakersville for twenty years.

Thomas H. Buck, M.D., of Leetown, W. Va., died suddenly from apoplexy, at Luray, Va., August 29, at the age of 76 years. He was a graduate of the University of Louisville medical department, in the class of 1848.

Thomas E. Evins, M.D., major and surgeon 49th U. S. Volunteer Infantry, died from fever in the Philippine Islands. He formerly resided in Birmingham, Ala.

Miscellany.

The Pasteur Institute of India was opened August 9 at Kasauli. Previous to that soldiers bitten by dogs were sent to Paris for treatment.

Famine in India.—There are over 6,250,000 people in receipt of relief. According to the *Lancet*, 3,500,000 are on relief works, and the remainder are receiving gratuitous relief.

Copies of The Journal Wanted.—The following numbers of The Journal are wanted to complete volumes for a member: Vol I., Nos. 1 and 16; Vol. II., No. 14; Vol. III., Nos. 4, 11, 25. Twenty-five cents each will be paid for these at the office of The Journal.

Sanatoria for Contagious Diseases Not Allowed.—A wealthy young woman, Mdlle. Noualheir, has established a refuge for incurables at Limoges. She makes periodical visits to Paris to collect inmates and brings twenty at a time, usually persons in advanced stages of consumption. The *Gaz. Méd. de Paris* states that the local authorities have found that tuberculosis has doubled in the vicinity of her refuge and have taken measures to close it and prohibit the maintenance of any sanatorium for contagious or epidemic diseases, public or private, inside the city limits.

Societies.

Coming Meetings.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18-20.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Golden Belt Medical Society, Enterprise, Kan., Oct. 4.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.

Vermont State Medical Society, Rutland, Oct. 11-12.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The Louisville Society of Medicine met at the Galt House on September 3 and elected the following officers: President, Dr. Edward Speidel; vice president, Dr. J. R. Morrison; secretary, D. W. O. Green, and treasurer, Dr., William Jenkins.

St. Joseph County (Ind.) Medical Society met in the office of Dr. Jacob W. Hill, South Bend, August 28, Dr. James A. Varier presiding. Cases were reported by Drs. Frank M. Sawyer, George W. Van Benschoten, Jacob W. Hill and Harry F. Mitchell.

Hampden County French Medical Society.—The Canadian physicians residing in the Holyoke district in Massachusetts have organized a society with the above title, to hold quarterly meetings at Springfield. H. E. Chaput, M.D., was appointed secretary.

The Perry County (Ind.) Medical Society held its regular monthly meeting at Tell City, September 4. Papers were read by Drs. F Anson Evans and C. M. Brucker, of Tell City, on "Consumption," and a general discussion of the subject, by the members of the society, followed.

The Medical Society of City Hospital (St. Louis) Alumni met in the Board of Education rooms September 6. Dr. Given Campbell presented patients illustrating chorea and tabes dorsalis, and Dr. Clarence Loeb exhibited pathological specimens of aneurysm and arteriosclerosis.

The Polk County (Ia.) Medical Society held a meeting in the club rooms of the Kirkwood Hotel, Des Moines, September 4. Papers were read by Dr. Charles E. Currie, of Des Moines, on "The Therapeutics of Shock," and Dr. H. A. Minassian, of Des Moines, made a clinical report on herpes zoster.

The Ontario Anticonsumption League met at the city hall, Toronto, Ontario, on September 4. The officers of the league are: Sir Oliver Mowat, honorary president; James Thorburn, M.D., president; P. H. Bryce, M.D., corresponding secretary; Rev. C. S. Evy, B.A., D.D., organizing secretary, and L. Brock, M.D., of Guelph, treasurer.

The Contra Costa County (Cal.) Medical Society held a meeting at Marinez, August 22. Dr. J. S. Riley, of Port Costa, president; Dr. J. T. Breneman, of Martinez, first vice-president; Drs. George Mackenzie and Francis F. Neff, of Concord, secretary and assistant-secretary; Dr. Jerome T. Gardner, of Brentwood, and Dr. Claude R. Leach, of Walnut Creek, were present. The president read a paper and Drs. Mackenzie and Leach presented specimens.

Tri-State Medical Society of Alabama, Georgia and Tennessee.—As the time of meeting of this society was the same as that selected by the Mississippi Valley Medical Association, the Tri-State Society has changed its date to October 11-13. A rate of one fare for the round trip will prevail at that time to the reunions of the Army of Cumberland and the Spanish-American War veterans. Tickets will go on sale Oct. 8 and will be good until Oct. 13.

The Reading (Pa.) Medical Association met in the Raser building, August 29. Dr. S. Banks Taylor read the address of the retiring president, John K. Seaman. The following officers were elected: Dr. Seymour T. Schmehl, president; Dr. John K. Seaman, first vice-president; Dr. S. Banks Taylor, second vice-president; Dr. Louis L. Thompson, secretary and curator; Dr. Oan J. Thompson, treasurer, and Dr. Abraham S. Randenbush, representative to the Reading Hospital.

The Mason County (Ky.) Medical Society met at Maysville, August 29, Dr. John A. Reed, of that city, being host. Dr. Smith read a paper on "Post-Partum Hemorrhage"; Dr. Thomas E. Pickett, of Maysville, one on "The Surgery of Placenta Previa, With Notes of Two Cases: An Effective Method of Meeting a Formidable Complication"; Dr. A. N. Ellis presented a case of traumatic iridectomy. The next meeting will be held at the office of Dr. Amos G. Browning, September 26.

The Belmont County (Ohio) Medical Society held its regular bi-monthly meeting, August 30, at the Windsor Hotel, Bellaire. Dr. D. L. Marsh reported a case of incipient caries of the spine; Dr. Dexter W. Boone, of Bellaire, one of traumatic tetanus, with operations, and Dr. Ellis C. Cope, of Barton, one of valvular disease of the heart. Dr. J. Park West, of Bellaire, made a report of the recent meeting of the American Pediatric Society, and Dr. Alexander H. Korner, of Woodsfield, read a paper on "Eye-Strain as a Factor in Epilepsy." The meeting was followed by a clinic.

The Kankakee Valley District Medical Society met at Hammond, Ind., September 11, under the presidency of Dr. I. B. Washburn, of Rensselaer, Ind. After the president's address, papers were read by Dr. George E. Hoffman, of Rochester, Ind., on "Internal Causation of Disease"; Dr. D. J. Loring, of Valparaiso, Ind., on "Inflammation and Its Treatment"; Dr. W. H. Thompson, of Winamac, Ind., on "Smallpox"; Dr. J. H. Hockins, of Whiting, Ind., on "Treatment of Burns," and Dr. George W. Van Benschoten, of South Bend, Ind., on "The Relation of the General Health to the Eye and Its Diseases."

American Academy of Railway Surgeons.—The seventh annual meeting of the academy was held in the State Senate Chamber, St. Paul, Minn., September 5 and 6, under the presidency of Dr. Charles A. Wheaton, of St. Paul. Fifteen papers were read and freely discussed. Twenty new fellows were elected. The officers for the ensuing year are: President, Dr. D. S. Fairchild, of Clinton, Ia.; first vice-president, Dr. W. L. Estes, of South Bethlehem, Pa.; second vice-president, Dr. W. J. Mayo, of Rochester, Minn.; secretary, treasurer and editor, Dr. T. B. Lacey, of Council Bluffs, Ia. Chicago was selected as the place for holding the next annual meeting, the date to be fixed by the executive board.

New York State Medical Association.

FIRST DISTRICT BRANCH.

President, Charles H. Glidden, M.D., Little Falls.

The annual meeting of this Branch Association was called to order by its president at the Butterfield House, Utica, on the afternoon of Sept. 4, 1900.

PURE MILK FOR CITIES AND VILLAGES.

Dr. **Charles H. Glidden** thought it would be feasible in small cities to have the milk brought to a central station, where, after having been pasteurized or sterilized, and properly bottled, it would be placed for distribution in the hands of men who had nothing whatever to do with stables. The milk should be delivered only by such persons, thus avoiding one common and serious source of contamination. All milk should be thoroughly and slowly aerated as soon as taken from the cow, and before cooling, and this process should be continued until all animal odor had been removed. It is best conducted in a cheap, well-ventilated building remote from the stables. The ceilings of the stables should be made of well-joined timber, and should be whitewashed at least twice a year. The venders of milk, in the opinion of the speaker, should not be interested at all in the dairies, the milk being bought outright.

Dr. **C. B. Tefft**, Utica, said that few subjects come before the physician that give so much trouble as the regulation of the dietary of the sick. He was coming to feel that milk is almost a poison to the average person. He was pretty well satisfied that a large proportion of the milk sold in Utica had some preservative in it, and he did not believe there was a gallon of milk in that city which did not give an acid reaction at the time it was delivered to the consumer. In certain sections of the country formaldehyde was very commonly employed as a preservative of the milk. There were many breweries in his section, and it was reasonable to suppose that the grain from these establishments was fed to the cows. The state law merely says that fermented articles must not be fed to cows, yet it was well known that although this grain is said to be given to the cattle before fermentation has occurred, it was commonly mixed with cornmeal and allowed to stand until bubbles of gas could be seen on the surface of the mixture at the time of feeding. This would seem, then, to be merely an evasion of the law.

Dr. **Leon T. LeWald**, New York City, said that more emphasis should be laid on the great importance of cleansing the udder of the cow and on having the milker's hands scrupulously clean. Clean milk, used within a few hours, was usually a safe food, there being, as a rule, only a few bacteria, and these generally harmless ones under these conditions. Just as in surgery one could succeed largely through asepsis as opposed to antisepsis, so in connection with the milk-supply it was possible to have a safe article of food if the necessary precautions to insure cleanliness were observed. At the present day one was able by the application of the tuberculin test to properly control tuberculous disease among cows.

PLAN FOR THE REORGANIZATION OF THE NEW YORK STATE MEDICAL ASSOCIATION.

Dr. **Frederick Holme Wiggin**, of New York city, was present to explain the new scheme of reorganization of the association. He began by saying that physicians as a class had very little influence with politicians, public officials and laymen generally. This fact had been brought out with painful clearness in connection with the efforts that had been made to regulate the abuse of medical charity. Physicians had so long stood alone and been weak-kneed that patients, when pressed to pay for professional services rendered, would quickly turn and threaten suit for malpractice if the matter were pressed further. It was most unfortunate that many physicians, feeling their individual weakness, had been weak enough to make all sorts of compromise settlements in such suits, with far reaching and disastrous results to their professional brethren. These facts show the need for better organization, and, hence, the movement to reorganize the New York State Medical Association. All must see, Dr. Wiggin said, the necessity for effective organization, there being about 120,000 regular physicians in this country. It had seemed to the committee on reorganization that it was logical to begin with the county, making that the unit, the next step being the state organization, and the third the National organization. The committee decided to start with a unit of ten, that being the basis of representation in the national body, The American Medical Association. The controlling idea was "home rule," and the necessity for preventing any clique from getting control. The details of the plan were then explained, and the advantages pointed out. The members were urged to join the National organization, not only for the ordinary advantages of such membership, but because in this way one receives one of the best medical journals in the country—The Journal of the American Medical Association.

Continuing, the speaker said that there existed a very general misunderstanding regarding the position of the regular profession toward homeopathy. He would not, he said, personally belong to any association that would endeavor to hamper him in his treatment of disease. A man may hold as many dogmas and peculiar views as he chooses to believe in, and still be a member of the regular profession, provided he is willing to be called simply a "physician" and not desire to be looked on as a disciple of a certain sect, thus placing himself in antagonism with the great mass of educated physicians. There is nothing in the Code of Ethics of the American Medical Association which prevents consultation with homeopaths under certain reasonable restrictions—certainly nothing which would operate to the disadvantage of the patient or the interests of humanity.

At the close of this address, the following resolution was unanimously adopted:

Resolved, That the First District Branch Association does express its approval of the proposed plan of reorganization of the New York State Medical Association.

International Congress of Hygiene and Demography.

Held at Paris, August 10 and 15.

Three-fourth of the 1500 members of this congress were official delegates from boards of health and hygienic associations. Physicians were numerous and prominent, but legislators, architects, etc., were well represented. Brouardel stated in his opening address that mothers could now be comforted with the assurance that the danger of contracting "croup" is only one-half what it was five years ago, while the chances of a fatal termination have been reduced by four-fifths. He added that one of the diphtheria wards in the Paris hospitals is about to be closed on account of disuse. He referred with especial approbation to the charts exhibited at the Exposition by the United States state boards of health, which portray with remarkable clearness the progress accomplished in the last ten years in the reduction of the general mortality and of that from diseases of known origin.

Roux discussed the means of measuring the activity of serums, and Riche called attention to the constant danger of insidious lead-poisoning from the lead used in the manufacture of the tin and enamel dishes for cooking and holding foods and drinks. In the discussion of proposed health-restrictions to marriage, certain members protested against the policy of frightening of prospective bridegrooms, as marriages are already far too infrequent, especially in France.

The resolutions adopted by the congress recommend, among other measures, that professional diplomas be awarded to plumbers, that streets and back-yards be widened, that tin cans be imprinted with the date of sealing, that water-pipes be placed where least liable to freeze, that cremation be more generally adopted, that employees in industrial establishments be protected from dust, etc., as much as possible and wear masks or spectacles. Warning circulars should be conspicuously posted pointing out the dangers of disregarding these measures. Ships trading with plague-infected ports should be supplied with antiplague serum. International prophylaxis of contagious diseases is best promoted by the presence of a physician as a sanitary official on ships. A person with a contagious disease should not be carried in an ordinary railroad car. One resolution was to the effect that as conductors of public vehicles have not the power to prevent expectoration on the floor, some other means should be devised to put an end to this promiscuous habit. The section for Industrial Hygiene adopted a set of resolutions so revolutionary in tone, that they were not even presented to the general congress, but were left as seed to germinate for the next congress, which will be held in Brussels in 1903, where the first international congress of hygiene convened fifty years before. One of these revolutionary resolutions mentioned was proposed by Pinard, and urged that salaried women should be entitled to rest during the last three months of pregnancy. He affirmed that prematurely born infants are handicapped all their life by the deficient development of their organs and tissues.

One of the most important measures adopted by the congress was that advocating a uniform international classification of the causes of deaths, to facilitate ready comparison of statistics. The classification used in the Paris municipal reports was accepted as the standard, and the *Semaine Méd.* of August 12 brings us word that all the delegates, except one, agreed to urge its adoption in their respective countries, to commence officially with the new century, January 1, 1901.

The Paris classification is as follows: Typhoid fever, M. 11, F. 15, T. 26; typhus; smallpox; measles; scarlet fever; whooping cough; diphtheria, croup; grippe; phthisis pulm.; tub. meningitis; other tuberculoses; cancerous tumors; other tumors; simple meningitis; cerebral congestion and hemorrhage; paralysis; softening of the brain; organic heart disease; acute bronchitis; chronic bronchitis; bronchopneumonia; pneumonia; other affections of respiratory apparatus; gastroenteritis, bottle fed; gastroenteritis, breast; diarrhea from 1 to 4; diarrhea over 5; puerperal fever and peritonitis; other puerperal affections; congenital debility; senility; suicides; deaths from other violence; other causes of death; unknown; still-births.

Paris was able to show the delegates over a model hygienic, altruistic, factory village, a great chocolate plant with 2000 employes. It also invited the members to sample the limpid water flowing off from the sewage farms, while decorating them with roses—the tangible expression of the solids of the sewage.

Rocky Mountain Interstate Medical Association.

Third Annual Convention, Butte, Mont., August 29-30.

President Dr. Charles K. Cole, of Helena, Mont., called the association to order at the Court House. The committee on necrology reported on the deaths of Drs. E. R. Axtel, of Denver, and Henry Chappell, of Livingston. Mont.

TUBERCULOSIS PROBLEMS.

Dr. A. Mansfield Holmes, of Denver. considered some problems pertaining to tuberculosis. One-seventh of the deaths are due to this disease, and, therefore, one-seventh of the population is tuberculous. He then spoke of the effect of the mountain region on the disease, exposure and remedies, and then took up the difficulties which the tuberculous patient encounters, who is unwelcome at health-resorts, hotels and boarding houses, and who finds it difficult to obtain employment on account of the nature of the disease. He urged the establishment of sanatoria.

Dr. Edgar P. Hershey, of Denver, recommended segregation by aggregation.

Dr. Robert Levy, of Denver, commended the accommodations offered by his city for consumptives, but agreed that the comforts of home were not to be ignored in these cases.

Dr. Louis Bernheim, of Butte, spoke of the scarcity of tuberculosis in Montana. The smoky season in Butte should be avoided, but he considered the Montana climate as conducive to the cure of the disease as that of any other state in the union.

RENAL CALCULUS.

Dr. Harry D. Niles, of Salt Lake City, took up the diagnosis of renal calculus. The symptoms of this condition are often so masked and so similar to those of other diseases, such as vesical calculus, appendicitis, enterolithiasis, that the differentiation requires the greatest care and alertness. Stone in the kidney he considered as of relatively frequent occurrence. Early diagnosis is of more value than improved methods of operative technique.

Dr. Charles M. Chambliss, of Bozeman, Mont., endorsed the views of the essayist, had met with cases wrongly diagnosed, but stated that cases of renal calculus are infrequently met with in Bozeman.

Dr. James F. Spelman, of Anaconda, Mont., suggested that lumbago, sciatica and neuritis be added to the list of disease conditions which may make the diagnosis of renal lithiasis difficult.

Dr. J. R. E. Sievers, of Butte, had noticed that occasional uranalyses often disclosed diseased conditions in patients who were apparently in sound health.

GASTRIC FEVER IN CHILDREN.

Dr. G. T. McCullough, of Missoula, Mont., discussed bilious fever as a disease of children. It was more prevalent, he said, in the Rocky Mountain district than in lower altitudes. He enlarged upon the etiology and symptomatology of the disease. The thermometer furnished the best means of differential diagnosis from typhoid, and the rash from scarlet fever. He then took up the treatment and urged that the patient be given plenty of water on the theory that the system craves and demands what the inflammation consumes.

Dr. John W. Gunn, of Butte, said that calomel was his favorite remedy in this disease. He did not approve of the use of aconite.

Dr. W. Frederick McCrimmon, of Butte, suggested mild remedies for children suffering from biliousness and laid especial stress on the use of ice instead of water.

Dr. Louis Bernheim, of Butte, did not think that a cold would bring on biliousness. He considered it due to a retardation of digestion, the result of ingestion of unsuitable or improperly prepared food. He favored mild remedies and mustard plasters, and did not approve of the employment of too much medicine, chloroform, morphin, etc.

Dr. James F. Spelman, of Anaconda, Mont., also considered that the essayist gave too much medicine. He favored rest of the stomach by abstinence from irritating foods and medicine.

Dr. Walter R. Pike, of Provo City, Utah, took up the questions of temperance and perspiration and their action on the child suffering from gastric trouble. He also spoke for little medicine.

FRACTURES OF THE LOWER JAW.

Dr. James F. Spelman, of Anaconda, Mont., reported three interesting cases of compound fracture of the lower jaw in which the treatment was attended by excellent results. Other members of the association congratulated the operator on his results but criticised or discussed points in the technique of his procedures.

Papers were read also by Dr. Edgar P. Hershey, of Denver, on "Pilocarpin in the Treatment of Inebriety;" Dr. Samuel D. Hopkins, of Denver, on "Clinical Significance of Tremor," and Dr. Thomas A. Grigg, of Butte, on "The Use and Abuse of Glasses."

The following officers were then elected for the ensuing year: Dr. Carey K. Fleming, of Denver, president; Dr. Harry D. Niles, of Salt Lake City, Utah, first vice-president; Dr. Frederick F. W. McCrimmon, of Butte, Mont., second vice-president; Dr. Charles G. Plummer, of Salt Lake City, Utah, treasurer; Dr. Edgar P. Hershey, of Denver, recording secretary; Dr. Samuel D. Hopkins, corresponding secretary; board of trustees: Montana, Dr. T. J. Murray, of Butte; Colorado, Dr. A. Mansfield Holmes, of Denver; Wyoming, Dr. James Carter, of Carbon; Arizona, Dr. Charles H. Jones, of Tempe; Utah, Dr. Walter R. Pike, of Provo City; Idaho, Dr. James H. Bean, of Pocatello.

The 1901 meeting will be held in Denver the first Tuesday in September.

Therapeutics.

Insomnia.

Dr. Bradbury states that in the treatment of insomnia the great principle of therapeutics—the removal of the cause—should ever be kept in mind. The following is his classification of the causes of insomnia:

1. *Irritative Causes.*—This class includes the insomnia caused by pain and milder irritations, such as teething, indigestion, worms, eye-strain, facial adenoids, cold feet, asthma, vesical irritation.

2. *Toxic Causes.*—Alcoholism, gout, nicotism, gastric and intestinal disorders, Bright's disease, tea, coffee, drug habits, etc.

3. *Psychical Causes.*—Grief, shock, worry, mental anxiety.

4. *Causes Arising from Changes in Mode of Living.*—Late dinners, change of climate, women at the menopause, the various forms of insanity, etc.

It may be stated in this connection, as mentioned in an article in the *Therapeutic Gazette*, that the abuse of hypnotics in the treatment of insomnia is due: 1, to the carelessness of the physician in prescribing for the symptom insomnia and not seeking the cause; 2, to the reckless prescribing by druggists. It is unnecessary to state that simpler methods should be resorted to before medicinal treatment. The condition of the patient and the heart and arterial system should be ascertained before treatment is begun.

The following prescriptions represent good combinations which may be given in the different forms of insomnia, as the severity of the case may require:

R.	Hypnal	ʒiii	12
	Syrupi simplicis, q. s. ad	℥ii	64

M. Sig. One teaspoonful at bedtime, and repeat in two or three hours if sleep is not sooner produced.

Hypnal is a combination of chloral hydrate, 165.5 parts, and antipyrin, 188 parts. It is colorless, crystalline and soluble in six parts of water. The heart should be examined before its administration.

℞.	Chloralamid	ʒiss	6
	Liquoris ammonii acetatis	ʒiv	16
	Aquæ destil., q. s. ad	℥iii	96

M. Sig. One tablespoonful at bedtime in water.

Chloralamid is a product of interaction between chloral hydrate and formamid. It is colorless, crystalline, soluble in twenty parts of cold water, and is a good substitute for chloral. It is not so powerful, so depressant nor so rapid in its action. It may be prescribed in powder form, to be dissolved in cold water, as hot water decomposes it.

R.	Trionalis	ʒiss	6

Ft. pulveres No. vi. Sig. One powder in hot water at bedtime.

Trional differs from sulphonal in the replacing of a methyl by an ethyl group. It is colorless, crystalline, soluble in 320 parts of cold water, and freely soluble in hot water. It is more powerful than sulphonal as a hypnotic, but fully as safe. Habermann recommends that it be given in carbonated water.

Trional is of advantage over sulphonal in that it can be administered for a prolonged length of time, and does not cause the circulatory, digestive nor renal disturbances. In chronic psychic disorders it is said to act more promptly, as in insomnia from maniacal excitement or alcoholic delirium, but is not indicated in melancholia or hypochondriasis, as it increases the nervous depression.

—*Amer. Year-Book of Med.*, 1896.

R.	Sulphonal	ʒiss	6

Ft. pulveres No. vi. Sig. One powder in hot water three or four hours before bedtime.

Sulphonal is colorless, crystalline, tasteless, soluble in 500 parts of cold water and 15 parts of boiling water. In cases of insanity, where it is difficult to administer medicine to the patient the powder may be placed in his soup. It seems from the literature that more harm may come from sulphonal than is ordinarily supposed. It is advised not to prescribe sulphonal continuously, and to carefully examine the urine from time to time during its administration. Another objection to sulphonal is that its action may be delayed until the following day, and then produce symptoms of drowsiness lasting for several hours. Priestly's advice is that after a week's administration it should be dropped for three or four days, and by keeping this point in view it is unattended by danger, except when the kidneys are diseased. The maximum dose for men is 30 grains and for women 15 grains.

R.	Potassii bromidi	ʒii	8
	Liquoris potassii arsenitis	ʒss	2
	Aquæ cinnamomi, q. s. ad	℥vi	192

M. Sig. One to two dessertspoonfuls at night in water.

Hare recommends the above combination of bromids and arsenic in females with a weak heart where chloral is contraindicated. The arsenic prevents the production of acne.

R. W. Wilcox, in the *Med. News*, April, 1900, states the following concerning the requirements of a hypnotic which approximates as closely as possible the theoretical agent: 1, it must combine one of the alcohol radicals; 2, it must be free from depressant action on the heart and vessels; 3, it must not derange assimilation; 4, it must be safe, reliable and palatable, and he regards chloretone as nearest approaching these requirements.

R.	Tablets chloretoni, āā	gr. iii-vi	18-36

No. xv. Sig. One every two or three hours until sleep is produced.

This preparation is a white, crystalline substance, having a camphoraceous odor. It is formed through the interaction of chloroform, acetone and alkali. It is fully soluble in water. It is a local anesthetic as well as hypnotic. Its principal action is said to be on the cortical cells of the brain and it has practically no effect on the centers in the medulla, and from the statements concerning this preparation it can be given in very large doses with no ill effects.

Dr. C. J. Douglas, of Boston, has obtained good hypnotic results from the following:

℞.	Tablets apomorphiæ hydrochloratis, āā	gr. 1/30	002

Sig. To be given hypodermically at bedtime.

INSOMNIA FROM FUNCTIONAL NERVOUS DISTURBANCES.

℞.	Tinct. lupuli	ʒi	4
	Sodii bromidi	gr. xv	1
	Aquæ chloroformi, q. s. ad	℥iss	48

M. Ft. haustus. Sig. At one dose, to be taken at bedtime.

R.	Paraldehydi	ʒiiss	10
	Syrupi aurantii	ʒiv	16
	Spiritus vini rect.	℥iss	48
	Aquæ destil.	℥ii	64
	Syrupi simplicis, q. s. ad	℥v	160

M. Sig. One tablespoonful at bedtime.

Paraldehyde is obtained by the action of sulphuric acid on aldehyde. It is a clear fluid, with a disagreeable taste. It is said that it will not depress the heart, but is apt to disturb the stomach. It should be administered as above, or with equal parts of oil of sweet almonds.

NIGHT TERRORS.

R.	Potassii bromidi	ʒii	8
	Tinct. hyoscyami	ʒi	4
	Syrupi simplicis, q. s. ad	℥iii	96

M. Sig. One teaspoonful at night in water to a child of 4 to 6 years of age. —*Dominion Med. Monthly.*

The bromids increase the hypnotic effect of the hyoscyamus.

R.	Ammonii bromidi		
	Sodii bromidi		
	Vini antimonii, āā	ʒss	2
	Syrupi simplicis	℥i	32
	Aquæ menthæ pip., q. s. ad	℥vi	192

M. Sig. One teaspoonful at bedtime. —Gould and Pyle.

IN MILD FORM OF INSOMNIA.

R.	Tinct. sumbul (B. P.)	℥i	32

Sig. Twenty or thirty drops in water at bedtime.

R.	Ext. hyoscyami	gr. viii	5
	Ext. conii	gr. xv	1

M. Ft. capsulæ No. viii. Sig. One capsule every two or three hours.

INSOMNIA DURING DENTITION.

R.	Chloralis hydratis	gr. viii		5
	Sodii bromidi	gr. xv	1	
	Syrupi lactucarii			
	Aquæ destil., āā	℥ss	16	

M. Sig. One teaspoonful every hour until quiet, for a child of 6 months or older. —Gould and Pyle.

INSOMNIA IN FIRST STAGE OF PLEURISY.

R.	Codeinæ			
	Pulv. ipecacuanhæ, āā	gr. iii		18
	Pulv. camphoræ	gr. xv	1	
	Quininæ sulphatis	gr. xii		72

M. Ft. capsulæ No. xii. Sig. One capsule every three or four hours.

INSOMNIA OF ASTHMA.

R.	Tinct. lobeliæ	ʒiv	16	
	Morphinæ sulphatis	gr. 1/3		02
	Elixiris simplicis, q. s. ad	℥ii	64	

M. Sig. One teaspoonful at night or during the attack, and repeat in two hours if necessary.

℞.	Ammonii bromidi	ʒii	8	
	Aquæ camphoræ	℥i	32	
	Elixiris simplicis, q. s. ad	℥ii	64	

M. Sig. One dessertspoonful at night in water. To be repeated in two hours if required.

INSOMNIA DUE TO INCOMPETENT HEART.

℞.	Tinct. digitalis	℥ii	64	

Sig. Five to ten drops in water every four or five hours.

IN CHRONIC BRIGHT'S DISEASE.

R.	Chloralis hydratis	ʒi	4	
	Syrupi aurantii	℥i	32	
	Syrupi simplicis, q. s. ad	℥ii	64	

M. Sig. Two teaspoonfuls at bedtime in water.

INSOMNIA DUE TO GASTROINTESTINAL DISTURBANCE.

R.	Sodii carbonatis	ʒiss	6	
	Spiritus ammoniæ arom.	ʒv	20	
	Ammonii bromidi	ʒiss	6	
	Tinct. cardamomi comp.	℥i	32	
	Aquæ menthæ pip., q. s. ad	℥iv	128	

M. Sig. One dessertspoonful at bedtime, and repeat in one hour if necessary.

INSOMNIA DUE TO OVERWORK OR WORRY.

℞.	Olei terebinthinæ	gtt. xxx	2	

Sig. In capsule at one dose as a stimulant. —Bradbury.

INSOMNIA OF ALCOHOLISM.

R.	Tablets strychninæ sulphatis, āā	gr. 1/30		002

Sig. One tablet hypodermically, and repeat in four hours if necessary.

R.	Tablets strychninæ sulphatis, āā	gr. 1/30		002
	Potassii bromidi	ʒiv	16	
	Elixiris simplicis, q. s. ad	℥iii	128	

M. Sig. One dessertspoonful at bedtime in water.
—Clouston: *N. Y. Med. Journal.*

R.	Syrupi zingiberis			
	Spiritus ammoniæ arom.			
	Tinct. valerianæ, āā	℥ii	64	
	Sat. sol. potassii bromidi, q. s. ad	℥viii	256	

M. Sig. One tablespoonful in water every three or four hours.

INSOMNIA OF ACUTE ALCOHOLISM.

R.	Sodii bromidi			
	Chloralis hydratis, āā	gr. xv	1	
	Tinct. hyoscyami	m. xv	1	

M. Sig. At one dose. Repeat in one hour if necessary.
—D. R. Brower.

R.	Chloralamid	gr. xv	1	
	Hyoscinæ hydrobromatis	gr. 1/100		0006

M. Sig. At one dose. —D. R. Brower.

INSOMNIA OF ACUTE ALCOHOLIC PNEUMONIA.

R.	Codeinæ	gr. ii		12
	Elixiris chloralamid (gr. xx to ℥i)	℥ii	64	

M. Sig. One tablespoonful, to be repeated in two hours if necessary. —A. A. Smith: *N. Y. Polyclinic.*

INSOMNIA OF DELIRIUM TREMENS.

R.	Chloralis hydratis	ʒiv	16	
	Tinct. capsici	℥i	32	
	Aquæ menthæ pip.	℥v	160	

M. Sig. One tablespoonful every two or three hours until sleep is produced. —Gould.

INSOMNIA OF CONVALESCENCE FROM ACUTE DISEASE.

℞.	Somnal	ʒiv	16	
	Elixiris simplicis, q. s. ad	℥ii	64	

M. Sig. One teaspoonful in water at bedtime; repeated in three hours if necessary to produce sleep.

Somnal is a compound of chloral, alcohol and urethane.

Khmelewsky, in the "Year-Book of Medicine," states that in melancholia and simple insomnia, somnal acts better than any other hypnotic; that it is not accompanied by any disagreeable subjective symptoms on awakening; that it does not seem to affect the heart. The principal non-indication is in producing gastrointestinal disorders.

INSOMNIA OF MELANCHOLIA.

Dr. Weatherly, in the *Bristol Med.-Chir. Jour.*, advises the following prescription:

R.	Phenacetini	gr. x		66

Sig. At one dose and repeat in an hour if necessary.

℞.	Morphinæ sulphatis	gr. 1/12		005

Sig. At one dose and repeat once or twice during the day if necessary.

℞.	Tablets hyoscinæ hydrobromatis, āā	gr. 1/150		0004

Sig. At one dose hypodermically.

Hyoscine is indicated especially in agitative form of melancholia. The presence of heart lesions would contraindicate its use.

INSOMNIA OF HYPOCHONDRIA.

℞.	Urethane	ʒiv	16	
	Elixiris simplicis, q. s. ad	℥iv	128	

M. Sig. One dessertspoonful in water at bedtime.

Urethane is obtained by heating a salt of urea with ethyl alcohol. It is soluble in water or alcohol; is colorless; has a saltpetre taste, and is crystalline. It is said to have no unpleasant after-effects, and can be given in insomnia due to mitral insufficiency.

INSOMNIA OF HYSTERIA.

℞.	Potassii bromidi	ʒiv	16	
	Chloralis hydratis	ʒiii	12	
	Tinct. asafœtidæ	ʒiv	16	
	Syrupi simplicis	ʒvi	24	
	Aquæ destil., q. s. ad	℥vi	192	

M. Sig. One tablespoonful every three hours until sleep is produced. —Potter.

INSOMNIA DURING CLIMACTERIC.

R.	Ammonii bromidi	ʒiii	12	
	Tinct. humuli	ʒvi	24	
	Aquæ camphoræ q. s. ad	℥iii	96	

M. Sig. One dessertspoonful in water at bedtime.

Bradbury recommends the above combination. He states that it is of use in relieving the insomnia as well as the mental depression and flushing heats so common at this period.

INSOMNIA OF NEURASTHENIA.

R.	Chloralamid			
	Tinct. zingiberis, āā	ʒiv	16	
	Aquæ menthæ pip., q. s. ad	℥iv	128	

M. Sig. One tablespoonful at bedtime in water.
—*Presse Médicale.*

Dr. Arthur Schüller (*N. Y. Med. Journal*, June 30, 1900) recommends the following for the insomnia in neurasthenia, hysteria and alcoholism:

R.	Hedonal	ʒv	20	
	Tinct. cinnamomi	ʒi	4	
	Elixiris aromatici, q. s. ad	℥iii	96	

M. Sig. One dessertspoonful at bedtime.

He states that the dose ranges from 18 to 22 grains, and advises it given in the above form on account of the disagreeable taste.

R. Lupulini
Pulv. camphoræ
Ext. hyoscyami, āā ....gr. iii 18

M. Ft. capsulæ No. ii. Sig. One at bedtime, and repeat in an hour or two if necessary. —Steward.

NERVOUS INSOMNIA.

Render a tumblerful of sour curds and whey alkaline with sodium bicarbonate; sweeten and grate nutmeg on top; serve hot. *—Med. Record.*

INSOMNIA DUE TO FUNCTIONAL DISORDERS.

Dr. J. W. Courtney's article on the treatment of insomnia due to functional disorders, in *Personal Hygiene*, contains the following suggestions:

1. Mental work should be performed during the first part of the day and be limited to four or six hours.
2. The bed-chamber should be cool, the bed hard and the covers light.
3. Care should be taken that the feet do not get cold, since the sensory stimuli prevent sleep.
4. A glass of warm milk or a cup of bouillon or even a glass of beer or a small quantity of food. (Avoid any large amount of alcohol.)
5. Counterirritation by application of bottles of warm water to the feet and back, and warm compresses over abdomen.
6. Very gentle massage to the back of the head and neck or gentle rubbing to the whole body, beginning with the lower extremities and working up; but this should not be done after 6 p. m., and never longer than five or six minutes at a time.

Medicolegal.

Constitutionality of Licensing Lying-in Asylums.—Section 288 of the New York penal code provides that a person who, "not being a superintendent of the poor or a superintendent of alms-houses, or an institution duly incorporated for the purpose, without having first obtained the license in writing so to do from the board of health of the city or town wherein such females or children are received, boarded or kept, erects, conducts, establishes or maintains any maternity hospital, lying-in asylum, where females may be received, cared for or treated during pregnancy, or during or after delivery," is guilty of a misdemeanor. This was averred to be unconstitutional, in the case of People vs. Hagan. But it is upheld by the first appellate division of the Supreme Court of New York. The latter says nothing in this section would prevent a person from properly caring for another boarding or living with her during pregnancy. It is the maintenance of an institution or lying-in asylum which is conducted or maintained for that purpose that is prohibited. Undoubtedly, to justify a conviction under this section, the court continues, it would be necessary to prove that the person charged had either erected, conducted, or maintained such an institution—an institution which has for its object the care of persons who are pregnant, or during or after their delivery. The requirement of a license for such an institution is to enable the public authorities to make proper sanitary regulations as to such institutions, so that inmates should not be exposed to infection, or the dangers that arise from improper uses. So, while no attempt is made to regulate the confinement of persons wherever they happen to be living, but the legislature has deemed it proper to regulate institutions or hospitals established or maintained for the treatment of such persons, the court thinks that such a regulation comes clearly within the power of the legislature. There can be no doubt, it says, that an institution in an unsanitary condition, receiving persons to be cared for during or after delivery, and in charge of incompetent persons, might cause great injury to those who become inmates thereof; and, therefore, a provision that, before a person can maintain such an institution, he must, by procuring a license from the health authorities, satisfy them that the arrangements are such that inmates will receive proper care and attention, the court holds, is within the power of the legislature.

Contract Not to Practice in Place for Ten Years.—A practicing physician, located in a town in Texas, sold to another his homestead. His wife joined in the deed in the usual manner. But, besides the usual provisions, the deed contained one stating that he, the selling physician, agreed not to locate in that town, or within a radius of ten miles of the town, to practice medicine, for the space of ten years from the date of the deed, his intention being thereby to convey his good will as well as his property. Thereafter, the purchaser brought suit on this contract, and recovered a judgment of $10 damages, and obtained an injunction restraining the seller from locating or establishing an office in the town referred to, or within a radius of 10 miles thereof, to practice medicine and surgery within such town or a radius of 10 miles thereof, unless he should be sent for outside of such radius, or from a point outside of such radius, and from interfering with the complainant's practice of medicine by establishing or locating an office for the purpose of practicing medicine and receiving calls from patients within a radius of 10 miles from said town, until the expiration of said 10 years. And the Court of Civil Appeals of Texas affirms the judgment of the court below. It points out that the restriction was limited as to area and as to time, and that it did not, as to such area, totally exclude the defendant from practice, the effect of the contract being to restrain, or within 10 miles therefrom, for 10 years. It is clear, from the authorities, the court thinks, that the agreement was not void at common law. Nor does it consider it invalid under the Texas statute against combinations in restraint or trade or preventing competition. It explains, case of Wolff vs. Hirschfield, that a transaction of this character is not rendered invalid, by the statute, for the reason that it is not a combination of persons, and because it is a sale of "good will," which is a subject of purchase and sale; that is to say, property. That the home sold did not necessarily have any connection with the practice sold the court does not think made any material difference. It says that if, as the authorities hold, the practice of a physician is a thing of value, and as such is a proper subject for a contract of sale, a sale thereof, with such contract restrictions as are reasonably necessary to make the sale effectual, will not fall within the prohibition of the statute mentioned.

Removal of Smallpox Patients to Pest-House.—Hengehold vs. City of Covington, the Court of Appeals of Kentucky says, was an agreed case wherein it was asked to decide these questions: 1. Has a city of the second class, in Kentucky, power to pass an ordinance providing for the removal of smallpox patients to a pest-house? 2. Can such city by ordinance vest such power, to remove such persons so afflicted to a pest-house, in its health board, or in any three members thereof, or in the health officer. 3. Can such removal of persons so afflicted be made by the board of health or by the city health officer, notwithstanding the physician attending the patient shall certify in writing that the patient's life would be endangered by such removal, or that he has good and careful attention, and his removal would not be advisable as a sanitary measure? In answering these question, the court says that the preservation of the public health has always been held a proper exercise of police power. There can be no doubt that in order to prevent the spread of disease, and to provide healthful conditions for the public, boards of health and like commissions may be created, and invested with power necessary and proper for such purposes; and, in determining the validity of the acts of such boards and their officers, a liberal construction is justified, in view of the public good to be accomplished. There can be no doubt of the power of the state legislature to create state boards of health for the preservation of the general health of the state, to confer upon cities and counties authority to make regulations for the health of their communities, and even to create separate corporations, differing from the political subdivisions, with like powers within their limits. Both in England and the United States such powers have been almost uniformly delegated to boards of health of municipal corporations to enact rules for the preservation of the public health, having the force of law within the respective communities; and it would seem that, in the absence of express authority, municipalities have an implied power to enact reasonable ordinances to preserve the public health and to prevent and remove nuisances. Under its general powers to guard against epidemic diseases, a board of health may control and isolate persons affected with the disease. And this power, the court goes on to say, seems to be expressly delegated to the local boards by the provision of the Kentucky statutes which empowers them to inaugurate and execute such sanitary regulations as the local board may consider expedient to prevent the outbreak and spread of epidemic diseases, and to this end may bring the infected population under prompt and proper treatment during premonitory and other stages of disease. It is certainly a reasonable regulation, the court thinks, which provides for the removal of such cases to a pest-house in good sanitary condition, provided with nurses and physicians for the treatment of patients suffering with the disease. Therefore the court is of the opinion that the local board, or a quorum thereof, has undoubtedly power to order the removal of an infected patient to the pest-house. Taking up what it denominates a narrower question, the court calls attention to its being a general rule upon this subject that laws establishing state boards, and laws establishing local boards, shall be construed together, so as to give effect to both. Applying this rule, in this case, to the general law as to the powers of local boards and the charter of cities of the second class, in Kentucky, which expressly authorizes them to establish and enforce quarantine laws and regulations to prevent the introduction and spread of contagious diseases, and to secure the general health of the inhabitants by any necessary measure, the court says that it follows that the city is authorized to make additional reasonable regulations to prevent the spread of epidemic diseases. And a regulation empowering three members of the board, or the health officer elected by the board, to order the removal of a smallpox patient, it holds, is a reasonable regulation, especially where there is provided an appeal to the board, and a requirement of action by the board itself upon a certificate by the attending physician that the removal would endanger the patient's life. In such cases, it adds, the necessity for immediate action is imperative, and it is not unreasonable to permit the health officer, or less than a quorum of the board, to order such removal, in a case where it does not appear that the removal would endanger the patient's life.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), September 1.

1 *Relative Bearing of the Conjoined Tendon and the Internal Oblique Muscle Upon the Radical Cure of Inguinal Hernia. Joseph A. Blake.
2 *Significance of the Bacillus Coli Communis in Drinking Water. J. H. Linsley and B. H. Stone.
3 Pathologic Physiology or Experimental Pathology, Its Scope and Significance in Medicine. Isaac Levin.
4 *The Discovery of "Ureine," the Principal Organic Constituent of Urine and the True Cause of Uremia. William O. Moor.

New York Medical Journal, September 1.

5 *Fibroid Tumors of the Uterus Complicating Pregnancy. Lewis S. McMurtry.
6 *Atrophic Rhinitis. Jamea E. Logan.
7 Report of a Case of Nephrectomy for Ascending Tuberculosis, with Some Remarks on Cystoscopy and Catheterization of the Ureters in Women. (To be continued.) Hiram N. Vineberg.
8 Case of Acute Glaucoma with Subhyaloid Hemorrhage Supervening Upon Unioculur Retinitis Albuminurica. David Webster and Edgar S. Thomson.
9 Treatment of Tuberculous and Purulent Joints with Large-Glass-Speculum Drainage and Pure Carbolic Acid, with a Report of Seventy Cases. (To be concluded.) A. M. Phelps.

Philadelphia Medical Journal, September 1.

10 The Master of Medicine as the Teacher of Medicine. Bayard Holmes.
11 The Teaching of Physiology. William T. Porter.
12 Teaching of Pharmacology, Materia Medica, and Therapeutics in our Medical Schools. John J. Abel.
13 The Unit System of Laboratory Construction. Charles S. Minot.
14 Methods of Teaching Gynecology. Howard A. Kelly.
15 The Method of Teaching Physiological Chemistry. R. H. Crittenden.
16 Teaching Obstetrics. J. Whitridge Williams.
17 Teaching of Pathology. J. G. Adami.
18 Methods of Teaching Hygiene. Victor C. Vaughan.
19 Teaching of Anatomy. William Keiller.
20 Practical Clinical Teaching of State Medicine. Wyatt Johnston.
21 Comparative Pathology; Its Relation to Biology and Medicine. Theobald Smith.
22 *Etiology of Tropical Dysentery. Simon Flexner.

Medical News (N. Y.), September 1.

23 *Improved Technique for the Cure of Ventral Hernia. M. M. Johnson.
24 *Differential Diagnosis of Chronic Rheumatism. James J. Walsh.
25 *Essential Conditions for Habitation to Develop and Maintain Healthful Family Existence. Rosa Engelmann.
26 *Gastroptosis, with Special Reference to a New Mechanical Support. H. W. Lincoln.
27 The Advances in Medicine. Martin M. Kittell.
28 Musical Equivalents in Epilepsy, with Report of Two Cases. L. Pierce Clark.

Boston Medical and Surgical Journal, August 30.

29 *The Surgeon in the Nineteenth Century. Frederick Treves.
30 *Results of the Operative Treatment of Cancer of the Breast. Homer Gage.
31 *The Injurious Effects of Improperly Constructed School Chairs. J. S. Stone.
32 Case of Parovarian Cyst, with Twist of the Pedicle Occurring During the Fourth Month of Pregnancy; Operation; Recovery: Normal Delivery at Term. F. B. Lund.

Cincinnati Lancet-Clinic, September 1.

33 Laryngeal Tuberculosis. John A. Thompson.
34 Tuberculosis of the Kidney. C. S. Evans.
35 Tubercular Meningitis. E. W. Mitchell.

Pediatrics (N. Y.), August 15.

36 *The Use of the Diphtheria Antitoxic Globulins of the Blood Serum Instead of the Entire Serum in Diphtheria. William H. Park.
37 A Suspension-Pressure Chair for Rotary-Lateral Curvature of the Spine. Philip Hoffman.
38 Case of Nasal Diphtheria Complicated by Bronchopneumonia. Samuel McC. Hamill.

Medical Fortnightly (St. Louis), August 25.

39 Diseases of the Lungs and Pleura. Albert Abrams.
40 The Case of John Mongolian Type. Fanny King.

Virginia Medical Semi-Monthly, August 10.

41 *The Neurologic and Medicolegal Aspects of Spinal Injuries from Railroad Accidents. Wharton Sinkler.
42 Preventive Treatment of Puerperal Fever. Stephen Harnsberger.
43 *Continued Use of the Antiseptic and Eliminative Treatment of Typhoid Fever Without Any Deaths. T. Virgil Hubbard.
44 Synopsis of Paper on the Variations in Human Gait. E. H. Bradford.
45 A Case of Traumatic Tetanus Cured with Antitoxin. Blanton A. Hillsman.
46 Report of a Case of Typhoid Fever with Perforation. W. B. French.

American Journal of Obstetrics (N. Y.), August

47 Pathology of Tubal Pregnancy. Maximilian Herzog.
48 *The Technique, Indications, and Remote Results of Suturing the Round Ligaments to the Vaginal Wall for Retroversions and Flexions of the Uterus. Hiram N. Vineberg.
49 *Retrodislocation of the Uterus. R. S. Hill.
50 *The Remote Results of Conservative Operations on the Ovaries and Tubes. W. L. Burrage.
51 Report of Two Cases of Epithelioma of the Vulva. Charles P. Noble.
52 *Hernia in Children. Edward A. Balloch.
53 Report of a Case of Superior Occipital Hydrencephalocele Successfully Operated Upon. A. Palmer Dudley.
54 Placenta Previa, with Death of Fetus Before Term, and Delivery Without Hemorrhage. U. S. Bird.

Clinical Review (Chicago), September.

55 Appendicitis—Etiology—Pathology, Clinical Course. George Dock.
56 Diagnosis of Appendicitis. Frank B. Tibbals.
57 Surgical Treatment of Appendicitis. Alexander H. Ferguson.
58 Fistulæ After Appendicitis; Their Prevention and Treatment. Rush McNair.
59 Clinical Lectures Upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
60 Modern Treatment of Fractures and Bone Lesions. Donald MacLean.

Ophthalmic Record (Chicago), August.

61 Exfoliation of the Anterior Layer of the Iris with Partial Opacity of the Lens. Edward Jackson.
62 *Ophthalmic Memoranda. G. E. de Schweinitz.
63 Modification of the Holmgren Wool Test for Color Blindness. George F. Keiper.
64 Keratitis Ulcerativa Marginalis. W. A. Martin.
65 An Adjustable Trial Box for Square Prisms. Vard H. Hulen.
66 *Venous Pulsation in the Fundus Oculi. M. F. Weymann.
67 Planno-Bifocal-Segments in Trial Rings to Facilitate Presbyopic Refraction. J. N. Rhoadea.

68 Epiphora: Lachrymal Abscess; Congenital Absence of Lachrymal Punctæ; Structure of the Lachrymal Duct. L. Webster Fox.

Peoria Medical Journal, August.

69 Some Practical Observations Made at the New York Post-Graduate Medical School and Hospital.
70 Diagnosis of Smallpox. Charles B. Johnson.

Annals of Ophthalmology (St. Louis), July.

71 *Pterygia: Pathology and Treatment. M. F. Weymann.
72 *The Relation of Tenon's Capsule and the Check Ligaments to Enophthalmos—Report of a Case of Traumatic Exophthalmos. William T. Shoemaker.
73 *The Significance of Chronic Rhinitis in Relation to Ocular Affections. Edmond E. Blaauw.
74 *Removal of Foreign Bodies from the Eyeball: Based Upon a Report of Eighteen Cases. Charles Lukens.
75 Spasm of Accommodation in Glaucoma Relieved by Eserin. J. A. Lippincott.
76 A Description of the Royal London Ophthalmic Hospital. William Campbell Posey.

Obstetrics (N. Y.), August.

77 Researches with Reference to Osmotic Pressure Between Mother and Child. J. Veit.
78 Extrauterine Pregnancy. Louis Frank.
79 Puerperal Fever. George Rowland.

American Journal of Ophthalmology (St. Louis), August.

80 *Some Observations Upon Syphilitic Manifestations in the Uveal Tract—the Iris, Ciliary Body and Choroid. Paul Turner Vaughan.
81 *A Comparison of the Cycloplegic Action of Scopolamin and Atropin. W. K. Rogers.
82 *Report of a Case of Choroidal Sarcoma in a Syphilitic. M. H. Post.

Western Medical Review (Lincoln, Neb.), August 15.

83 The Medical Student of the Last Century. S. D. Tobey.
84 *The Administration of Anesthetics. E. E. Levers.
85 The Equipment of the Modern Medical College. Millard Langfeld.
86 Cerebrospinal Meningitis, with a Brief Report and Some Observations. F. R. Swigart.
87 A Clinic. F. R. Swigart.
88 Clinical Demonstration. E. Stuver.

Woman's Medical Journal (Toledo, Ohio), August.

89 *Relation of the Physician to the Public School. Katharine Miller.
90 Postpartum Hemorrhage. Alice E. Burton.
91 Relative Value of Symptoms of Acute Peritonitis. E. Stanmore Bishop.

Merck's Archives (N. Y.), August.

92 The Effect of Alcohol on the Human System. Samuel H. Johnson.
93 Marked Poisoning from Five Grains of Quinin. Franklin W. Bock.
94 Clinical Observations Regarding Ichthalbin in Intestinal Diseases. Dr. Rolly.
95 *Fireman's Cramp. Willis Cummings.

Interstate Medical Journal (St. Louis), August.

96 *State of the Spinal Cord in Congenital Absence of a Limb. J. W. Ballantyne.
97 *Some Observations on Secondary Syphilis. William Frick.
98 *Insolation. Bernard S. Simpson.
99 The Light Treatment at the London Hospital. J. H. Sequeira.
100 *A Case of Rhachischisis. T. M. Rotch.

St. Louis Courier of Medicine, August.

101 Some Medical and Other Gleanings from Old-Time Chronicles and Records. George Homan.
102 The Adaptation of the Rules of Asepsis to Private Obstetric Work. H. S. Crossen.
103 *Report of a Case of Choroidal Sarcoma in a Syphilitic. M. H. Post.
104 *Upon Drainage of the Abdominal Cavity, with Excerpts from the Literature. Norvelle Wallace Sharpe.
105 Gonorrhea and Marriage. E. C. Burnett.
106 Are Emergencies Fully Anticipated in Obstetric Practice? C. A. Dannaker.

Southern Illinois Journal of Medicine and Surgery, August.

107 Medical Jurisprudence. Ben O. Jones.
108 Sympathetic Irritation and Sympathetic Ophthalmitis. Warwick M. Cowgill.
109 "Christian Science." S. J. Rhoads.
110 The Gold Cure. H. C. Fisher.
111 Dysentery: Its Etiology and Treatment. M. H. Trovillion.
112 "The Graduate." Charles E. Tucker.

Texas Medical Journal, August.

113 *Treatment of Phthisis Pulmonalis with Watery Extract of Tubercle Bacilli. James D. Osborne.
114 *Should the Use of Antitoxin in Tuberculosis be Condemned from a Purely Scientific Point of View? Carl Von Ruck.
115 Pernicious Vomiting of Pregnancy and Its Treatment with Electricity. J. P. Oliver.
116 The Clinical Laboratory as an Adjunct to Medicine. R. L. Jones.
117 The Baby's Second Summer. E. S. Ferguson.
118 Injection Treatment of Hernia. E. E. Guinn.

American Therapy (N. Y.), July.

119 *Remarks on Stenosis of the Pylorus. Henry W. Bettman.
120 Painless Labor Under Hypnotism. Jason Parker.
121 A New Method of Anesthesia. F. C. Floeckinger.

Charlotte Medical Journal, August.

122 *Remarks on the Nature and Treatment of Corneal Ulcers. Gaillard S. Tennent.
123 *Etiology and Treatment of Laryngeal Phthisis. T. P. Cheesborough.
124 The Treatment of Infantile Anuria and Retention in Adults. W. T. Parrott.
125 Report of a Case of Double Mastoiditis—Operation—Recovery. George F. Keiper.
126 Pyosalpinx. F. R. Millard.

Medical and Surgical Monitor (Indianapolis, Ind.), August 15.

127 *Therapeutic Value of Electricity. L. T. Lowder.
128 Case of Traumatic Vesicovaginal Fistula. Frederick A. Tucker.
129 Abortion. Thomas B. Noble.
130 Treatment of Acute Dysentery. Allison Maxwell.

AMERICAN.

1.—See abstract in The Journal, xxxiv, p. 1133.

2. **Bacillus Coli Communis.**—After a consideration of all the facts available, Linsley and Stone conclude that waters in which the bacilli coli communes are found to exist for any length of time are dangerous to the public health and should be condemned.

3. **Pathologic Physiology.**—In this lengthy article Levin discusses the various physiologic pathologies of the organs and functions, showing the position of pathologic physiology or experimental pathology in medicine and its importance to students and physicians.

4. **Ureine.**—Moor has found in the urine a new organic liquid, which he considers its most characteristic component, and describes the method of its isolation by treating with nitrate of silver and then with oxalic acid. The two principal rules to be kept in view are: 1, avoid high temperature; 2, use chemicals as little as possible. The substance resembles in aspect olive-oil, is of a pale yellowish color, slightly bitter to the taste, greasy to the touch, produces spots on paper, is about as heavy as glycerin, freely miscible in all proportions of water and alcohol, barely soluble in ether, and slightly alkaline in reaction. He thinks that it belongs to the group of alcohols of the aromatic series. It begins to split into different bodies at 80 C. belonging to the class of aromatic oxi-acids, and if heated to 150 C. leaves behind it pure carbon. It has a characteristic odor, that of urine; when rubbed on the skin it produces a slight burning sensation and is probably the principal cause of the irritative effects of urine. One of its most remarkable characteristics is its ability to take up large quantities of oxygen. He finds it surpasses urea as regards quantity, the greatest amount being contained in the urine voided between 5 and 7 p.m. He gives the results of experiments on animals, showing its toxicity and claims that it is the probable cause of the ammoniacal fermentation of urine, as without its presence urea can not be decomposed into ammonia and carbon dioxid. Without it he thinks all organic matter would be converted into urea which would remain in nature without any use.

5. **Tumors and Pregnancy.**—After first noticing the dangers of these growths in case of pregnancy, the author gives the statistics of Gusserow as illustrating the fact, and mentions the diagnosis, which is generally easily made when the tumor is on the anterior surface of the uterus, but may be difficult under other conditions. He advises that the patient be allowed to go nearly to term, when possible, and a Porro-Cesarean operation then be performed. When, however, the tumor grows from the lower posterior portion and fills the lower pelvic cavity, immediate hysteromyomectomy is advisable, and he reports a case illustrating its necessity.

6. **Atrophic Rhinitis.**—The causes of atrophic rhinitis are discussed by Logan, who finds none of the theories satisfactory. The hypertrophic origin may be dismissed, the theory of suppurative rhinitis in childhood, as suggested by Bosworth, might explain atrophic changes, but there is difficulty in understanding how the excessive secretion can be kept up by the atrophic tissue. The failure of inoculation experiments

is against Lowenberg's germ theory and the vital objection to all is the failure of explanation of the immense secretion. Logan thinks the middle turbinate is more liable to atrophy than the others, since its blood-supply is more limited and its tissue less resistant. He reports three cases.

22. **Tropical Dysentery.**—Flexner first reviews the history of the studies on the bacteriology of dysentery and concludes: 1, that no bacillus species yet described as a cause has any special claim to be the chief micro-organism in the etiology; 2, it is unlikely that any bacterial species that is constantly in the intestines or environments of man, except where the disease is endemic, can be considered as a probable cause of epidemic dysentery; 3, the relation of sporadic to epidemic dysentery is so remote that it is improbable that the two diseases are produced by the same organic cause; 4, the pathogenic action of the ameba coli in many cases of tropical and some of sporadic dysentery has not been disproved by the discovery of the ameba in the normal intestines and in other diseases than dysentery. While they are commonly present and concerned in the production of lesions in subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysentery even in the tropics. In the former varieties, bacterial association probably has much influence upon the pathogenic powers of the ameba. He next takes up the subject of dysentery in Japan and the Philippine Islands, noticing especially the statistics of Ogata and Eldridge and the bacterial studies and findings of Shiga; the organism found by the latter investigator seems to agree with the one found by Flexner and his associates in the dysentery of the Philippine Islands. The first type is a bacillus of the average size of B. coli communis, varying somewhat in the length, but almost none in the thickness, the ends slightly rounded, easily separated, markedly motile, and Gram's stain negative. It grows on all culture-media and is pathogenic to the ordinary laboratory animals. It is abundant in the acute cases, but is hard to find as they become chronic and was not found in the ordinary amebic dysentery of Manila. The second type is less numerous in acute cases and in its properties agrees well with those of the group of the colon bacillus. Tests were made as to the agglutinating power, pathogenic action and all peculiarities of Type I. He thinks that it is more closely allied to bacillus typhosus than to B. coli communis, but it differs from the former in being less markedly motile and losing its motility more rapidly; it is also more uniform in its generation of indol. After acid production in milk it gives rise to gradually-increasing alkalinity. It is inactive to blood-serum in typhoid cases, but reacts from serum in the dysenteric cases to which bacillus typhosus does not respond. He is inclined to think that acute dysentery is caused by this bacillus, while the most frequent type of chronic tropical dysentery is more likely to be due to the ameba. The serumtherapy has been experimented with by Shiga, who found in 65 cases decided reduction of the death-rate by this means. Flexner thinks that more benefit is likely to be derived from a sort of vaccination of those that are to be exposed to the endemic or endemo-epidemic dysentery of the tropics.

23. **Ventral Hernia.**—The improved technique of Johnson is described as follows: Ventral herniæ may be considered as median and extramedian; the former following median abdominal incisions; the latter resulting mostly from operations for appendicitis. An elliptical incision is made a little within the border of the opening in the abdominal wall. This must be done carefully, as there is frequently a loop of intestine adherent to the inner surface of the hernial sac. The skin and superficial fasciæ—if they can be distinguished—are then dissected back, exposing the sheath of the rectus muscle. On the outer side a similar dissection is made an inch or more over the external oblique. The edges of the opening are trimmed and a No. 25 silver-wire suture is inserted at the upper angle of the opening by lifting the abdominal wall and passing the needle through the peritoneum, rectus muscle and skin, about one inch from the free border of the opening. The needle on the other end of the wire is similarly passed through the abdominal wall on the opposite side. Silver-wire sutures are inserted at intervals of one inch throughout the entire length of the incision. All the subcutaneous tissues are then united by a continuous kangaroo-tendon suture, and the skin is closed by a continuous suture of the same material. The deep wire sutures are now taken up one by one, moving them back and forward, to make sure that a loop of gut is not included between the wire and the abdominal wall. The ends of the wire are wound around a piece of ivory on either side and drawn sufficiently tight to relieve the tension on the kangaroo-tendon stitches. This is the old and nearly obsolete "quill suture" used for a new purpose. Half the wires are removed in ten days and the remainder in fifteen days. When the hernia is in the median line the principle is the same. The object is to relieve the tension on the stitches which hold the muscular tissues together until firm union has taken place.

24. **Chronic Rheumatism.**—Walsh recognizes four types of conditions diagnosed as chronic rheumatism: 1. Recurring subacute rheumatism. 2. Symptoms of abarticular rheumatism, which occur over and over again during unsettled weather, especially in children. 3. This group is the one that really deserves the name. It contains the cases in which the joint-lesions that have occurred during an attack of rheumatism persist and even become worse by secondary degenerative processes continuing through years, sometimes leading to marked and lasting deformity. In this case the main point is to get the history of the original rheumatism. 4. This last class is not rheumatism in its proper sense, but includes various ailments characterized by pain, including forms of toothache, flat-foot, occupation neuroses, etc.

25. **Healthy Habitations.**—Engelmann's article is a plea for the reform of the lodgings of the poor, pointing out the defects that exist and suggesting their remedies.

26. **Gastroptosis.**—The treatment of gastroptosis described by Lincoln consists in removing pressure at the waist, good nourishment, relief from constipation, exercise, massage, electricity, bromids to relieve nervousness, tonics, etc. For mechanical treatment he has devised and describes a bandage, or rather a plaster application, in place of the binder, the results of which he thinks are more gratifying. Its action is to produce upward pressure on the lower abdomen.

29.—See abstract in The Journal of August 4, p. 293.

30. **Cancer of the Breast.**—The history of the treatment of cancer of the breast is noticed by Gage, who points out that two objects are to be aimed at: prevention of local recurrences and securing of longer immunity from disease. He analyzes some of the statistics that have been published, showing that with more thorough operation the local recurrences are less likely to happen and says also that there has been a steadily increasing percentage of cases that have passed the three-year limit without recurrence of the disorder. He believes that while the results are yet not what they ought to be, they are sufficient to convince him that in the thorough and complete removal of cancerous breasts we have a means of offering longer immunity from cancerous affections to a large proportion of these patients.

31. **School Chairs.**—The improper construction of school seats and their hurtful effects are noticed by Stone, who points out that lateral spinal curvature almost always originates during school life. The great defect has been in the failure to recognize that any attitude, no matter how good in itself, can be long maintained without causing fatigue, and he mentions especially the need of proper chair-backs. There are two essentials for consideration—under no circumstances should the shoulders be forced forward, that is to say, there should be a firm support for the sacrum and lumbar region, and at the same time there should be moderate support for the dorsal region up to the shoulder-blades. In this way the liability to round shoulders would be decreased and account is taken of the fact that full extension of the spine tends to prevent lateral curvature while flexion allows it. As an illustration he notices the typewriter chair-back, which has been found to be a financial success, as it meets the physical requirements.

36. **Antitoxic Globulins of the Blood-Serum in Diphtheria.**—Park has experimented with the use of the antitoxic globulins of the blood-serum instead of the whole serum, using

it diluted so that each cubic centimeter contains the same number of units as the original serum. He finds it rather more irritating, but otherwise equally efficient so far as the diphtheria is concerned, while the globulins retain their antitoxic properties for the greater part of two months. It is easily soluble and can be put up in tablets and thus readily transported. On the whole, however, his results are somewhat disappointing, as the globulins apparently contain a great number of the deleterious elements of the blood-serum and it does not appear that we can isolate these to any advantage in this way. The practical advantage appears to be that in this substance we have a soluble, permanent and compact dried antitoxin serum which will not quickly deteriorate.

41. **Railroad Injuries.**—Sinkler describes the condition of traumatic hysteria and neurasthenia, more especially in their medicolegal aspects. While he admits that absolute simulation is perhaps a rarity, he thinks exaggeration is extremely frequent, and mistakes are made sometimes greatly to the damage of the corporation sued. Usually, and probably in the majority of cases, the patient unconsciously exaggerates his condition. He reports the case of a would-be pensioner who was exposed by etherization. In making the examination of a patient who has been in an accident, the expert would best see him alone. He should be allowed to give a full account of the injury and its symptoms, carefully observing his manner and condition, and after the removal of the clothing, examine for scars, malformations, deviations of the spine and muscular rigidity, reflexes, sensibility in particular, etc. If the case is difficult to correctly diagnose, it is well to get the patient's consent to take ether on some pretext and this usually is infallible. The physician ought never to act as assistant and prompter to counsel and should try to be as impartial as possible. In conclusion he urges every one to discourage litigation on either side, as it has a bad effect, even when the injury has occurred, by keeping up suspense and expectation. We must always remember, too, that hysteria is not a fraud and does not exclude the existence of organic disease.

43.—See abstract in The Journal, xxxiv, p. 1130.

48.—See abstract in The Journal, xxxiv, p. 1338.

49. **Uterine Dislocations.**—First stating the normal relation of the uterus and the cause of its backward displacement, Hill holds that we must first remove the etiologic factors. When adhesions exist they must be thoroughly destroyed and the abdominal is better than the vaginal route for this purpose. When the cervix is drawn forward we should direct our efforts to overcoming this condition, which is usually done by repeatedly and forcibly carrying the cervix backward, though it may take time and trouble. The use of the pessary is described, and for operative procedure for shortening of the round ligaments he prefers the Alexander method. Vaginal fixation of the uterine body is condemned and ventrofixation he considers unscientific and illogical in principle, though he recommends it in old retroversions with adhesions, long uterosacral and small, round ligaments. He does not favor operating on the uterine tissue itself by removing a plug from the opposite wall.

50. **Conservative Operations on Ovaries and Tubes.**—From a review of 85 cases, Burrage deduces the following conclusions: 1. It is advisable to do conservative operations in all cases in which the ovaries and tubes are not hopelessly diseased in all parts of their structure, except in patients who are near the menopause, on patients who have pronounced gonorrhea of long standing, and on the rare cases of malignant disease. 2. When a patient is near the menopause—over 35 years of age—and has ovarian or tubal disease of any considerable degree of severity, it is generally wiser to perform complete removal, with or without hysterectomy, according as the uterus also is diseased or not. 3. In cases of well-marked gonorrhea of long-standing, especially if the patient is constantly exposed to reinfection, if both tubes are seriously diseased and closed, total removal with or without hysterectomy is the operation of choice. 4. In certain cases of this class where the patient thoroughly understands the likelihood that another operation may be necessary at some future time, and wishes to take the chances in the hope of preserving the function of menstruation, conservative operation is permissible. 5. If one tube is patent and healthy in appearance and there is enough healthy ovarian tissue to preserve, a conservative operation ought to be performed even in the presence of gonorrhea. 6. With present methods of performing resection of the tubes, if both tubes are found closed at the time of operation, subsequent pregnancy is not to be expected. 7. In severe grades of inflammation of the appendages, irrespective of causation, if the ostium abdominale of one tube is patent, the prospect of subsequent pregnancy after the preservation of a portion of ovary is about one in four and a quarter, or 23.5 per cent. 8. In the less severe grades of inflammation, under similar conditions of tube and ovary, the prospect of subsequent pregnancy is about one in two and a quarter, or 44 per cent. 9. In women who have borne children, in both classes, subsequent pregnancy may be expected in 35 per cent., whereas in the previously sterile it may be looked for in only 5 per cent. 10. If it is necessary to remove both ovaries, it is of no advantage to preserve any portion of tubal tissue, but, except under conditions just enumerated, some ovarian tissue should be preserved in every case.

52. **Hernia in Children.**—Balloch concludes from his study of the subject that hernia is not an infrequent condition in children and of the different types, the umbilical is generally cured without operation, the femoral never, and the inguinal in from 70 to 80 per cent. of the cases. In view of the serious handicap in the battle of life caused by hernia, it is justifiable and proper to recommend operation for the radical cure in children who have faithfully worn a truss for two years without benefit. The mortality is less than would result from accident if operation was neglected.

62.—See abstract in The Journal, xxxiv, p. 689.

66. **Venous Pulsation in the Fundus Oculi.**—After two years' study of his clinical observations, Weymann makes the following report, in substance: Venous pulsation on and about the disc is very common, perhaps more frequent under ordinary physiologic conditions. It is most easily seen in physiologic excavations, and where the veins twine around the arteries or make a loop as they emerge from the crater-like center of the disc. In such places the veins look darker, owing to the doubling of the blood-column due to superimposition. The venous pulsation differs from the arterial pulse seen in hypertension of the ball. The latter is a true pulse, quick and flashlike, synchronous with distended arteries, while the former, though equally frequent, is not thus synchronous. It appears later, is slow and heaving, and easily followed in its wave. It is most prominent where the veins are largest and is lost as the caliber diminishes, hence the condition is not a true wave caused by internal distension. It is not a true pulsation, but is without doubt produced by such. The pulse expansion compresses the lumen of its accompanying vein, which action, in damming up the venous flow, becomes more accentuated by the circumstance that it travels in the direction opposite to the venous current. Whenever the two vessels are sufficiently far apart, no such effect can be produced.

71. **Pterygia.**—Weymann advises the removal of all pterygia; though they may become sometimes non-progressive, undue procrastination may have serious consequences. The methods for destruction of the head may vary, but they should all produce a thorough and smooth removal, be entirely free from danger, and cause sufficient plastic reaction to result in a firm scar opposing conjunctival traction. The best means, in his opinion, is a very thin galvano-cautery knife, with the blade bent about 45 degrees to its insertion, and it should not be held any farther from the fingers than about two inches to do good work. A full-fledged pterygium excision is the only correct plan, and the following operation is described as the most radical one, in his opinion: After cocainizing and flooding the conjunctival sac, to remove the excess of alkaloid, the neck of the pterygium is grasped with an iris-forceps and gently pulled from the ball to avoid cutting healthy conjunctiva. A very narrow and sharp-pointed cataract knife is made to pierce the tissues in such a way that the neck is separated from the adjoining healthy lining without any loss of the latter. A pair of scissors is started at the incisions and caused to delimit the

growth, both below and above, nearly as far as the plica semilunaris. From this point both incisions are joined by two converging cuts meeting at, or near, the caruncle. Raising the inner end, the operator now separates the growth from the eyeball as far as the head, always tensing it as he clips adhesions, with the scissors against the pterygial body. The head is detached by a slow, see-saw motion of an ordinary cataract knife or lance and the roughness of adjacent parts worn down by the galvano-caustic spatula. After flooding the eye, inspection will show an amount of subconjunctival vascularization and it will be seen that, in bad cases, it reaches farther over the globe than did the body of the pterygium. This vascular matting should be pulled out and thoroughly excised. A tenotomy hook is now passed under the lining to be approximated in order to break up adhesions. Near the sclerocorneal junction smart traction is made to allow the unobstructed passage of the scissors for the "accommodative incisions." Four or five sutures are then passed—not thicker than No. 6—by a curved round needle, to avoid cutting and tearing the membrane. The first stitch should be as close to the corneal margin as the accommodative incisions will allow. A pair of very small curved scissors will now be made to detach the conjunctiva along the limbus corneæ, both above and below, for a distance of nearly one-fourth the total circumference. This is followed by immediate elastic retraction of the flap-angle thus freed, but owing to the fact that the stitches are already correctly placed, approximation must be perfect. The sutures should be tied first either at the center or the inner canthus. The stitches are removed on the third day. Occasionally one will be found to have cut through, but no damage is done. The operation must be thoroughly aseptic. He claims that this operation leaves the eye in a nearly normal condition without danger of relapse, that post-operative reaction is very mild, and that it is applicable to all cases except where the pterygial body is very wide and no tissue for approximation is available. In such cases transplantation is the only resource.

72. **Enophthalmos and Tenon's Capsule.**—From a study of the anatomy of the eye, Shoemaker thinks it probable that the orbital fascia is necessary to maintain the eyeball in its natural position, and if it becomes incapable of performing its function then enophthalmos may result. This may be the case in paralysis of the muscular fibers in the check ligaments or in nutritional disturbances leading to atrophy or relaxation of the same, which may be caused by traumatic rupture of the check ligaments or orbital tumors of the fascia, and would be especially liable to follow rupture of the posterior investing sheath of the eyeball. The combined and simultaneous action of the four recti muscles, which rarely occurs, producing spastic enophthalmos, would meet with a physiologic protest, but not with prohibition on the part of Tenon's capsule. The elasticity of the fascia may be reckoned upon in those cases of enophthalmos said by some to follow a combined paralysis of the two oblique muscles.

73. **The Nose in Ocular Affections.**—Blaauw calls attention to the importance of knowledge of the nose for ophthalmologists and the method in which nasal disease may affect the eye with a changed secretion, with narrowing of the lachrymal duct, nervous irritation, etc.

74.—See abstract in The Journal, xxxiv, p. 688.

80. **Syphilis of the Uveal Tract.**—In seventy cases of syphilis, Vaughan finds the uveal tract involved twenty-nine times, or in 41.4 per cent. Twenty-one of these twenty-nine were cases of iritis or cyclitis, the left eye predominating. Hypopyon existed in two of these cases, eight and five years after the infection, respectively. His experience accords with that of Schmidt-Rimpler, that in iritis with the formation of nodules, as a rule, true gummata are not present, and he includes in his syphilitic cases all that occurred after infection but responded to specific treatment. The symptoms vary very little from iritis due to other causes. Syphilitic choroiditis is always exudative; he has never seen a purulent case that he could attribute to this cause, and as regards syphilitic chorio-retinitis, he thinks the process generally primarily involves the choroid and that the retina is only secondarily involved.

81. **Scopolamin and Atropin.**—From thirty cases selected from private and dispensary practice, tested with scopolamin and atropin to ascertain the relative action of the two, Rogers finds that the results of scopolamin contrast unfavorably with those of atropin. In only one of the thirty did both eyes show the same refraction under each drug. He concludes that as a final reliance scopolamin is untrustworthy.

82. See paragraph 103.

84. **Anesthetics.**—Levers gives the details of administration, favoring chloroform, and offers the following conclusions: 1. In most cases chloroform is to be preferred to ether, as it is more pleasant to patient, the after-effects are less marked, and we believe, if statistics were accurate, it would be equally as safe as ether. 2. Where possible, the patient should be prepared for the anesthetic. 3. One of the most important and successful steps in the administration of an anesthetic is to secure the full confidence of the patient. 4. The anesthetist should not be made nervous by the surgeon's suggestions. 5. Chloroform should be given slowly, with plenty of air, by the "drop-by-drop" method.

89.—See abstract in The Journal, xxxiv, p. 1491.

95. **Fireman's Cramp.**—This disorder is but little mentioned in journals or text-books, but it is, according to the author, a very real one to the workers in the fire-rooms of steamers. The sufferers generally undertake their duties when in a deteriorated condition from shore excesses and are subjected to the most serious conditions of temperature and exposure otherwise. Cummings, finding the stock remedy for this disorder to be something akin to "sun cholera mixture," he sought for a substitute which could be freely used without leading to gastric and bowel disturbances. The one he devised consists of the following prescription: 256 gr. each of calcium, sodium and potassium phosphates in one gallon of water, with an excess of ortho-phosphoric acid. For the use of nine men in four hours, 6 ounces was put up in nine gallons of water containing oatmeal and ice, if available, each man drinking appproximately a gallon of water during watch, which would give about 3.5 drams of phosphate solution per man. The effect was immediate, and "phosphose," as they called it, was in daily demand. It was observed during the time of its continuous use that the men would not use it occasionally for several watches; when asked why, they said that they didn't feel the need of so much of it, as what they had already taken had braced them up sufficiently. He claims, by the use of this mixture, he has relieved colic and cramp and stimulated a natural desire for food and in consequence that he got more and better work from a class of men whose labors and pains are but little understood by those who know only the saloon-deck life of the sea.

96. **Amelia.**—Ballantyne reports the result of examination of a kitten in which the right forelimb was absent, and reviews the reports of others who have observed the condition of the cord in some instances in the human subject. The conclusions to which he comes are largely negative. If the changes in the spinal cord are absent, this can not be said to prove that the absence of the limb is due to arrested development of the central nervous system, or an atrophic center does not prove that arrested development of the cord is the cause of this deformity. The third theory is that the pressure of the amnion over that part from which the limb springs causes complete or partial lack of development. This theory also is not absolutely supported. His study of the question leaves it in the following state: In some cases, absence of the limb may be due to, or associated with, defective development of the corresponding part of the spinal cord. In other cases, pressure from the amnion often prevents the growth of the limb or a part of it, therefore causing injury in the cord, and in yet other cases, especially in the absence of one or more digits, the defect may be due to amputation of the parts by amnion bands or other agencies *in utero*, and the changes in the cord be secondary.

97. **Secondary Syphilis.**—According to Frick, secondary syphilis should be classed with eruptive fevers. The importance of being able to recognize secondary eruption is shown by considering the fact that it is frequently the first intima-

tion of the disease, the primary sore having been too obscure to be recognized. This is the specially contagious period of the disease and the period for active treatment. Macular eruptions are usually the earliest manifestations of secondary symptoms, and he calls attention to the importance of condylomata lata as a diagnostic feature. The mucous patch comes near being a constant factor and is sometimes difficult to control. He has had serious trouble with syphilitic paronychia. Mercury must be our sheet-anchor in this stage, but must not be pushed to the patient's disadvantage. Where patients can not use the drug internally, he uses inunctions, also Turkish baths. He does not like the hypodermic method, and would not use it except where a very rapid effect of the drug is required. Frequently a good tonic is of benefit along with the mercurial treatment. Iodids are not indicated until very late in the secondary stage.

98. **Insolation.**—Simpson describes the symptoms of thermic fever, which is common in children, of heat prostration which may or may not have a high temperature, and of true insolation, or sunstroke. In the first-named rapid stimulants which act on the skin will suffice to establish the equilibrium. Caffein, ammonia, champagne, cool cloths to the head and something cool to drink will soon set the patient right. The digestive disturbances need not be seriously regarded. Practically the same holds good for heat prostration. A cold douche to the head followed by ice-cloths, cool sponging and some rapid stimulant will usually be sufficient. Drugs may be given subcutaneously if necessary. There are occasionally cases of meningitis following such attacks, but it is not certain they are caused by them, as they may have pre-existed. The most disagreeable effects of heat prostration are usually neurasthenia and hysterical symptoms. True sunstroke, however, is different; it almost always leaves defects. The treatment is substantially the same as that of the other forms, only more urgent and thorough. He does not believe in bleeding or transfusing sunstroke patients. When the patient is placed in bed, he must be watched, and when the temperature has been reduced to 102 or 103 F., the necessity for further reduction is not great, and should be proceeded with judiciously. As soon as the return of consciousness and respiration is established, the danger of immediate fatal issue is over. Judicious stimulation should be administered. After consciousness has returned the patient must receive the same care as a patient suffering from severe febrile disease. The urine and perspiration must be watched. Bad results may come later.

100.—This article has appeared elsewhere. See The Journal of August 4, title 81, p. 319.

103. See paragraph 82.

104. **Drainage of the Abdominal Cavity.**—The literature of drainage of the abdomen is reviewed by Sharpe, who considers that it is definitely and positively indicated in selected cases, such as special gall-bladder conditions, weakened intestinal walls, intestinal suturing of special character, and various other pathologic states. He thinks that, however, as a routine policy it is capable of great restriction by permitting our technique to be governed by a series of rules in accordance with these suggestions: 1. Better protection of non-infected areas. 2. Better cleansing of infected areas. 3. Better covering-in of raw surfaces. 4. Better hemostasis. 5. Greater attention to details of operative asepsis. 6. Greater gentleness and skill in operative technique.

113 and 114. **The Watery Extract of Tubercle Bacilli in Phthisis.**—Osborne has followed Von Ruck's method of treatment in tuberculosis with, as he thinks, great advantage. He believes the superiority of true tuberculous substance in the form of watery extract is attested by unmistakably better results in clinical employment as well as in the animal experiments of Von Ruck. In a letter following Osborne's paper, Von Ruck argues that antitoxins are ineffective in phthisis, since the symptoms of the disease are not due to absorption of the bacillary toxins. He thinks, therefore, that since the symptoms in all stages of the disease react to these latter, this is evidence in favor of his view. He holds also that the direct injection of toxins produces immunity and is therefore justified from a therapeutic point of view.

119. **Stenosis of the Pylorus.**—Bettmann criticizes the surgeon's idea of stenosis of the pylorus, that it occurs so frequently and just so often requires operative interference. Medical experience, he thinks, does not bring out these conclusions, and an appropriate abstinence treatment and enforced rest would, in many cases, have as efficient effect as the operation itself. The subject, he believes, is not sufficiently treated in text-books.

122. **Corneal Ulcerations.**—The general principle of the treatment of corneal ulcers, of which Tennent gives the various types, is to begin treatment, especially in acute cases or in strumous children, with a mercurial. Find out the cause. In children and most adult cases internal medication is more important than local measures. Mercury has the widest application internally and next to it tonics and reconstructives. The local measures consist in: 1, preservation of cleanliness; 2, relief of pain; 3, application of mildly stimulating remedies; 4, scraping with an application of stronger stimulants and antiseptics; 5, cauterization.

123. **Laryngeal Phthisis.**—The treatment recommended by Cheesborough for this condition consists in first watching the general health of the patient, giving tonics and digestants when necessary, and large quantities of nourishing and easily digested food. Well-directed exercise and plenty of fresh air in a suitable climate should be insisted upon. Creosote he holds of value in every case of tuberculosis when carefully and properly administered. Begin with a few drops and increase the dose daily until the patient begins to suffer from some gastric disturbance, then go back to the small doses and gradually increase again. Nearly every patient can take creosote thus administered. For local use he employs alkaline and antiseptic washes to thoroughly cleanse the nose and throat, following these by inhalations of glymol with menthol, and ether or iodid and ether, or other drugs found to be soothing, and an anodyne for checking the cough. In a certain percentage of cases the curette and lactic acid are necessary. His method is to first curette and begin with a 3 per cent. solution of lactic acid, gradually increasing its strength as required. It is often necessary to use local anesthetics when curetting. Laryngotomy, laryngectomy and tracheotomy should be limited to only the most exceptional cases.

127. **Static Electricity.**—Lowder claims great success with static electricity in neuralgia and headache, using a sort of general electrization. He claims that he has cured about 85 per cent. of his selected cases. For rheumatism he relies almost altogether on electricity and in painful menstruation he has never had such beneficial results from any other remedy. Other disorders which he claims to have successfully treated in this way are insomnia, amenorrhea, malaria, incipient colds, senile debility, bronchitis, gastralgia, cardiac disorders, heat prostrations, etc.

FOREIGN.

The Lancet, August 25.

Pathology and Therapeutics of Scurvy. A. E. Wright.—In defense of the theory formerly maintained by him that scurvy is a condition of acid intoxication with deficient alkalinity of the blood, Wright undertook a series of blood examinations and therapeutic experiments on cases which came under his control in the Army Hospital at Netley. The normal alkalinity of the blood is such that the addition of one volume of normal acid thirty-five times diluted to an equal volume of serum just suffices to deprive that serum of its power of blueing sensitive litmus paper. Seven cases of marked scurvy were tested and in each case the alkalinity of the blood was found strikingly reduced, and in all, excepting in one where there was reason to suppose that the drug was not dissolved, a decided amelioration followed the administration of lactate of soda and other similar substances. Certain subsidiary points were also noticed. In three of the cases there was a dysenteric complication, but this differed from the ordinary dysentery in its clinical features and also in the fact of reduced alkalinity of the blood. In one of the cases it appears that the scorbutic conditions could supervene and complicate typhoid fever.

The Pathogeny of Gout. Dyce Duckworth.—The pathogeny of gout and its theories are discussed by Duckworth, who sums up his own conceptions in regard to it as follows: "That gout as a morbid condition, depends on an inherent vice of nutrition, which is manifested by an imperfect metabolism in various organs or parts of the body, presumably in the kidney and probably in the liver. That this trophic disorder or inadequacy—*ralentissement de nutrition*—leads to the formation of uric acid, probably in excess, and to the periodic retention of it in the blood—gouty uricemia. That histology throws no light on the intimate nature of this defect, which thus relates to cellular potentiality, possibly under neurotrophic influence, and not, so far as we know, to structural alteration. That this textural disability, or a tendency to it, may be primarily acquired and also transmitted as a fault, thereby inducing from time to time uricemia with gouty manifestations in the descendants. That in most instances, under conditions which provoke it, and in some cases independently of these, attacks of gout may grow up and come to a crisis. Such crises are attended by an alteration in the solubility of the uratic salt in the blood, whereby irritating crystals of biurate of sodium are produced and precipitated in various parts of the body. That a paroxysm of gout, the sites of its occurrence, and its metastases are determined by nervous influences, probably dominated from a bulbar center, and that the local attacks alight either in the joints or in textures which have been weakened or rendered vulnerable by impaired nutrition owing to past injury or over-use. That this central neurosis is an essential and transmissible feature in the pathogeny of gout and pertains to the arthritic diathesis generally. That the uricemia of gout is peculiar and unlike that which is induced by other morbid conditions, but that the occurrence of uricemia in the gouty is by itself inadequate to induce attacks of gout. That uratic deposits may occur to an enormous extent in gouty persons without the occurrence of any pain or paroxysms. That the clinical features of gout indicate that both hemic changes—due to inherent morbid tissue metabolism —and a neurotrophic disturbance act as pathogenic factors, and that consequently gout is to be regarded as a neurohumoral malady."

Diphtheria in the Horse. Louis Cobbett.—The author examined the cultures of the bacillus found in a nasal discharge of a pony, which appeared to be entirely identical with that of diphtheria. The animal had purulent, slightly sanguineous, nasal discharge, subsequent enlargement of the glands under the tongue, laryngeal obstruction, difficulty of breathing and contraction of the abdominal wall. He concludes from his study of the case that the horse is liable to nasal and laryngeal diphtheria, and that this is of practical importance since it points out a hitherto unsuspected channel of conduction of the disease to man. It also has a bearing on the question of the origin of antitoxin. It is well known that the serums of normal men and horses which have never been immunized often have the power of neutralizing diphtheria toxins and it is shown, in the cases of horses at least, that this defective serum unites with toxoids as well as with toxins proper, just as does the serum of immunized animals, that, in a word, it contains true antitoxin. The diphtheria antitoxin found in many is probably due, as Wassermann has suggested, to some previous attack of diphtheria, possibly not recognized, and that found in the placental blood of infants may have been due to the mother having had the disease. Now that we find the horse is subject to diphtheria, the presence of antitoxin in its blood-serum is easily explained.

Enteric Fever. Derwent Parker.—The author gives his experience with 100 cases of enteric fever treated by him in South Africa. One of the first points noted is the great difference in the virulency of the attack according to the district from which it comes, those from certain regions having been almost all of severe type, while the later cases, no matter where they came from, were milder than those of earlier date. The most severe cases were infinitely worse than any he had seen in England. One patient had seven distinct perforations, and two, had they lived longer, would have had even more, as every Peyer's patch in the last few feet of the small intestine was gangrenous. The hospital was situated at an elevation of 4500 feet and was made up of tents with excellent ventilation. Lung complications, however, were very rare. All the patients took 5 minims of carbolic acid in water three times a day. He found that to some extent carbolic acid appeared to have a tendency to increase the frequency of hemorrhage, but on the whole he thinks its effects are good. Apparently brandy was the most useful stimulant. Transfusion with normal salt solution he thinks, can save a great many lives in cases of severe hemorrhage. From his studies of the effects of inoculation he finds the death-rate among the inoculated 2 to 3 per cent. lower than that of the non-inoculated, and while the average temperature for the first ten days was 0.9 per cent. lower, it was 5.4 days longer before becoming normal. He does not consider inoculation as at present practiced a striking success.

Janus (Amsterdam), August.

Organotherapy, Past and Present. H. Grasset.—The question of internal secretions is intimately connected with that of organotherapy, but no one seems to comprehend the important relations between the soluble ferments and these questions. A. Bechamp has explained the transition between the medical traditions of the ancients in respect to organotherapy and the facts discovered, but erroneously interpreted, by modern bacteriologists. He asserts that the cell is not the organic vital unit. It is, according to him, an association of autonomous and independent organisms, which he calls "microzymes." Each secretes its soluble digestive ferments or zymases, which allow it to modify the medium in which it lives, and assist in its absorption, assimilation and growth. Each zymase characterizes the physiologic function of the microzyme in the cell and in the organ, the function varying with the species of the animal and the age of the individual. Grasset accepts this theory and adds that these soluble ferments are excessively fragile; the slightest cause destroys them. Chemical or physical manipulations injure or kill the vital principles in the organs and hence the present methods of extraction for therapeutic purposes are all defective.

Annales de l'Institut Pasteur (Paris), July 25.

Sero-Agglutination in Pneumococcus Infection. F. Bezancon and V. Griffon.—The Widal agglutination test is not applicable to pneumococcus infection, as the phenomenon is not sufficiently marked to be evident in diluted serum. But with cultures of the pneumococcus in non-diluted serum the reaction becomes very distinct. Tests on 186 persons demonstrated, however, that the serum agglutinates most decidedly, and in some instances exclusively, the pneumococci derived from the individual lesion. This individuality in respect to the agglutinating reaction which has been established for the pneumococcus and bacillus coli, throws light on the disputed question of the unity or plurality of streptococci. The serum of animals vaccinated against the streptococcus seems to have real preventive or curative action only against the special streptococcus that served for the vaccination.

Influence of Tetanus Toxin on Central Nervous System. M. Joukowsky.—The only modification in the nerve-cells constantly noted in this experimental research in Metchnikoff's laboratory was an accumulation of migrating, mononuclear cells around the nerve-cells and their penetration into the protoplasm of the latter. The phenomenon was most marked in the anterior horns and most intense in chronic intoxication. It is probably the expression of the mononuclear phagocytosis which develops under the influence of the toxin in the nerve-cell and is a sign of diminishing cell vitality.

Bulletin de l'Academie de Medecine (Paris), August 14.

Physiology of Cervical Sympathetic. T. Jonnesco and T. Floresco.—Applying to man the technique of experimental research, the Bucharest scientists have established the identity of the functions of the cervical sympathetic in man and in animals. Their subjects were patients on the point of having sympathectomy performed. The member of the Académie who presented their article in a condensed form, remarked: "It is not without a certain emotion that one follows the authors in the recital of their experiences, and imagines the patient under the influence of choloroform, undergoing the various operations performed for experimental purposes on the cervical sympathetic and its ganglia, with graphic exploration of the heart action and respiration, and of the pulsation of the exposed brain. If the results attained prove to be valuable beyond dispute and do not require confirmation, one must not criticise the authors unfavorably for the hardihood of their attempts. At least they had no serious consequences for the patient, such as follow experimental, direct, electric stimulation of the brain, and consequently can not be condemned, as the latter justly is." The research demonstrated that stimulation of the superior stump of the sympathetic after resection produces the same effects as stimulation of the intact nerve. The vasoconstrictive action of the sympathetic on the brain was also demonstrated, and the fact that weak stimulation has the opposite effect, i. e., the smaller vessels are dilated, similar to the influence of the same nerve on the superficial circulation. When the heart has been accelerated by stimulation of the sympathetic, it is not retarded by the section of the nerve. Injection of pilocarpin induces sweating on the sound side but not on the operated side after section of the sympathetic and subsequent degeneration of the sweat fibers. The most important result of their research is the demonstration that no appreciable nutritional modifications occur in the regions innervated by the resected nerve. This latter statement needs confirmation. Surgeons should take special pains to follow their patients after sympathectomy to note whether there is deterioration in the functional activity of the brain and ocular apparatus.

Herpes in Infectious Diseases. E. Vidal.—By the term "herpes" Vidal expresses the attempt of the tissues to eliminate foreign bodies, whether it takes the form of an eruption on the skin or a morbid process in some internal organ or tissue. This manifestation is especially characteristic of la grippe. The bacillus penetrates into the organism by some unknown means; the struggle begins, fever lights up, the organism tries to expel the foreign bodies and the cycle is completed by the herpetic eruption within or without. This eruption produces solutions of continuity and any secondary germs which may happen to be in the vicinity find an easy entrance through them into the tissues. If the herpetic eruption happens to be in the lungs, for instance, and the pneumococcus is present, secondary pneumonia is liable to develop, as the germs invade the capillaries, with possibly further infection by them of the arteries, peritoneum, kidneys and spleen. "This conception explains many otherwise inexplicable problems in infectious processes, their successive localizations on different organs, recurrences, etc., and should be accepted until the contrary is proved."

Antisepsis for Contagious Diseases With Only Partial Isolation. Grancher.—The results obtained by Grancher in a medical ward at the Hôpital des Enfants during the last ten years—in comparison with the preceding ten—confirm his assumption that contagion is seldom if ever air-borne, but occurs solely by direct contact. The ward is frequented by students, is in an old building, and children with measles, diphtheria, scarlet fever, whooping-cough, bronchopneumonia and mumps are received indiscriminately, but contagion from one to the other is extremely rare. In ten years there has only been one case of diphtheria, scarlet fever or mumps from this cause, seven of whooping-cough and 1 to 3 per cent. of all the cases of measles. The latter is the most difficult disease to manage, as contagion may occur before the diagnosis is possible. He treats a patient with one of these infectious diseases as he would a wound, and applies antisepsis in the same way, with partial isolation. A lattice-work screen, about four feet high, is placed around the bed, entirely enclosing it. This prevents contact between the children and reminds the attendants that certain precautions are necessary before entering the enclosed space. These precautions are to put on a blouse, which is kept permanently in the "box," and to wash the hands with soap and a 1 per cent. solution of sublimate. All the dishes used by the child are disinfected with boiling water, while the bedding and dismounted bed are sterilized in the oven. The paraffined floor and the walls are washed off twice a week with the same solution of sublimate. This idea that contagion is objective and not atmospheric, and that it can be controlled with antisepsis, should dominate in the care of all hospitals for children.

Revue de Gynecologie (Paris), July-August.

Study of Autoplastic and Temporary Sutures. L. Dartigues.—After reviewing the various methods, Dartigues asserts that temporary sutures best fulfill the condition for non-infection of the wound in operating for hernia, the incision as short as possible, extensively freshening the rectus muscles and suturing the inner margins together, and above all, securing perfect hemostasis. For esthetic reasons the suture should be as low and as intradermic as possible. He commends Segond's practice of combining an autoplastic suture of the deep tiers, with a couple of figure-eight silk sutures above, and a superficial suture of silver wire. The figure-eight stitch is especially useful for hysteropexy. Among the forty-one illustrations are two portraying the old corkscrew method, showing the corkscrew inserted to close the inguinal wound, burrowing through the deep tissues and removed as the wound healed. It crudely answered the purpose of the modern metallic, removable sutures.

Remote Results of Abdominal Hysterectomy for Cancer of the Cervix. C. Jacobs.—Every one of 70 patients with cancer of the uterus, treated by vaginal hysterectomy, died of recurrence within a few months; only two survived as long as two years. On the other hand, out of 52 abdominal hysterectomies 13 are still alive without a trace of recurrence—several operated on more than twenty-seven months ago. The recurrence in the rest was torpid and comparatively painless. Jacobs urges immediate intervention if on several occasions the cells in the vaginal or glandular secretions are found enlarged, irregular and granulated, isolated or connected by strips of new-formed tissue. He never performs hysterectomy unless convinced that the lesion is restricted to the uterus. He removes the organ in two portions after severing the ovarian arteries, dividing it above the internal orifice and thermocauterizing the cavity of the cervix before proceeding.

Pulmonary Embolism After Fibromectomy. G. Michel.—Postoperative thrombosis may be feared in women exsanguinated by repeated metrorrhagias induced by a large fibroma compressing the organs in the small pelvis. The thrombosis may be in the pelvic veins, in which case the absence of valves renders it generally fatal. Only three cases of pulmonary embolism from this cause have been known to recover. There are 13 deaths on record from pulmonary embolism consecutive to the removal of fibrous tumors of the uterus, out of a total of 568 abdominal or supravaginal operations, and seven deaths in 209 vaginal. The heart is usually degenerated in these patients, and, as it is unable to overcome the obstacle in the circulation by stronger contractions, can only accelerate the beat. The rapid pulse in contrast to the normal temperature is the sole sign of a hidden thrombosis. Before undertaking any gynecic operation the vascular system should be examined. If the veins are hard and painful, the pulse rapid, with more or less edema of the lower limbs, intervention should be postponed if possible, until conditions are more favorable.

Centralblatt f. Bakteriologie (Jena), July 11.

Experimental Research on Rabies. V. Solomon.—Galli-Valerios recommends inoculating animals with rabies on the nasal mucosa as the most effective method and the least dangerous for the operator. Leclainche's intracranial method is also exceptionally effective. Both normal and pathologic bile have a neutralizing influence on the virus of rabies.

Centralblatt f. Inn. Med. (Leipsic), July 14.

Urotropin in Cystitis. B. Goldberg.—The experiences described suggest an explanation for the contradictory results attained by others with urotropin in the treatment of cystitis. Goldberg found that 40 per cent. were cured and all the rest materially improved in his 54 cases of cystitis due to primary bacterial invasion of healthy organs. It also proved effective when the cystitis was consecutive to other affections if combined with other measures. But it was useless in secondary cystitis with ascending infection or incipient urinary intoxication.

Acute Effusions in the Pericardium. F. Aporti.—A series of tests on cadavers showed that it is impossible to detect a pericardial effusion by percussion if the amount is less than 150 to 200 c.c. The maximum amount that can collect is 650 to 700 c.c. In a horizontal position the area of cardiac dulness spreads out in all directions, the large vessels are bathed in fluid, even with a small amount, but when the body is erect, the base of the heart is free with the maximum of accumulated fluid.

Deutsche Medicinische Wochenschrift (Leipsic), August 16.

Aneurysm Cured by Electrolysis of an Introduced Wire. A. Bernheim.—Our Philadelphia colleague describes another case of an extensive aneurysm of the aorta cured with the introduction of fine gold wire and electrolysis. It is the fifteenth instance of this treatment on record and is distinguished by the fact that the operation was repeated three times in a few months before the cure was permanent. Four of the fifteen cases were very much improved, five were cured and all relieved by the intervention—results which should encourage its further application. In the experience reported nearly nine feet of a spirally coiled fine gold wire were inserted, and the anode applied, with the cathode on the back. A current of 10 to 80 milliamperes was turned progressively on and off during one hour. The sac slightly contracted and the pulsation diminished even before the operation was concluded. The results of the intervention were examined with an exploratory puncture two months later and about the same amount of wire introduced again, and half this amount thirty-nine days afterward. The patient was dismissed four weeks after the last intervention and has resumed his business as a commercial traveler.

The Tubes in Roentgen Ray Therapy. Straeter.—In the therapeutic application of the Roentgen rays, the "soft" tubes should be selected for superficial pathologic processes, and the less "soft" for the deeper lesions. Very "hard" tubes are unsuitable for Roentgen therapy.

Is the Action of Alcohol Nutritional or Toxic? Kassowitz.—The well-known Vienna professor presents numerous arguments to prove that it is impossible for a substance to play the dual rôle of a food and a toxin at the same time, and that alcohol in particular never possesses nutritional, but always and exclusively toxic, properties.

Memorabilien (Heilbronn), July and August.

Infarct of the Lungs. C. C. Rothe.—A healthy young man was being treated for a phlegmon of the thigh, which had developed subsequent to exposure, and spread to include nearly the entire thigh, with symptoms of cardiac insufficiency. He was progressing favorably by the twelfth day, but succumbed the seventeenth to an embolism in the lungs, evidently originating in the veins of the thigh. In another patient a fatal serous effusion filled the right thorax in the third week of a mild abdominal typhoid fever. A second case of typhoid pleuritis was marked by the absence of an effusion and the evidences of thrombosis in the lungs, evacuation of drops of dark blood by puncture, etc. It terminated in recovery.

Mittheilungen a. d. Grenzgebieten der Med. u. Chir. (Jena), vi, 1 and 3.

Infusions of Salt Solution. Leonpacher.—Summarizing the experiences in 100 cases treated with infusion of salt solution, Leonpacher states that the effect was favorable but transient in 8 cases of severe burns, all terminating fatally. The anuria was not influenced by the infusion. The amount found most beneficial in acute anemia was 1000 to 1500 c.c. at 40 C., repeated several times. For chronic losses of blood, 500 c.c. at 40 C. were injected every day for a long period. The same amount was injected in collapse after operations and long narcosis. In septic affections 1000 to 2000 c.c. were slowly injected at body temperature. The effect is chiefly stimulating in this case. Local injections of 8 to 10 c.c. were made in five cases of ulcus molle. The ulcus progressed to superficial suppuration and rapid retrogression in eight to ten days in 2. In 2 others it retrogressed in fourteen to twenty days without suppuration. The fifth was a hard, indolent bubo and was only temporarily improved.

Recurrences After Gall-Stone Operations. A. Hermann.—In Hermann's experience as superintendent of the hospital at Carlsbad, he has observed eleven cases of unmistakable recurrence of biliary calculi after a successful operation from eight months to three and one-half years previously.

Carcinoma of the Skin Cured With the Roentgen Rays. Thor Stenbeck.—A healthy woman of 72 years applied for relief from a typical ulcus rodens which had been slowly developing on the nose during ten years. As she shrank from an operation, Roentgen treatment was first tried. The ulcus suppurated freely at first and then healed over in the course of thirty-five sittings, although a month more was required to banish the last traces of the neoplasm.

Experimental Contribution to the Study of Cholelithiasis. H. Ehret.—Normal bile in guinea-pigs, cattle and dogs is by no means sterile. Microbes were found in the bile of nearly every animal examined. They probably make their way from the intestines through the biliary passages. Isolated germs occasionally find their way into the bile from the circulation, but these are exceptional cases and the microbes in the bile are a manifestation of pathologic processes.

Laparotomy in Case of Tubercular Peritonitis. A. Borchgrevink.—After twenty years of special clinical and experimental study of this subject, Borchgrevink states that in the healing process the shriveling nodule becomes transformed into a loose network of fine fibers. This is gradually absorbed and the tubercle vanishes as completely as any other ordinary granulation tissue after a transient, harmless irritation. This primary healing of the tubercle, as he calls it, is of frequent occurrence in ordinary peritoneal tuberculosis unaccompanied by caseous foci. Serous tubercular peritonitis, with slight or no fever, recovers spontaneously by this mechanism, and laparotomy is superfluous. On the other hand, laparotomy is distinctly injurious in the progressive cases with continuous fever. Laparotomy should therefore be rejected in all cases. Puncture at the right moment is fully as effective. As long as the tubercle is keeping the peritoneum irritated no operation has any curative effect, but when the healing has reached a certain stage laparotomy or puncture are both equally effective.

Experimental Antiperistalsis. R. Muehsam.—A long portion of the small intestine was resected in some experiments on a couple of large dogs and, sutured in place, reversed. The results showed that the reversed intestine was able to make peristaltic movements in the direction contrary to its natural peristalsis sufficiently vigorous to propel the food along, although vomiting occurred at times, evidently from return to its natural peristalsis. In one of the animals the natural peristaltic movements were so vigorous that the upper transplanted end became invaginated in the normal distal intestine.

Monatschrift f. Geb. u. Gyn. (Berlin), July.

Uterine Calculi.—The report of the meeting of the St. Petersburg Medical Society describes several specimens of uterine calculi exhibited or cases described. In one the uterus was entirely filled with stones the size of a bean to that of a walnut. In another, multiple myomata had become "petrified" from the same cause. A fibromyoma in another case was full of a purulent fluid, the walls lined with calculi in the form of scales. A specimen in the Kazan museum was mentioned in which the petrifaction is as hard as granite.

Muenchener Medicinische Wochenschrift, August 31.

Prevention of Pneumonia After Laparotomies. G. Kelling.—Pneumonia consecutive to laparotomies in the upper abdomen may be due to infection from germs in the air, which may find their way under the diaphragm and thence into the lungs. To prevent this Kelling has studied to reduce the number of germs in the air as much as possible. His operating-room is large and the windows open on a green garden, instead of on the street. The room is heated from without. The heating apparatus does not draw its air from the room, as this would aspirate a fresh supply through the crevices. All windows are closed four hours before an operation, after the walls and floors are dampened. As soon as the abdomen is opened the cavity is stuffed with gauze to prevent the entrance of air as far as possible. The floor is kept wet, the operator and assistants wearing rubbers. Entrance is through a small anteroom with double doors. Operating is not so agreeable under these circumstances to the surgeon, but his inconvenience is far outbalanced by the entire absence of postoperative pneumonia. He had five cases occur in the corresponding period in an equal number of patients the year before he fitted up this room.

Sugar to Increase Uterine Contractions. M. Madlener.—In three of the six cases in which the writer has employed sugar to increase the energy of the contractions of the uterus, the pains were much diminished, while the contractions were increased. The latter effect was evident in all but one, and he recommends the general use of sugar for this purpose as simple, harmless and effective.

Wiener Klinische Wochenschrift, August 9 and 23.

Total Exclusion of the Intestine. E. Payr.—An erosion of the intestine in consequence of a deep suppurating process in the abdominal cavity demanded that the communication between the cecum and the abscess cavity should be shut off. The condition of the patient contraindicated total exclusion, and an ileocolostomy was done, the ends of the intestine closed with a circular seromuscular drawn thread. After a few days of apparent success fecal matters were discharged through the fistula. Analysis of similar cases in the literature shows that fold-sutures, draw-strings and ligatures are extremely unreliable as means of closing the ends of a section of intestine. It is far from certain that the closing of fecal fistulæ, spontaneously or with slight operative assistance, is any guarantee that the morbid process is positively terminated, unless the inside is cauterized. The cases in which the secretion in the excluded portion seems to have completely ceased, with no previous cauterizing or antiseptic measures, will be found in most instances to be due to occlusion of the fistula, while the secretion continues accumulating in the depths, even in case of a normal intestine, and there is always danger of an outbreak. In many instances the total, blind exclusion is only apparent, and in reality secondary adhesions and perforation allow the escape of the secretions. In a case of Hochenegg's a mass of fecal matters was suddenly evacuated from the supposed excluded portion, fourteen months after operation. Of the thirty total exclusions noted in the literature, two only succumbed at the time of operation. Experience with intestinal diverticula, etc., confirms Payr's dictum that the complete exclusion and blind closure of a portion of the intestine is liable to induce pathologic changes.

August 23.

Treatment of Epilepsy. M. Biro.—Eight years of observation of the results of treatment of 185 epileptics have convinced Biro that the bromids are the best general therapeutic measure, but if they fail, Flechsig's method should be tried, resorting later to Bechtereff's, atropin or a combination of bromids and antipyrin. He comments on the periodicity in the recurrence of the seizures.

Gazzetta degli Ospedale (Milan), August 19.

Occlusion of Biliary Passages by Hydatid Cyst. L. Ferralasco.—The hydatid cyst in the case in question had developed insidiously in the liver until it had perforated into the biliary passages, with occlusion and dilatation of the ducts from the remnants of the cyst. This had induced circumscribed purulent angiocholitis and laceration of the liver with fatal hemorrhage.

Cronica Medica (Lima), June 30.

Diazo-Reaction in Microbian Diseases. E. E. Escomel.—A study of Ehrlich's diazo-reaction in eighty patients showed that the test resulted positively only in miliary tuberculosis, tubercular meningitis, typhoid fever or typho-malaria, smallpox, erysipelas and the last stages of pulmonary tuberculosis. It was invariably negative in malarial and rheumatic affections. The positive result of the diazo-reaction thus excludes certain diseases and is a valuable aid in the differentiation of typhoid fever.

St. Petersburger Medicinische Wochenschrift, August 18.

Symptoms and Treatment of Disorders Due to Trichocephalus. T. Hausmann.—Microscopic investigation of the feces should become a routine measure in all dubious cases and rank with the analysis of the urine. Many affections now classed as rebellious hysteria or gastric catarrh would disclose their true etiology if this were done, and would respond promptly to appropriate measures. Hausmann requests the patient to bring him a little of his feces, preferably of soft consistency, in a liqueur glass. A scrap is transferred to an object glass with a toothpick; a drop or two of glycerin is added, if hard, and a cover-glass placed over it and rubbed around a little. Eighty-five diameters is sufficient at first, increasing the magnifying power if suspicious objects are noted. The symptoms caused by the trichocephalus are manifold and simulate many affections; the only specially characteristic sign is extensive cutaneous anesthesia occasionally noted. In one of the instances he cites, a young and healthy man became emaciated, constipated, with abdominal pain and impotentia coeundi, diminished reflexes and other symptoms, becoming progressively worse as the months passed. Three days of thymol—prescribed after the eggs of the trichocephalus were found in the fecal matters—restored him to complete health, but the cure was repeated not long after as a precautionary measure. Thymol seems to have a specific action against this parasite, far more powerful than santonin or other remedies.

Books and Pamphlets

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell A.M., M.D., Director of the Ayer Clinical Laboratory of the Pennsylvania Hospital, with the Collaboration of John Ashhurst, Jr., M.D., LL.D.; Charles H. Reed, M.D.; and James T. Whittaker, M.D., LL.D. With Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume II. Tenth Series. Cloth. Pp. 300. Price, $3.00. Philadelphia: J. B. Lippincott Co. 1900.

The Retrospect of Medicine. A Half-Yearly Journal Containing a Retrospective View of every Discovery and Practical Improvement in the Medical Sciences. Edited by James Braithwaite, M.D., Consulting Obstetric Physician and Surgeon to the Leeds General Infirmary, and E. F. Trevelyan, M.D., B.Sc., M.R.C.P., Assistant Physician to the Leeds General Infirmary. Volume 121. January-June, 1900. Cloth. Pp. 431. Price, $2.50 per year. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

Atlas and Epitome of Diseases Caused by Accidents. By Dr. Ed. Golebiewski, of Berlin. Authorized Translation from the German, with Editorial Notes and Additions. By Pearce Bailey, M.D., Consulting Neurologist of St. Luke's Hospital and the Orthopedic Hospital, New York. 40 Colored Plates, and 143 Illustrations in Black. Cloth. Pp. 549. Price, $4.00. Philadelphia: W. B. Saunders & Co. 1900.

Cancer of the Uterus: Its Pathology, Symptomatology, Diagnosis, and Treatment: also the Pathology of Diseases of the Endometrium. By Thomas Stephen Cullen, M.B., Associate Professor of Gynecology in the Johns Hopkins University. With Eleven Lithographic Plates and Over Three Hundred Colored and Black Illustrations in the Text. By Max Brödel and Herman Becker. Cloth. Pp. 672. Price, $7.50. New York: D. Appleton & Co. 1900.

A Manual of Personal Hygiene. Edited by Walter L. Pyle, A. M., M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia. Contributors: J. W. Courtney, M.D.; George Howard Fox, M.D.: E. Fletcher Ingals, M.D.; Walter L. Pyle, M.D.; B. Alexander Randall, M.D.; G. N. Stewart, M.D., and Charles G. Stockton, M.D. Illustrated. Cloth. Pp. 344. Price, $1.50. Philadelphia: W. B. Saunders & Co. 1900.

A Manual of Chemistry: Inorganic and Organic, with an Introduction to the Study of Chemistry. By Arthur P. Luff, M.D., B.Sc., F.R.C.P., F.I.C., Physician to Out-Patients in St. Mary's Hospital, and Frederick James M. Page, B.Sc., F.I.C., Associate of the Royal School of Mines. Illustrated with 40 Engravings. Cloth. Pp. 541. Price, $1.60. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

Atlas and Epitome of Gynecology. By Dr. Oskar Schaeffer, Privat Docent of Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Second Revised and Enlarged German Edition. Edited by Richard C. Norris, A.M., M.D., Surgeon-in-charge, Preston Retreat, Philadelphia. With 207 Colored Illustrations on 90 Plates, and 62 Illustrations in the Text. Cloth. Pp. 272. Price, $3.50. Philadelphia: W. B. Saunders & Co. 1900.

Diseases of the Tongue. By Henry T. Butlin, F.R.C.S., D.C.L., and Walter G. Spencer, M.S., M.B., F.R.C.S., Surgeon to Westminster Hospital, Surgeon to St. Bartholomew's Hospital and in Charge of the Department for Diseases of the Nose and Throat. Illustrated with 8 Chromo-Lithographs and 36 Engravings. Cloth. Pp. 475. Price, $3.25. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

Manual of Pathology. Including Bacteriology, the Technique of Post-mortems, and Methods of Pathologic Research. By W. M. Late Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia. Third Edition, Revised and Enlarged. With 330 Illustrations and 7 Colored Plates. Cloth. Pp. 846. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Psychopathia Sexualis. With Especial Reference to Antipathic Sexual Instinct. A Medico-Forensic Study. By Dr. R. v. Krafft-Ebing, o. ö. Prof. Für Psychiatrie und Nervenkrankheiten an der K.K. Universität, Wien. The Only Authorized English Translation of the Tenth German Edition. Cloth. Pp. 585. Price, $5.00. Chicago: W. T. Keener & Co. 1900.

Medical Electricity. A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D., Fellow of the Royal College of Physicians. The Third Edition of "Medical Electricity," by W. E. Steavenson, M.D., and H. Lewis Jones, M.D. With Illustrations. Cloth. Pp. 532. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Illinois State Board of Health. Advance Notes of the Sanitary Investigations of the Illinois River and its Tributaries. With Special Reference to the Effect of the Sewage of Chicago on the DesPlaines and Illinois Rivers Prior to and after the Opening of the Chicago Drainage Canal. Cloth. Pp. 57. Springfield: Phillips. 1900.

Medical Diagnosis with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M.D., LL.D., Physician to the Pennsylvania Hospital. Illustrated. Ninth Edition, Revised. Cloth. Pp. 966. Price, $5.00. Philadelphia: J. B. Lippincott Co. 1900.

Practical Uranalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, LL.D., M.D., Fellow of the Royal College of Physicians and Surgeons, Kingston. Fifth Revised and Enlarged Edition. With Numerous, Illustrations, Including Photo-engravings and Colored Plates. Cloth. Pp. 392. Price, $3.00 net., Philadelphia: F. A. Davis Co. 1900.

Public Health Reports. Issued by the Supervising Surgeon-General, Marine-Hospital Service, under the National Quarantine Act of April 29, 1878, and the Act Granting Additional Quarantine Powers and Imposing Additional Duties upon the Marine-Hospital Service, Approved February 15, 1893. Vol. xiv. Nos. 1 to 52. Cloth. Pp. 2389. Washington: Government Printing Office. 1900.

Original Contributions Concerning the Glandular Structures Appertaining to the Human Eye and its Appendages. By Adolph Alt, M.D., Professor of Ophthalmology in Beaumont Hospital College, St. Louis. With 71 Original Illustrations. Cloth. Pp. 70. Price, $1.50. St. Louis: American Journal of Ophthalmology.

L'Assistena dei Pazzi nel Manicomio e nella Famiglia. Istruzioni elementari per infermieri ed infermiere. Dott. A. Pieraccini, Vice Direttore del Manicomio Provinciale di Macerata. Con Prefazione del Prof. E. Morselli, Direttore della Clinica Psichiatrica di Genova. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1901.

Lessons on the Anatomy, Physiology and Hygiene of Infancy and Childhood for Junior Students. Consisting of Extracts from Lectures given at Rush Medical College. By Alfred C. Cotton, A.M., M.D. Cloth. Pp. 174. Price, $1.50. Chicago: Chicago Medical Book Co.

Clinical Examination of the Urine and Urinary Diagnosis. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M. D., Instructor in Chemistry, Harvard University Medical School. Illustrated. Cloth. Pp. 416. Price, $3.00. Philadelphia: W. B. Saunders & Co. 1900.

A Text-book of Practical Medicine. By William G. Thompson, M.D., Professor of Medicine in the Cornell University Medical College, New York City. Illustrated with 79 Engravings. Cloth. Pp. 1011. Price, $5.00. New York and Philadelphia: Lea Brothers & Co. 1900.

Surgery, its Theory and Practice. By William Johnson Walsham, F.R.C.S., M.B., C.M., Surgeon and Lecturer on Surgery, St. Bartholomew's Hospital. With 483 Illustrations, Including 16 Skiagram Plates. Seventh Edition. Cloth. Pp. 951. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Report of the Mortality Records of the Mutual Life Insurance Company of New York. For Fifty-six years, from 1843 to 1898. By Elias J. Marsh and Granville M. White, M.D., Medical Directors. Cloth. Pp. 245. New York: Mutual Life Insurance Co. 1900.

The Mental Affections of Children; Idiocy, Imbecility, and Insanity. By William W. Ireland, M.D., Corresponding Member of the Psychiatric Society of St. Petersburg. Second Edition. Cloth. Pp. 450. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1900.

The Law and its Relations to Physicians. By Arthur N. Taylor, LL.B., of the New York Bar. Cloth. Pp. 534. Price, $2.50. New York: D. Appleton & Co. 1900.

Essentials of Medical and Clinical Chemistry. With Laboratory Exercises. By Samuel E. Woody, A.M., M.D. Fourth Edition, Revised and Enlarged. Illustrated. Cloth. Pp. 243. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Transactions of the Southern Surgical and Gynecological Association. Volume xii. Twelfth Session, Held at New Orleans, La., December 5, 6, and 7, 1899. Cloth. Pp. 394. Published by the Association. 1900.

Transactions of the Kentucky State Medical Society. Forty-fifth Annual Session, Held at Georgetown, May 9, 10, and 11, 1900. Volume viii. Cloth. Pp. 253. Printed for the Society. 1900.

Transactions of the Medical Society of the State of California. Thirtieth Annual Session, San Francisco, April, 1900. Vol. xxx. Cloth. Pp. 619. Published by the Society.

The Microtomist's Vade-mecum. A Handbook of the Methods of Microscopic Anatomy. By Arthur Bolles Lee. Fifth Edition. Cloth. Pp. 532. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Idroterapia. Del Prof. Gaetano Gibelli, Proprietario del gabinetto elettro-termo-baro-idroterapico, Milano, Via Manzoni, 50. Con 30 incisioni. Cloth. Pp. 237. Milano: Ulrico Hoepli. 1900.

PAMPHLETS.

Biennial Report of the Board of Health of the City of New Orleans, 1898-1899. Paper. Pp. 138.

Clinical and Pathologic Observations on some Early Forms of Epithelioma of the Skin. By J. A. Fordyce, M.D., New York. Reprinted from N. Y. Med Jour.

Concomitant Measles, Chicken-pox and Smallpox. A Type of Enteric Fever not Typhoid. By Otto Lerch, A.M., M.D., Ph.D., New Orleans. Reprinted from New Orleans Med. Jour.

Constitution and By-laws of American Therapeutic Society. Paper. Pp. 8.

A Contribution to the Technique of Modern Uranoplasty. Sigmoid Sinus Thrombosis. By James F. McKernon, M.D., New York. Reprints.

Datos Para la Materia Medica Mexicana. Tercera Parte. Paper. Pp. 152. Mexico: Officina Tip. De La Secretaria De Formento. 1900.

Educational and Legislative Control of Tuberculosis By Charles Denison, A.M., M.D., Denver, Colo. Reprinted from The Journal A. M. A.

Fifteenth Annual Report of the Secretary of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania and Minutes of the Board. Presented by the Secretary, Benjamin Lee, M.D., November 23, 1899. Paper. Pp. 141. Wm. Stanley Ray, State Printer of Pa.

The Fracture of the Ribs. By W. A. Kuflewski, M.D., Chicago.

Heredity in Disease. By G. Archdall Reid, M.B., F.R.S., Southsea. Reprinted from the Scottish Medical and Surgical Journal.

Medicine as a Business Proposition. By G. Frank Lydston, M.D., Chicago. Paper. Pp. 32. Price $0.25. Chicago: Riverton Press.

Neurasthenia: Some Points in its Pathology and Treatment. Report of a Case of Tumor of the Cerebellum with Drainage of Fluid Through the Nose. By G. W. McCaskey, A.M., M.D., Fort Wayne, Ind. Reprints.

Ocular Complications of Variola. By Geo. F. Keiper, M.D., Lafayette, Ind. Reprinted from Med. and Surg. Monitor.

Proceedings of the Philadelphia County Medical Society. May. Paper. Pp. 240. Philadelphia. Published by the Society.

Proceedings of the Pathologic Society of Philadelphia. July. Paper. Pp. 240. Philadelphia: Published by the Society.

Pus in the Pelvis. Difficulties Encountered and Surmounted in Operations on the Female Pelvic Organs. By John L. Jelks, M.D., Memphis, Tenn. Reprinted from the Memphis Med. Monthly.

Rampancy, the Fervor of the Forehead A Study of the Anterior Metopic Lobule. By Wallace Wood, M.D. Reprinted from the N. Y. Med. Jour.

Report of the Board of Censors of the Medical Association of the State of Alabama. Submitted to, and Adopted by, the Association, During the Meeting Held in Montgomery, April 17-20, 1900. Paper. Pp. 32. Montgomery, Ala.: Brown Printing Co. 1900.

Board of Health of the State of New Jersey. Circular 100. Transportation of the Dead. Paper. Pp. 23. Trenton, N. J.: John L. Murphy Publishing Co.

A Unique Case of Double Inguinal Hernia. By W. T. Eckley, M.D., and Charles Davidson, M.D. Reprinted from Chicago Clinic.

TRADE PAMPHLETS.

Assimilation of Phosphorus. Clinical Reports on Hypo-Quinidol. Internal Administration of Iodin. By. R. W. Gardner, Pharmaceutical Chemist. New York.

The Wellcome Chemical Research Laboratories. By Burroughs, Wellcome & Co.

Euquinine. Tannalbin. By Merck & Co.

New Patents.

Patents of Aug. 7 to 27, of interest to physicians:

655,540. Vaginal syringe, Anton Arlt, Bad Sommerstein, Germany.

655,190. Suturating instrument, Louis Bramson, Copenhagen, Denmark.

655,601. Hernial truss, Rollo W. Browne, Washington, D. C.

655,206. Truss-pad, Austin J. Davidson, Douglas City, Cal.

655,481. Device for promoting growth of hair, Frederick W. Evans, St. Louis, Mo.

655,485. Water bag, Lorenzo M. Hansen, Moorestown, N. J.

655,490. Muscle kneader, Rudolph Hollem, Sioux City, Iowa.

655,365. Hernial truss, Henry M. Johnson, Minden, Iowa.
655657. Syringe, Frederick J. Laoder, Rochester, N. Y.
655,509. Obstetrical appliance, Haldora Olson, Duluth, Minn.
655,413. Magnetic drinking cup, Herbert A. Parkyn, Chicago.
655,514. Umbilical truss, Howard C. Rash, Salina, Kan.
655,458. Making superphosphates, Heinrich Saxl, San Francisco, Cal.
655,529. Amido-sulfonic acid, Joseph Turner, Huddersfield, Eng.
655,665. Apparatus for heating and sterilizing fluids, Addison G. Waterhouse, and J. S. Forbes, Philadelphia, Pa.
655,317 Electric temperature indicator, Leslie S. Wilder, Springfield, Mass.
33,049 Design, douche pan, Daniel Hogan, New York City.
655,961. Truss, Lorenz A. Deuther, Buffalo, N. Y.
655,782. Soda water dispensing apparatus, Charles F. Kade, Sheboygan, Wis.
655,061. Producing formaldehyde vapors, Jean J. A. Trillat, Paris, France.
655,744. Syringe. Washington S. Valentine, New York City.
656,072. Soda-water apparatus, Joseph O. Wild, Holyoke, Mass.
655,747. Electromedical vacuum apparatus, George W. Winckfield, Alameda, Cal.
656,180. Machine for manufacturing nerve broaches, etc., James H. Downie, Detroit, Mich.
656,182. Sound-collector for the ears, Wm. G. Ehrhardt, New York City.
656,253. Making sodium carbonate crystals, Josef Kunstaer, Obersedlitz, Aussegg, Austria-Hungary.
656,738. Combined hobby-horse and invalid's chair, Alvin J. Branham, Springfield, Mo.
656,992. Disinfectant, James L. Mortimer and J. H. Williams, Liverpool, Eng.
656,657. India-rubber water bag, John Parette, Montreal, Can.
657,003. Glycerinized vaccin lymph, Edward M. Parker, Washington, D. C.
656,862. Corn-shield, Marcus Straussberg, Newark, N. J.
656,914. Vaccin-point carrier, Ralph Walsh, Washington, D. C.
33,126. Design, atomizer casing, Isaac Q. Gurnee, Butler, N. J.
33,125. Design, inhaler, Hiram L. True, McConnellsville, Ohio.

Change of Address.

O. F. Allen, Mt. Vernon, to Mt. Olive, Ill.
M. W. Bland, Galion, to Shelby, Ohio.
A. B. Bonar, 157 W. 47th St., to 146 W. 94th St., New York City.
C. W. Baker, Blanchard, Ohio, to Stanwood, Iowa.
W. H. Boone, 197 Wood St., Chicago, to Chrisman, Ill.
Thos. H. Barlow, Alexandria, Minn., to Rush Medical College, Chicago.
H. Bergstein, Reno, Nev., to Crocker Bldg., San Francisco, Cal.
J. H. Bogle, Collinsville, to Luttrell, Ala.
T. E. Courtright, 186 W. Ninth Ave., to 859 Oak St., Columbus, Ohio.
E. L. Clawson, 18 N. McCamley St., to 232 Van Buren, W., Battle Creek, Mich.
W. C. Cundiff, Huntsville, Tenn., to Somerset, Ky.
A. Crawford, Miles, to Mt. Vernon, Iowa.
W. R. I. Dalton, 101 Convent Ave., New York City, to Delaware Water Gap, Pa.
H. G. Ebert, 412 N. 34th St., Philadelphia, Pa., to University Station, Charlottesville, Va.
Frank LeMoyne Hupp, Hulett's Landing, Lake George, to 318 W. 57th St., New York City.
S. L. Fridus, 661 W. 14th St., to 4834 S. Ashland Ave., Chicago.
W. R. Ford, Ft. Atkinson, Wis., to 6537 Perry Ave., Chicago.
B. R. Gary, 127 28th St., to 128 33rd St., Newport News, Va.
A. Graydon, Bloomsburg, to Homestead, Pa.
G. E. Garwood, Deshler to Leipsic, Ohio.
E. Gleitsman, 710 Fullerton Ave., to 1732 Diversey Boul., Chicago.
P. A. Haley, Paint Creek, to Hinton, W. Va.
F. H. Hacker, 310 Meeting St., to 113 Ashley Ave., Charleston, S. C.
W. H. Hill, Gentryville, Mo., to Peoria, Ill.
C. W. Heath, 16 Astor St., to 404 LaSalle Ave., Chicago.
E. C. Hackett, 121 W. 14th St., Dubuque, Iowa, to 298 Maxwell St., Chicago.
C. E. Ide, Newport, N. H., to 192 E. Superior St., Chicago.
S. H. Kempner, Milford, Conn., to 168 W. 130th St., New York City.
George M. Lucas, Malta, to 265 Milwaukee St., Elgin, Ill.
W. C. Leary, Fitten Bldg., to Austell Bldg., Atlanta, Ga.
A. O. Loe, Crookston, Minn., to York Bldg., Seattle, Wash.
H. G. Mertins, Ashland, to Washburn, Wis
W. W. Miller, 84 Worcester St., Boston, Mass., to 52 E. Range St., University of Virginia, Charlottesville, Va.
L. F. Michael, Dulce, N. M., to Ponca City, O. T.
H. C. Miller, Gibbs Blk., Findlay, Ohio, to Cambria, Mich.
John L. Morse, 317 Marlborough St., to 70 Bay State Road, Boston, Mass.
Geo. W. May, Haverhill to Cascade, Iowa.
W. O. Nisbet, Waxhaw, to Charlotte, N. C.
L. J. Perkins, Pendleton Ore., to 2909 University Ave., Des Moines, Iowa.
F. Purdue, Alto Pass, to Lyndon, Ill.
M. Ravn, Scandinavia, to Merrill, Wis.
J. B. Sweeney, Manistique, Mich., to Green Bay, Wis.
J. Sjoquist, Chicago, to Holdrege, Neb.
F. D. Stricker, 337 E. Congress St., to 616 Elmwood Ave., Detroit, Mich.
M. Scanlan, Lost Nation, to DeWitt, Iowa.
E. R. Scholten, 4603 State St., to 4412 Wabash Ave., Chicago.
W. A. Starner, 169 Ponce de Leon Ave., to 24 Kelly St., Atlanta, Ga.
C. A. Smith, 1003 Spruce St., Philadelphia, Pa., to English-American Bldg., Atlanta, Ga.
T. E. Taylor, Steele Blk., to Denison Blk., Denver, Col.
R. H. Wright, Petersburg, Va., to Haskins Hospital, Wheeling, W. Va.
J. W. Worrell, Brownsville, to 128 S. Negley Ave., Pittsburg, Pa.
C. E. Wehrle, 1006 Washington St., to 2109 Robinwood Ave., Toledo, Ohio.
G. H. Willis, 6917 Eggleston Ave., Chicago, to Galien, Mich.
F. J. Will, Eagle Grove, to Equitable Bldg., Des Moines, Iowa.
W. B. Wells, Milton, Wis., to 108 Honore St., Chicago.
C. E. Weber, 5554 Ellis Ave., to 4304 Grand Boul., Chicago.
W. H. Walker, Utica, Neb., to 750 Harrison St., Chicago.
J. G. Wilkins, Fitten Bldg., to Groat Bldg., Atlanta, Ga.
J. E. Wheat, Los Angeles, to Fernando, Cal.
W. N. Wade, Lompoc, to 1516 Castillo St., Santa Barbara, Cal.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 22 to 28, 1900, inclusive:

James K. Ashburn, acting asst.-surgeon, from Batavia, Ohio, to San Francisco, Cal., to accompany troops to the Philippines.

Louis Brechemin, major and surgeon, U. S. Army, sick leave extended.

Joseph J. Curry, acting asst.-surgeon, leave of absence granted on account of sickness.

Calvin DeWitt, lieutenant-colonel, deputy surgeon-general, on expiry of present leave to report at St. Paul, Minn., for duty as chief surgeon, department of Dakota, to relieve Colonel Joseph P. Wright, assistant surgeon-general, U. S. Army.

P. C. Field, acting asst.-surgeon, leave of absence extended.

Aubrey F. Higgins, acting asst.-surgeon, former orders revoked; he will proceed to Philadelphia, Pa., for annulment of contract.

David J. Johnson, acting asst.-surgeon, former orders amended to read from Plattsburg Barracks to Fort Ontario, N. Y.

William L. Little, acting asst.-surgeon, from Fort Clark to San Antonio, Tex., for duty with troops of the 25th Infantry under orders for the Philippines.

Robert J. Marsh, acting asst.-surgeon, from the department of Alaska to Portland, Ore., for annulment of contract.

William O. Owen, major and surgeon, U. S. Army, to represent the medical department of the army at the meeting of the American Health Association at Indianapolis, Ind., October 1 to 5, 1900.

Benjamin F. Pope, lieutenant-colonel, deputy surgeon-general, U. S. Army, from temporary duty at the Presidio of San Francisco, Cal., to permanent station at that post.

William E. Purviance, captain and asst.-surgeon, U. S. Army, from Fort Egbert, Alaska, to duty in the Department of California.

Charles Richard, major and surgeon, U. S. Army to represent the medical department of the army at the meeting of the American Public Health Association at Indianapolis, Ind., October 1 to 5, 1900.

William E. Richards, lieutenant and asst.-surgeon U. S. Army; previous orders amended to read from Fort Ontario to Plattsburg Barracks, N. Y.

Charles F. Sanborn, acting asst.-surgeon, previous orders directing him to proceed to San Francisco, Cal., to accompany troops on foreign service revoked.

Herbert F. Saunders, acting asst.-surgeon, from Greenville, Ala., to San Francisco, Cal., to accompany troops going on foreign service.

Herman J. Schlageter, acting asst.-surgeon, from the Department of Alaska to Vancouver Barracks, Wash., for temporary duty.

Howard W. Seager, acting asst.-surgeon, from Des Moines, Iowa, to San Francisco, Cal., to accompany troops going on foreign service.

Henry A. Shaw, captain and asst.-surgeon, U. S. Army, former orders amended so as to direct him to report at San Francisco, Cal., for transportation to Manila, for duty in the Division of the Philippines.

William D. Shelby, acting asst.-surgeon, on expiry of present leave to proceed from Fort Thomas, Ky., to San Francisco, Cal., for duty with troops going on foreign service.

Alva D. Williams, acting asst.-surgeon, from Jacksonville, Fla., to San Juan, Porto Rico, for duty in that Department.

William B. Winn, major and surgeon, U. S. Vols., former orders amended so as to direct him to report at SanFrancisco, Cal., for transportation to Manila for assignment to the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Sept. 1, 1900:

Medical Inspector P. M. Rixey, commissioned medical inspector from Aug. 24, 1900.

Surgeon G. T. Smith, commissioned surgeon from Aug. 24, 1900.

P. A. Surgeon A. M. D. McCormick, detached from the *Chicago* and ordered to the *Montgomery*.

Asst.-Surgeon J. R. Whiting, detached from the *Montgomery* and ordered to the *Chicago*.

P. A. Surgeon M. R. Pigott, ordered to the Naval Academy immediately.

Asst.-Surgeon C. A. Crawford, detached from the *Chesapeake* and ordered to the *Eagle*.

P. A. Surgeon L. W. Spratling, detached from the naval hospital, Yokohama, Japan, upon reporting of relief, and ordered to report to the commander-in-chief of the Asiatic Station for such duty as may be assigned.

Asst.-Surgeon F. L. Benton, detached from the naval hospital, Cavite, P. I., and ordered to the naval hospital, Yokohama, Japan, for duty.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Aug. 30, 1900:

Surgeon P. M. Carrington, granted leave of absence for one month from Sept. 4.

Surgeon L. L. Williams, to assume charge of Purveying Depot for two days.

Surgeon G. T. Vaughan, granted leave of absence for fifteen days from Sept. 1.

P. Asst.-Surgeon W. G. Stimpson, granted leave of absence for fifteen days from Aug. 28.

P. Asst.-Surgeon J. M. Eager, granted leave of absence for four months from Nov. 30—permission to go beyond sea.

P. Asst.-Surgeon A. R. Thomas, to proceed to Glasgow, Scotland, for temporary duty.

Asst.-Surgeon G. M. Corput, granted leave of absence for seven days.

Asst.-Surgeon F. J. Thornbury, granted three days' extension of leave of absence.

Acting Asst.-Surgeon J. P. C. Foster, granted leave of absence for sixteen days from Aug. 28.

Acting Asst.-Surgeon J. W. Stevenson, granted leave of absence for twenty-one days from Sept. 3.

Hospital Steward, George A. Morris, to proceed to New York (Stapleton), and report to medical officer for duty and assignment to quarters.

APPOINTMENT.

Mark H. Watters, of Vermont, appointed junior hospital steward.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended Aug. 31, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, from beginning of outbreak to Aug. 23, 23 cases.

Colorado: Denver, Aug. 11-15, 3 cases; Garfield county, Aug. 4, 1 case; Las Animaa County, Aug. 7, 1 case.

Louisiana: New Orleans, Aug. 18-25, 9 cases, 2 deaths.

New York: New York, Aug. 18-25, 1 death.

Ohio: Cleveland, Aug. 18-25, 4 cases; Dayton, Aug. 18-25, 1 case; Portsmouth, Aug. 18-25, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, July 28-Aug. 1, 8 cases.

Belgium: Antwerp, July 28-Aug. 4, 2 cases.

Egypt: Cairo, July 22-29, 1 case.

England: London, Aug. 4-11, 5 cases.

France: Lyons, July 28-Aug. 4, 2 deaths.

Germany: Berlin, Aug. 10, 3 cases.

Gibraltar: Aug. 5-12, 2 cases.

India: Bombay, July 24-31, 2 cases.

Russia: Moscow, July 28-Aug. 4, 2 cases, 2 deaths; Odessa, July 28-Aug. 11, 108 cases, 29 deaths; Warsaw, July 28-Aug. 4, 7 deaths.

YELLOW FEVER.

Colombia: Barranquilla, Aug. 5-12, 1 death; Panama, Aug. 13-20, 4 cases.

Costa Rica: Port Limon, Aug. 22, 1 case on S. S. *Cunard*, from Colon.

Cuba: Havana, Aug. 4-11, 18 deaths; Matanzas, Aug. 26, 1 case.

France: Havre, Aug. 11, 1 case on S. S. *Caravallas*, from Lorenzo Marques, via Senegal; Aug. 13, several cases on S. S. *Santa Fe* from Lorenzo Marques, via Senegal.

Mexico: Merida, July 3, 7 cases, 4 deaths; Tampico, Aug. 16, 1 death.

CHOLERA.

India: Bombay, July 22-31, 379 deaths; Madras, July 21-27, 5 deaths.

PLAGUE.

Australia: Sydney, to July 28, 302 cases, 102 deaths.

India: Bombay, July 24-31, 45 deaths.

Scotland: Aug. 31, 11 cases.

Turkey: Smyrna, from outbreak to Aug. 6, 22 cases, 11 deaths.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the
American Medical Association

VOL. XXXV CHICAGO, ILLINOIS, SEPTEMBER 22, 1900. No. 12

Address.

SPECIALISM IN MEDICINE.*

FREDERICK C. SHATTUCK, M.D.
Jackson Professor of Clinical Medicine, Harvard University, etc.
BOSTON.

When, under the influence of faulty metabolism or other cause, pessimism gets the better of us, we sometimes quote with approval the remark of Solomon the Wise, that there is nothing new under the sun, without reflecting that Solomon himself was probably not feeling his best at the moment. Something in his internal or large domestic economy had gone wrong, I suspect. Possibly he had to write an address! However, this may be, let us suppose him suddenly brought for a visit to one of our large cities. He would certainly find that advance in knowledge has brought about great change in our relation to things, be the things themselves never so ancient or immutable. Solomon was at the *fin* of his *siècle*, but the old sun looks down on a different world at the *fin* of this *siècle*. He could not fail to be impressed by the subdivision of labor of the present day in every branch of industry. Were the great king to be seized with sudden abdominal pain he would surely have the benefit of a surgical and a medical opinion. Another doctor would make a blood count, another a urinary examination, another, perhaps, would examine his vomitus or stools; another, use the X-ray. If his abdomen were opened the pathologist would report on cultures from the cavity, or on the structure and nature of any suspicious tissue. It would, in a word, be demonstrated to him that specialization has taken place in the science and art of medicine, as in other sciences and arts. And Specialism in Medicine is the theme which I have selected for brief and, I fear, inadequate consideration during the time your president has done me the great honor of delivering you into my hands.

A line of cleavage appeared first perhaps between medicine and surgery; and it is curious to note that nowhere has the line, at least in name, in the past been so closely drawn as in England, where more minute specialization has met with considerable opposition. Toward this result the anomalous fact that the degree of Doctor of Medicine has in England been only a University title, must, it seems to me, have contributed. Practically everywhere else in the civilized world the practitioner is a Doctor of Medicine. Although we have a fair working knowledge of the distinction between medicine and surgery, I, at least, find myself unable to frame a satisfactory definition of the distinction. Some thirty years ago, during my medical studies, I had the pleasure of meeting the late Mr. Holden, then of Bartholomew's Hospital, and was asked by him whether I meant to be a physician or a surgeon. On my reply that I looked forward to being a physician, he remarked, "Don't you do it; the surgeon can do all the physician can, and more too." When I repeated this remark to dear old Sir Henry, then Doctor, Acland, he dryly remarked that he should be very grateful to Mr. Holden if he would come and teach him how to do some of his work. Much more recently I have heard of a very distinguished London surgeon defining a surgical case as one which paid him two guineas. Anesthesia greatly enlarged the bounds of surgery, and yet twenty-five years ago there was not a pure surgeon in America. The surgeon did as much general practice as he could get, including midwifery. Surgical cleanliness has worked a great change in this respect, and the end is not yet in sight. We see men to-day, even in relatively small communities, confining themselves strictly to surgery. Without much exaggeration one can say that it is as hard to-day to live on medicine alone as it was twenty-five years ago to live on surgery alone. "Belly-ache" is now a surgical disease. I know of a child with pneumonic pain referred to the right iliac region being operated upon for appendicitis. A few years ago a woman was sent into the surgical wards of the Massachusetts General Hospital for operation, perhaps for extrauterine pregnancy. The surgeon, who had had a large general experience, noticed wrist-drop and a blue line on the gums, and transferred her without operation to my wards. So safe now-a-days is the use of the knife under proper precautions that there is temptation to use it for purely diagnostic purposes. Just when to yield to and when to resist this temptation requires good judgment and general knowledge. The heart is practically the only viscus which remains the exclusive province of the physician. That organ is more tolerant of insult than has been supposed, and who shall dare to say that, impossible as it seems now to us, a contracted mitral valve can not be slit without causing death? The real line between medicine and surgery is one thing; the practical line is another. The last quarter century has seen them approximate notably, but they will not coincide until knowledge is perfect. The establishment of a German journal devoted to the borderlands of medicine and surgery is interesting.

Obstetrics, again, early became a specialty; though in rather a different way. For parturition is a physiologic process, and in many countries a large proportion of births are now under the sole charge of midwives. In this country the general practitioner has clung to his obstetrics as a necessity for family practice, oftentimes bewailing his hard fate and interrupted nights, meanwhile. Of late years we see in the larger centers a tendency of obstetrics, at least among the rich, to go into the hands of a few men, who, on the completion of the puerperium, withdraw, the family physician resuming his place. This is a practice which, for obvious reasons, can obtain only in large communities. With entire appropriateness we see these obstetricians also busied in diseases peculiar to women, many of which are the outgrowth of one or more previous pregnancies.

---

* The Address in Medicine, delivered before the Canadian Medical Association, Ottawa, Ont., September 13.

Gynecology is of almost unique interest from the point of view of Specialism in Medicine, and a medical Gibbon could write an interesting book on its Rise and Fall. Not many years ago it was, I am tempted to say, the most in evidence of any specialty into which enterprising young men were ambitious of crowding themselves before the ink on their diplomas was scarce dry. The mills of the gods grind no less fine than they did, but, I think that they grind quicker in these electric days. Pure gynecology to-day scarcely exists. Many deviations from the normal in the female pelvis give rise to no symptoms until the general health begins to fail, from one cause or another. Such cases belong to and are best treated, ordinarily, by the wise general practitioner. If I read the signs of the times aright, what may be called pelvic tinkering, which has been so much practiced in the last decades, is suffering from a rapid decline. What is really necessary can safely and best be left in the hands of the obstetrician alone or aided by the general physician; and major gynecology, the great bulk of which involves laparotomy, seems to be going where it belongs—into the hands of the general surgeon. It may all have been a necessary sequence in the evolution of knowledge, or I may be ignorant or prejudiced, but I can not look at the groping course of gynecology as a triumph of human intelligence.

How many women have been unnecessarily deprived of necessary sexual organs; how many have had their attention fixed on these organs, which in the male nature has left in evidence, but in the female has modestly hidden away, affording, like all hidden or veiled things, wide play to an awakened imagination!

On the eve of reading this I see the following words just from the pen of Prof. Howard Kelly, of the Johns Hopkins, certainly a competent witness: ". . . the general adoption of the principles of asepsis leaves the barrier between general surgery and gynecology a purely artificial one, and one which must inevitably, sooner or later, be broken down. My advice, therefore, to all gynecologists is to study general surgery and become general surgeons first."[1]

Surgery and obstetrics seem likely always to hold their places as great divisions of medicine as a whole. Let me now turn to the subdivisions of medicine, as contrasted with surgery and obstetrics, and try to consider specialization in connection with its etiology. The first place among the causes for the increase in specialism doubtless belongs to increase in knowledge. A half century ago James Jackson, than whom my native city has produced no wiser physician, said that there was more actually known in medicine than the mind of any one man could grasp. If this was true fifty years ago, how much more true is it of the present day. The field is so large that no one man can possibly oversee and bring it to full productiveness. Each crop needs a separate head of the first class. But here, perhaps, as well as elsewhere, I may state that I trust nothing I say can be construed into any slight on the general practitioner, especially on the men who in small communities are liable to be called upon to deal with any emergency of any kind pertaining to medicine in its broadest sense.

All honor to those to whom honor is due. Those of us who dwell in large cities and have the advantage of the presence of experts in every line at instant call are, I believe, keenly alive to the danger of one-sided development to which we are exposed, and to the lack of self-reliance and resource following from this, when we get off our narrower or wider beaten track. I simply mean that the highest excellence, knowledge and skill in all branches of medicine are simply impossible of attainment by any one man—a proposition which must command universal assent.

The specialty of neurology seems to me a case in point. Great advances have been made in our knowledge of the anatomy and physiology of the nervous system in recent years, though there is still enough which is obscure. Neurology deals with a system rather than with an organ; has length and breadth, touches medicine at very many points, and thus involves less risk of narrowness of view to its devotees than do some specialties. A general practitioner once shrewdly remarked to me, "It takes a mighty big man to be a specialist." The neurologist must also have large knowledge of the diagnostic and therapeutic uses of electricity.

Diseases of the skin, with its appendages, accessible as they are directly to sight and touch, form one of the earliest of modern specialties. As coming under external pathology they were formerly considered rather the province of the surgeon than of the physician. The dermatologists have simply justified their existence, and have profited to the full by the impetus which bacteriology has given to all branches of medicine.

It is only in centers of population that the specialist can get a support. In the increase of these centers lies the second factor in the etiology of specialism. Not only are cities growing in numbers and size, but the means of rapid and ready travel are so multiplying that the hope of relief from mere inconveniences, perhaps, makes people everywhere intolerant of ills which, in earlier times, they resigned themselves to bear as best they could. I have often thought what a wonderful field London offers for the development of the highest and best specialism. Quite apart from her five million inhabitants, she is within relatively short reach of any part of the United Kingdom. Besides this, people bring back from the English colonies scattered over the world many kinds of strange ailments and all manner of climatic results. There one may lay his foundation broad and deep, can keep in touch with the larger aspects of medicine, and can be gradually converted into a specialist, even of an organ, if he wish. His consulting-room is a filter for thirty odd millions of people. He can legitimately be forced into a specialty—quite a different thing from forcing himself into one. Other things being equal, the larger and wider his general experience has been, the better specialist and the bigger man will he be.

A third factor in the increase of specialism grows out of our first. Inventive talent is leading more and more to the possibility of direct examination of organs and cavities which were formerly closed to our eyes and touch. The proper use of many of these aids requires a long apprenticeship. The limits of physiologic variation must be learned, and delicacy and skill must be acquired in the use of instruments more potent for harm than good in untrained hands. Manual dexterity, impossible to some, and attainable by any only with practice, is added to general knowledge and good judgment. Ophthalmology, demanding also a wide knowledge of optics, affords a good illustration. The otologist should know much of acoustics. The nose and throat are so intimately connected with the ear, and form the starting-point of so many ear diseases, that it seems to me they should all be included in one specialty rather than in two, as is generally the case at present. The addition of the larynx would seem to unduly enlarge the field.

---

[1] Philadelphia Medical Journal, Sept. 1, 1900, p. 391.

I can not see that there is now, at any rate, enough special knowledge and technical skill involved in the diagnosis and treatment of digestive disorders to warrant their separation into a true specialty. Yet a National Association of Gastro-Enterologists has, I believe, been formed in the United States. Time is inexorable and will settle the real status of the matter, so I will refrain from prophecy, bearing in mind the adage, "Don't never prophesy unless you know."

So much training is required to attain the best results with the X-rays that their use seems likely to fall largely into the hands of specialists, particularly where neither bones nor foreign bodies are in question. Y and Z rays may also be discovered, and broaden the specialty.

The three factors in the multiplication of specialties already mentioned—increase of knowledge, aggregation of population with rapid and frequent means of transit, and the invention of instruments requiring delicacy of use—may be regarded as inherent.

Besides these there are another three which I should class rather as accidental. A man may, first, have a special aptitude or taste, leading him to limit his work. This may be dangerous to indulge, or, at least, to indulge too early. The director of a modern gymnasium searches out the weak points in a would-be athlete, and, by attention to them, encourages symmetrical development. Next is a desire on the part of some to escape the hurly-burly of general practice, its irregular hours, and what they deem its slavery. This desire may be based on delicate health or indolence. The latter is no more likely to render good service to the community in a specialty than in general work. Thirdly, the hope of greater emolument with less toil may be added. People will pay larger fees for what they consider special knowledge, and the number of persons who can afford indulgences of all kinds is large and rapidly increasing. The ophthalmologist gets more for removing a speck of dust from the eye than does the general practitioner.

Specialism divides up the organs and systems of the body, separates the sexes in a measure, and still insatiate, steps in between children and parents. Shall we see parents and grandparents similarly set apart? Why not a chair in medical schools for the diseases of old age, as well as for the diseases of children? It is a conservative statement that the pathology of old age is at least as peculiar as is that of childhood. Infant-feeding alone affords scant material for a specialty, particularly if the profession as a whole would insist more on the use of nature's provision for young mammals, apparently sufficient for all of this class, save man. The number of women who can nurse their children is much larger than is that of those who do.

There are no instruments of precision or diagnostic procedures used in the diseases of children which are not in common use in adults—at least as far as I know. Of course, pathology is modified by age; but the differences seem to me minor. It is pleasanter to float on a flood than to struggle against an ebb tide. This may partly account for the apparent lack of enthusiasm for association exclusively with the diseases of the aged.

All the specialties which have been thus far mentioned are followed by men coming into continual contact with sick people, by men in active practice, so-called. The day is passing in America, and has indeed passed in the larger centers, when teachers of anatomy, physiology, and pathology can also be practitioners of medicine. These fundamental branches have become specialties, as far as teaching and research go, and an increase in the number of their followers can confidently be expected. Bacteriology is, in a broad sense, merely a department of biology. But the methods of study involved in the minute size and other attributes of the forms of life with which bacteriology deals, and the vast amount we have still to learn with regard to these organisms, affords full occupation for a large band of special workers.

Biologic chemistry, again, promises a large and productive field for a considerable number of special workers. Hygiene and experimental pharmacology also should be mentioned. The lines of cleavage between these more purely scientific specialties, just as between the practical specialties, are apparent rather than real—a matter of convenience rather than principle. Increase of knowledge will bring rearrangement of some of these specialties at the same time that it may tend to increase their number.

We practitioners can not be too grateful to the men who are willing to eat the bread of carefulness and devote their energies to the study and teaching of principles. We deal mainly with individual cases of disease. We try to cure or palliate the manifestations of disease in single cases as they come to us. Their aim is to make it possible, through determination of the causes of disease, to, in the first place, prevent them, and, in the second place, enable us to treat the disease itself when it does arise, rather than merely to treat the patient, as we still so often have to do.

Malaria and syphilis stand practically alone as diseases for which specifics have been stumbled on in the course of ages. Our recent gain in knowledge as to the causation and mode of transmission of malaria has not, as yet at least, added materially to our control of its symptoms or origin. And we are still in dense ignorance as to the real cause of syphilis. But within a few years myxedema, diphtheria, and I think it is safe to add hydrophobia, have been added to the list of diseases which we treat directly, and we seem to be on the eve of important further additions to this list.

Formerly shrewdness, "horse sense," and knowledge of human nature were more important elements in successful practice than even medical knowledge. Hence our ignorance has compelled us to treat the patient rather than the disease. And herein lies a great strength of quackery. Suggestion may be a more potent therapeutic agent in the hands of an unscrupulous and positive man, ignorant though he be, than in the hands of a highly-trained and conscientious man, handicapped often by a painful realization of his ignorance. Just in proportion to the advance in exact knowledge are the main props of quackery weakened. It is to special workers in special fields that we must look for this advance.

One is half tempted sometimes to think that the medicine of the future will be robbed of a charm which inheres in it to-day—the charm, namely, which belongs to the element of uncertainty, and the stimulation which this should bring to thought. The impulse is strong to cut the Gordian knot of abdominal diagnosis, as has been already mentioned. Fine methods of research will gradually substitute certainty for uncertainty. But diagnosis is not likely ever to become a mere penny-in-the-slot affair, and the management of the patient—the art of medicine—will ever play an important, though more and more subordinate rôle, in the drama of medicine and human suffering.

Specialization is evident in hospital as well as in private practice. The ideal hospital is a place where the poor can have the benefit of the highest skill and attainment in every branch of medicine—a beneficent trust in which specialists are associated and harmoniously work together. It must also be a center of medical teaching and research, opportunities for which constitute the return from the inmates for the benefits received. It seems to me a question how far it is wise to encourage the establishment of special hospitals devoted exclusively to this or that age, sex, or class of disease. The isolation of the staff of a special hospital has its manifest disadvantages. The creation and support of the more minute special departments in a general hospital dependent for its maintenance on the public spirit of private persons has its patent practical inconveniences and difficulties. The general hospital must follow, not lead, in specialization, and can not afford the luxury of "fads" unless it is far richer than are the general hospitals of which I have knowledge. Although hospitals are not business enterprises, one of their sinews is money, another, the devotion and capacity of the medical staff. The same administration can, given the funds, run a general hospital formed of a congeries of special departments as well as, and at less cost than, separate administrations can run a number of special hospitals.

It is all very well to say, "Take no thought for the morrow": if our predecessors had acted literally on this precept we should be in a bad way. Progress will march and evolution go on in spite of us, doubtless. But we can have some influence over the rapidity of evolution, and it is our business to do what we can to foster right and to discourage wrong tendencies. One fact stands out clearly—that specialism in medicine has come to stay. Its advantages infinitely outweigh its disadvantages, and we have faith that all things work for good in the long run.

We study the past, and speculate as to the future. We all sometimes feel as did the late Dr. Hagen, the great entomologist—"I should like to be my own great-grandson." We can not greatly influence the amount of pity which our great-grandsons may feel for our attainment, but we can force their respect for our honest and unremitting effort.

Original Articles.

TRAUMA AS A CAUSE OF NERVOUS DISEASES.*

CHARLES W. BURR, M.D.
NEUROLOGIST TO THE PHILADELPHIA HOSPITAL.
PHILADELPHIA.

The subject assigned to me is so large that it is imposible to give it exhaustive study in the time at our disposal. I shall speak briefly about a number of different affections, shall quote no authorities, and shall try to confine myself to matters which will lend interest to the discussion. I shall speak solely of the causative influence of trauma and of the various ways in which it acts, and shall say little or nothing concerning symptomatology. Finally, I shall omit all consideration of the diseases which result from manifest physical injury to the bony coverings of the brain and cord, such as fractures and dislocations, and shall say nothing of such well-known conditions as cerebral concussion, meningeal hemorrhage and traumatic epilepsy, and shall consider only the organic and functional diseases unaccompanied by serious external injury.

To prove the traumatic origin of a disease may be easy or difficult. It is not safe to say always that because a disease follows a trauma, therefore it is the result even though the association of the two be very frequent. It must be shown that in the nature of things the trauma is competent to produce the disease; it must be shown how it acts—by what mechanism—and, best proof of all, there must, in organic diseases, be the post-mortem evidence of an injury having been sustained. Popularly many of the acute and almost all of the chronic diseases of the spinal cord and brain are supposed to be caused by injury. Almost every patient refers his illness to some accident which occurred in the more or less remote past. It is an easy explanation and is sometimes accepted without much thought or investigation. In the text-books trauma is put down along with exposure and cold, as one of the subsidiary causes of many things. In recent years, however, the entire question has been carefully and systematically studied and though much remains in dispute some progress has been made and a few problems definitely settled. That trauma may without injury to the skull or spine produce organic disease referable to the brain or cord is now accepted by everyone competent to have an opinion. Further, certain functional nervous diseases may result from accident, and indeed from shock or fright alone without any physical injury. Finally, organic and functional symptoms are frequently associated. Whether any of the system diseases of the spinal cord are ever caused by accident alone is still in dispute. It has been frequently alleged, for example, that locomotor ataxia may result from injury. The only evidence on which this opinion is based is the more or less complete proof of the absence of syphilis and the history of an injury to the back at the time when the patient thought himself to be in good health. In truth, the determination of the causation is difficult. Syphilis precedes it more frequently than any other disease, being present in at least 80 per cent. of all cases. On the other hand, the morbid anatomy of locomotor ataxia bears no resemblance to that of spinal syphilis, and mercury and iodid of potash are of no worth in its treatment. We are forced, then, if we accept syphilis as the one great primary cause—as indeed we must—to regard it either as an indirect cause simply, as a poison which so acts on the peripheral sensory neurons as to make them more sensitive to the influence of some other direct cause, or else to assume that syphilis generates some secondary poison which in turn causes the lesions. To explain the 20 per cent. of cases in which syphilis can be excluded is difficult. To prove that trauma is a cause is not easy. Locomotor ataxia is a disease of indeterminate onset and insidious course. You can not say of any case, on such a day this man was well, on the next day ill. The patient's statement as to the time of onset is valueless, for the disease may exist for some time without causing any symptoms recognizable as such by him. It is, therefore, frequently impossible to know if, at the time of the injury, the patient was free from disease. I do not know of any case in which it has been proved by medical examination a short time before the accident that the patient was normal in all regards.

Again, what time-limits are we to set upon the active influence of a trauma? How soon or how late may symptoms caused by it first appear? May there be a quiescent interval of months or years, or must there be a continuous sequence of symptoms from the time of receiving the injury in order for it to be regarded properly as their cause? The answers will depend largely upon the personal equation of the observer and his mental bias. If in one case soon or immediately after an injury happening to a man in known good health there should develop the classical symptoms of locomotor ataxia, it would be proper to carefully consider whether the injury might not have been the cause. If such cases were frequent and if it were proved that injury could produce such widespread lesions as are present in this disease, then it might be accepted as a cause. But locomotor ataxia is very common, and cases with a clear history of trauma are very rare. I am compelled to believe that the causative influence of trauma is as yet unproved and must agree with Dr. Morton Prince in saying, "when a sclerosis of the posterior columns develops after a traumatism, the subject was already doomed to this condition, the process having already begun, and that the traumatism at most only accelerated the development of the symptoms and possibly of the anatomical process." The symptom ataxia may, of course, occur in many affections of the spinal cord, resulting from trauma. The arguments used concerning locomotor ataxia apply with equal force to general paralysis of the insane, except that a history of traumatism, especially to the head, is much more frequent in the latter disease. But granting this, it has not been proved that traumatism alone, acting on a man in good health, who has not had syphilis, who is not an alcoholic, whose heredity is good, and who has not been subjected to severe mental or emotional stress, can cause general paralysis. That it may be a minor causative factor, as it were the match to the powder, is surely true. Other types of mental disease, other forms of organic dementia, not infrequently result from more or less serious injury to the head, and certain insanities may occur without any external hurt at all.

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The influence of trauma in causing tumors of the nervous system is only a part of the larger question in pathology, namely, the relation of trauma to new growths in general. Injury may, under certain circumstances and as concerns certain tumors, determine the seat of appearance. Injury to the head, with or without fracture, may be the direct and positive cause of a fibroma and the exciting cause of other tumors. Beyond this, for our purpose, the question is of little practical importance, for no one would base the diagnosis of tumor on the mere fact of a previous injury. Given a case of brain tumor without focal symptoms, evidence of an injury, no matter of how long standing, would be of some localizing value, but would throw no light on the nature of the growth.

The question attracting most attention to-day is how far and in what manner accidents cause certain groups of spinal and cerebral symptoms when there has been no gross visible or palpable injury to the skull or spine, or indeed no physical injury, but only fright. Erichsen was the first to study this question. He found that after accidents, especially those in which there was a large element of the horrible, there occurred in the patients groups of symptoms of certain types. Though he recognized the hysteric nature of some of them, he gathered the larger number into one class and believed them to be caused by spinal concussion. His book received considerable adverse criticism. The genuineness of the symptoms was denied and occasionally his own integrity was impeached. But time passed and it was proved that his histories were true; that such symptoms as he described do occur and are not necessarily fraudulent; that they are not the invention of evil-minded neurologists; that to carefully examine a patient, even going so far as to test his knee-jerks, will not necessarily scare him into a serious fit of illness; that the bulldozing method of treating hysteria fails, and that because a man gets well after a financial settlement does not prove he was never ill. It has also been proved that some of the symptoms which he explained by spinal concussion are produced in other ways. Recently, there has been a tendency to deny the possibility of spinal concussion on the ground that the cord is so well protected by its bony, ligamentous, and muscular coverings, so well supported by its nerves, and so surrounded by the spinal fluid that for mechanical reasons concussion can not occur. This is probably a little too radical. The evidence in favor of concussion from experimentation on lower animals is not of great value, for the results of different observers do not agree, and the anatomical or rather the mechanical differences between man and the smaller animals are so great that its existence in the latter would not prove its occurrence in the former.

On the other hand, to claim that all symptoms may be explained by gross lesions, hysteria or neurasthenia, begs the question. The matter has been somewhat clouded by a lack of exactness in defining spinal concussion. It probably would be best to define it as that condition in which after physical force has acted on the back itself, or on some part of the body which can transmit the force to the spine, there occurs a series of symptoms referable to the cord and produced without any visible injury to it, or to its membranes, or to the vertebræ, though later there may appear lesions of the cord not caused by hemorrhages, however small, but by a degeneration of the nervous elements themselves and beginning in them. There are both clinical and pathologic reasons for the belief in the existence of such an affection. Cases occur in which recovery is so rapid, the symptoms are so transient, that organic disease can not have been present. Acute cases showing exclusively spinal-cord symptoms, have been examined post-mortem with entirely negative results. In other cases, lesions have been found which have been believed by competent observers to have primarily affected the nervous elements themselves, and not to have been secondary to muscular or other gross injury.

There is no sharp line dividing spinal concussion, as here defined, from myelitis caused by multiple hemorrhages. The symptoms of the two conditions merge. At one end of the series we find a group of transitory symptoms surely caused by disturbance of the functions of the cord without organic lesion discoverable by any means at our command, at the other the complete picture of serious organic disease.

One of the most interesting and, recently, most studied traumatic affections of the spinal cord, is fairly massive hemorrhage followed often by the formation of cavities. It is most frequent in cases of fracture and dislocation, but may occur without external injury. It seems to be usually located in the cervical region, probably because of the great mobility of the neck and the poor protection of the cord in that region. The gray matter is its favorite seat, but it sometimes occurs in the white matter, and occasionally extends into a dilated central canal. The symptoms depend, of course, on the seat and extent of the hemorrhage, the character of the cavity, and the amount of myelitis, but as a rule they are characteristic. Focal spinal-cord symptoms, sudden in onset, mean hemorrhage. Symptoms of a sudden total transverse lesion, which rapidly recede and leave only those pointing toward destruction of a small area, also mean hemorrhage. Hemorrhage often causes a Brown-Séquard palsy, sometimes simulates syringomyelia, but does not apparently ever give the complete symptomatology of that disease.

Traumatic lumbago is always placed among the nervous diseases, though in a strictly scientific classification it should be put among the diseases of muscles. It is caused always by direct injury—a blow on the back, sudden forcible bending, or a crush. Since it practically never ends in death, our knowledge of its morbid anatomy is scant. The best explanation of it is a tearing of some of the bundles of muscle-fibers, with extravasation of blood, and strain of the muscular and spinal ligaments. Sometimes there is also a real traumatic neuritis.

In recent years much attention has been given to the functional diseases resulting from trauma. The first question in my case, assuming the illness to be genuine, is whether the symptoms are caused by organic disease, or are what we must still call functional, or a combination of the two. Sometimes the answer is plain, sometimes the most skilful observer will hesitate to give a positive opinion. The grounds on which the diagnosis of functional or organic disease is based have shifted greatly. For a time, single symptoms were depended upon, and not many years ago, some surgeons claimed that the absence of muscular wasting excluded organic disease. No one makes this claim to-day, but others as groundless are sometimes heard. All the symptoms must be considered in forming an opinion.

The two great functional nervous diseases, that is, the two great diseases of unknown morbid anatomy, are hysteria and neurasthenia. Both frequently follow an accident, are much more frequent in adults than in children, and are sometimes quickly recovered from after a legal settlement is made. Both are sometimes pretended fraudulently to exist. That they may be caused by trauma is admitted by all competent to have an opinion. Concerning the manner of causation we have much to learn. It is certain that there is no lesion in hysteria discoverable by our present means. It occurs practically only after accident in which there is an element of fright, and sometimes, indeed not infrequently, there is no physical injury at all. It is curious that serious physical injury is rarely followed by hysteria, and it occurs very rarely after grave surgical operations. This is not explained by saying that severe injury insures against hysteria. The probable explanation is that there must be time enough for the patient to perceive the horror of the accident while fully conscious. Drunken men and little children almost never get traumatic hysteria, and patients go to operation reassured that no evil will result. A strong effort has been made to group together certain symptoms, some hysterical, some neurasthenic, under the title of the traumatic neurosis. It is doubtful if this serves any good purpose. Hysteria and neurasthenia, following accident, differ in no way from the same diseases when caused by other agencies.

Another disease of unknown pathology which frequently follows accidents, with or without physical injury, is paralysis agitans. Mere tremor is, as one may say, a physiologic sign of fright, and usually soon ceases, but occasionally it persists without the addition of any other symptom. Sometimes there are added, in slow progression, all the symptoms of shaking palsy. The tremor may appear first in the injured extremity if the trauma has been a local one.

TRAUMATIC NEUROSES FROM THE STANDPOINT OF A SURGEON.

ARTHUR DEAN BEVAN, M.D.
Professor of Surgical Anatomy and Associate Professor of Surgery, Rush Medical College, University of Chicago.
CHICAGO.

I feel honored by the invitation of this Section to discuss the subject of traumatic neuroses from the standpoint of a surgeon. I am very glad of the opportunity of doing this, because the subject is one in which I have been interested for some time, one which I have had unique and large opportunity of studying, and one upon which I have formed some definite opinions, opinions which are not widely known or accepted by either the general practitioner or the neurologist; opinions which I am confident will eventually be recognized, and which I consider of much practical value. The unique opportunity of studying traumatic neuroses to which I refer was the study of a train wreck in which the conditions were such that more than two hundred and fifty people were subject to the same amount of violence and the same condition capable of producing mental shock. I have already reported this wreck in detail in an article on real and alleged injuries of the spine. I shall not, however, hesitate to make free use of this material in this discussion, because this wreck furnished the rare opportunity of studying the subject in a purely scientific way, just as we would study and carry out a laboratory experiment. In fact, we could not plan out and carry out an experimental investigation of traumatic neuroses better than was accidentally accomplished by this wreck. I want to emphasize the point too that the study of this wreck was carried out, and the conclusion arrived at and submitted, in a purely scientific and non-partisan spirit.

I am not now a railroad surgeon, and have not been for years. I am not a medicolegal expert testifying for corporations. In fact, I refuse to testify in these damage cases, and do not do so except in the few cases where the law compels me to do so because of my having rendered professional services to the individual. It would be unnecessary for me to make this statement were it not for the fact that experience has shown that the salaried opinions of partisan railroad surgeons, just as the purchased opinions of neurological experts for plaintiffs, are of little scientific value and are justly discredited. It is as a student and teacher of general surgery, governed solely by a desire to learn the truth, that I investigate this subject and submit this report. My report is an indictment of the course usually pursued by the medical attendant in handling these cases. The one point which I especially desire to make clear is this: *The medical attendant, in the majority of cases, is more than any other factor responsible for the development and continuance of the condition known as traumatic neurosis.*

I say "majority of cases," because although I believe that in almost all cases the early and correct diagnosis and appropriate surroundings and treatment woud prevent the development of the condition, still there are many cases where the conditions surrounding the individual are beyond the control of the medical attendant, and a few cases where the nervous make-up of the individual is so susceptible and abnormal that the condition of traumatic neurosis will develop and continue in spite of the best environment and medical management. These cases, however, are rare and can not fairly be cited as argument against the position which I shall take. What do we mean by the term "traumatic neurosis"? In actual work the term is applied and misapplied to several classes of patients:

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Conditions resulting from mental impressions made by injury or accident.
2. Cases in which there is a real injury of the nervous system following injury.
3. Errors of diagnosis such as a locomotor ataxia developing some weeks or months after an individual has sustained an injury or been in an accident.
4. Malingering.

We shall exclude at once from this discussion all but the first condition. Traumatic neuroses are abnormal conditions of the individual due to mental impressions accompanying, as a rule, slight physical injuries. This includes the two classes of cases of the authors of today, traumatic hysteria and traumatic neurasthenia. A few years ago most of these cases were classed as cases of concussion of the spine, or Erichsen's disease.

The condition, traumatic neurosis, is a mental state, not a disease with organic lesion. The mental state due directly to the injury and mental shock is transient, and under proper conditions and advice is soon recovered from, in the vast majority of cases. When the condition persists, the continuance is due to suggestions furnished by medical attendance, legal advisers, interested and symphatetic friends and relatives or auto-suggestions, with either money or sympathy in view.

For practical purposes, the cases of traumatic neuroses can be divided into two classes: 1, the medicolegal cases in which a claim for compensation exists; 2, the purely medical, in which no such element exists. As examples of the class in which the claim for damages does not influence the case I shall cite a few cases as examples.

Case 1.—A young woman of intelligence, refinement, and wealth, was in a carriage, which collided with an electric car; she received a slight contusion of skin over the right patella. The occupants of the carriage, three women, were badly frightened by the accident, although neither the vehicle nor horses were injured. They continued a shopping trip afterward and then drove home. Upon arriving home the husband of the lady met them, was informed of the accident and was very sympathetic. Although the woman had walked on her shopping trip considerably after the acident, she now stated that she could not move the limb and her husband carried her into the house. A medical man was called. No injury to the knee could be discovered, but rest in bed was ordered. Later a surgeon was called, who advised a plaster splint; this was worn for some weeks. It was later removed, but the patient would not use the limb, although encouraged to do so. She stated that she had intense pain and that the whole limb was paralyzed. There was no swelling, and nothing abnormal to be found. Patient insisted on remaining in bed. Her general health was good, and she increased greatly in weight. This condition of affairs continued for about two years in spite of many different methods of treatment. Accidentally, it was found that when no one was about she would walk about her room without crutches. Suddenly she discarded her crutches and within a few weeks walked as well as ever, and there has been no relapse. I have seen five or six very similar hysteric knees, and cite this case as an example of a class. I feel confident that had the condition been early diagnosed, that had no plaster splint been employed, and had the medical attendants and consultants bluntly informed the patient that there was nothing wrong with the knee, that no treatment was required, that she should use the knee as usual, the condition of traumatic neurosis would not have developed.

Case 2.—Mrs. A. B., a woman of 40, sprained her ankle. When I saw her three years later she had not walked a block without crutches. Her husband was satisfied that it was largely nervous. The injured limb was distinctly smaller than the good leg, both calf and thigh measuring more than an inch less. She complained rather bitterly of the pain and assured me that she could not walk. I told her that I would examine the foot with the X-ray. I found nothing abnormal. I gave her definite directions about walking a certain distance, and increasing this each day, and assured her that within a month she would be walking without difficulty. I advised massage and told her that within three months the limb would be as large as the other. I saw her again in about two weeks; she was walking naturally, and much to my surprise she told me that she considered the X-ray the greatest invention of the age, that it had cured her almost immediately, that she had not had a pain from the time the X-ray had been used.

Case 3.—A woman, aged 40, about twenty years before had a lovers' quarrel, and sprained her ankle about the same time. The quarrel was not patched up and the ankle continued to trouble her. She refused to get out of bed and remained there nursing the ankle for seventeen years. She consulted many physicians. Her parents were very sympathetic and believed that she suffered greatly. One of her brothers was skeptical, and by watching her found that she walked about her room without difficulty when no one was present. At the end of seventeen years she fell into the hands of some christian scientists, who induced her to walk and for some months she walked well. Then, pleading as an excuse that she had again sprained her ankle, she took to her bed, refused to get up, and when I saw her, more than twenty years after the accident, she had been in bed for about three years after her apparent recovery from the christian science treatment.

I cite this case as a very extreme one. The history demonstrates that the individual had a peculiarly susceptible and abnormal brain, undoubtedly a sprained ankle or a lovers' quarrel might, with an abnormal brain, be the starting-point of insanity; in this case they were the starting-point of a traumatic neurosis lasting twenty years.

Case 4.—As an example of the great care which should be employed in preventing an error in diagnosis in these cases, I want to record a mistake which I have made.

A woman, aged 58, slipped on the sidewalk and fell, striking her right hip. She was brought to my service at the hospital two weeks later, stating that she could not use the hip and suffered great pain. She was unquestionably neurotic. I suspected fracture of the neck of femur; but measurement showed no shortening, although it was not very satisfactory, because she was very stout, was about five feet, four, and weighed over 200 pounds. I examined her under chloroform, moved the limb freely, but could find no evidence of fracture. I informed the patient's daughter that I could not find anything wrong with the limb and that I believed it was a case of traumatic neurosis and handled it as such. Later, I obtained an X-ray picture, which showed distinctly an impacted fracture of neck, with very little shortening.

Case 5.—As a sample of how an error of diagnosis might develop a case and how many of these cases of traumatic neurosis can be nipped in the bud, let me cite a recent experience. A young woman, aged 22, while traveling from a southern state to Chicago, to attend a university, sustained an injury of her chest in a railroad accident. In the same accident several people were killed and a number badly injured. She was examined by some local physician at the time, who believed that he found that her breast bone and several ribs were broken. She was put on the train and sent to the hospital in Chicago, where she arrived forty-eight hours after the accident. My assistant examined her and believed from her history and complaints of pain that the sternum and ribs were broken. He put on the chest a tight, wide adhesive-plaster jacket. The next morning I saw the patient; she was breathing very rapidly and shallowly; she had an expression of great anxiety and suffering. I removed the adhesive plaster and examined the chest carefully. I found no fracture, lungs normal, breast normal. I ordered her to get up, and she found to her surprise that she could do so. I assured her that she was all right and would have no further trouble. Two days later she began her course in the university.

As examples of cases in which a claim for damages enters as a factor I shall cite the cases occurring in the wreck already referred to. The conditions under which this wreck occurred were the following: A long passenger train containing two hundred and fifty-six passengers, trainmen and four tramps, was crossing a trestle, twenty feet high and a half mile long, at the speed of twenty miles an hour. Suddenly the engineer blew the whistle and put on the brakes. For some reason unknown, the engine plunged through the trestle, which collapsed like a pack of cards, and let the entire train fall twenty feet. All the cars except the mail and express remained in their proper position and relation to each other. The accident occurred at 8 p.m., when every one was either standing or sitting. The result was that these people were practically all dropped twenty feet, striking on their feet or buttocks, with the additional force furnished by the sudden stoppage of the train running at twenty miles an hour. It was several hours before relief reached the wreck, but it was then systematically handled. The extent and character of the injuries in each case were noted and temporary treatment and dressing employed. The injured were then taken, part to a city hospital, and part to a country hotel.

Of the two hundred and fifty-six people in the train at the time of the accident, one hundred and twenty-three were injured; of these four were killed outright, and two subsequently died as a result of their injuries. The wreck occurred at night in a sparsely settled country, and help had to be brought from a considerable distance. All of the people were completely and thoroughly demoralized when the relief train arrived. It was necessary to carry forty of them on stretchers to the relief train. It was fifteen hours after the accident before they were all comfortably provided for. I mention these facts to show that conditions capable of producing fright and great nervous shock were present. In analyzing the nature of the injuries we found that four people had been killed by crushing injuries, the exact nature of which we could not state, as no postmortems were made. Twenty-two people sustained fractures, six of which were compound. There was one dislocation of shoulder. There occurred eight incised and lacerated wounds, and eighteen sprains of joints, including ankle, knee, wrist and elbow. In six cases there was nervous shock without any accompanying physical injury, there were fifty-eight cases of contused injuries; two injuries of the eye; one internal injury, probably of both lungs and of abdominal viscera, which resulted fatally within fifteen hours. One hernia, one abortion, and one injury of the vertebral column and cord were reported. Later many of the cases made indefinite claims of injury to the nervous system, the specific claim being in the majority that of concussion of the spine. In twenty-four cases this claim was backed up by medical testimony.

In the settlement of these cases many cases of malingering were found, and frauds were detected in the effort to palm off an old injury or lesion as recent and produced by the accident; such as hernia, bunion, curvature of spine, or displacement of the uterus. Hair which was dyed at the time of the accident had turned suddenly white, etc. One instructive fact in connection with the accident was the ease with which the plaintiffs could obtain medical testimony in support of fraudulent and ridiculous claims.

There were but two gross injuries of the nervous system: one a temporary paralysis of the musculospiral nerve in a case of fracture of the shaft of the humerus, and in the other a gross injury of the spinal cord; this patient died two years later from a bladder-stone operation. In both of these cases the symptoms were definite and immediate, and at once recognized.

In our discussion the interest of this wreck centers on the twenty-four alleged cases of concussion of the spine, backed up by medical testimony. A few of these cases were cases of malingering, the majority were examples of traumatic neurosis. One point I would like to make clear in regard to the medical management of the injured in this wreck is that very few cases of traumatic neurosis developed among the injured in my immediate charge, and those that did develop were entirely well in four weeks. The cases that persisted were in the hands of medical men who believed that the patients were suffering from concussion of the spine, or some other obscure but serious injury to the nervous system, and they had informed the patient and friends of this fact. These physicians were more responsible for the condition than was the accident. I am positive that, had I had each one of these cases in a private room at my hospital, and had the item of compensation out of the way, not a trace of the nerve shock would have remained at the end of a few weeks, and that all of them would have recovered their normal equilibrium. In no cases can the well-posted physician be of as much service, and in no class of cases can the ignorant physician, the partisan physician or neurologist, be of as much injury as in cases of traumatic neurosis.

The following is a very brief sketch of the twenty-four cases of traumatic neurosis developed in this wreck:

Case 1.—A woman, aged 45; no evidences of external injury; claimed injury to back; paralysis of right upper extremity, and that her hair turned suddenly white within a few weeks after accident. Claims severe nervous exhaustion, and permanent disability. A settlement was made and recovery soon followed.

Case 2.—A man, aged 25; no evidence of external injury; claims concussion of spine and refuses to leave room. He uses crutches, submits medical opinion that he is permanently injured; settlement was made and recovery followed.

Case 3.—A woman, aged 28, sustained fracture of rib; claims concussion of spine and permanent injury. She remained an invalid until settlement, and then recovered rapidly.

Case 4.—A man, aged 40, with real injury, bruised leg; claimed concussion of spine, paralysis and permanent injury. He remained an invalid until settlement, then recovered rapidly and returned to work.

Case 5.—This man had two ribs broken, claimed permanent injury of nervous system, remained an invalid, and sued company for $20,000. Shortly before the trial the case was settled. He recovered and almost immediately returned to his business.

Case 6.—A man with no evidence of injury, claimed spinal concussion and permanent injury. He was suffering from rheumatism at the time of the accident, and was in search of a favorable climate to live in. He used crutches. This case was settled and the day the claimant received his check he traded his crutches at a drugstore for some toilet articles, and left the town walking without help.

Case 7.—A woman received a bruise on the chest. She was tuberculous and suffered great nervous shock, and claimed great injury of the nervous system. Three months later she stated that she had not slept since the accident, was weak, unable to work, had had hemorrhages from lungs, due, she claimed, to the injury. A settlement was made. She improved, returned to work and died two years later of consumption.

Case 8 and 9.—A man and his wife. The night of the wreck they stated to me that they were permanently injured. They went home, remained in bed as invalids for seven weeks with the most exaggerated symptoms of spinal trouble. A settlement was made, they left the same week for a short trip and returned entirely recovered.

Case 10.—A commercial traveler. No evidence of external injury, but great fright, typical traumatic hysteria. He was under my immediate care. Complained of intense pain in back and paralysis of lower limbs.

At the end of a week I picked him up in my arms and put him on his feet. I told him that he was making a fool of himself, that he was simply frightened and not hurt. He cried like a child. I held him up on his feet and in ten minutes convinced him that he could walk. He left the hospital within three weeks of the accident, the day the settlement was made. After he left the hospital he consulted a neurologist, who told him that he had concussion of the spine. He was badly frightened. He wrote to me and I referred him to a physician to whom I had written my opinion of the case. This physician examined him, encouraged him to at once resume his work, which he did. I have seen this man repeatedly since, and he is most grateful for the way I handled him, although he thought it rough at the time. His description of his condition is most instructive. As he expresses it, he was so badly frightened about himself that if he had been told that he had a serious spinal injury he is convinced that he would have become a chronic invalid.

Case 11.—A man with sprained ankle claimed permanent injury of the nervous system; remained an invalid; claimed loss of power in injured limb. A settlement was made; he recovered and returned to work after drinking up the money.

Case 12.—A man, with sprain of ankle, claimed permanent injury of nervous system. Recovery after settlement.

Case 13.—A man, with contusion of chest claimed fracture of sternum and spinal injury; stated that he had lost his memory; had great general weakness; inability to work, loss of eyesight, and permanent nervous injury. He remained an invalid for many months, until settlement was made, and then recovered and returned to his work.

Case 14.—A man, with lacerated wound of nose and forehead claimed he had had fracture of the skull, concussion of spine; resulting loss of memory; impairment of eyesight, and permanent injury of the nervous system. The case came to trial. The jury gave a reasonable verdict. The money was paid; claimant recovered and resumed work.

Case 15.—A man, with contusion and laceration of face and shoulder; claimed spinal injury and permanent invalidism. Jury gave a verdict for plaintiff. The case was settled, and man recovered and resumed work.

Case 16.—An old lady, having great nervous shock, with stiffness and soreness after the accident, and no extended injury; claimed fracture of the spine, and submitted as evidence of such, an old spinal curvature; claimed injury of the spinal cord and permanent invalidism. Case was settled and recovery followed.

Case 17.—A girl, aged 20, having nervous shock, with no evidence of traumatism, claimed spinal injury and permanent invalidism. She remained in bed until settlement was made. She then recovered and returned to her home.

Case 18 and 19.—A man and his wife, with no extended signs of injury in either case. Both claimed spinal injury and permanent invalidism from the very night of the wreck. Both had had medical educations. The woman was very hysterical; the man was of more than ordinary intelligence. They wanted $30,000 each. Both became chronic invalids, most exaggerated pictures of traumatic neurosis. The woman claimed a fracture of the spine. She wore a plaster jacket for many weeks, putting it on, however, two months after the accident. The man took large doses of chloral and morphin, and within a short time looked like a physical wreck. They continued this state of thing for a year and a half. They consulted many neurologists and accumulated a vast amount of medical testimony as to their condition. About a year and a half after the accident their claims were settled out of court. Before this neither of them had done any work. They at once resumed work.

These were cases of artificial and induced invalidism. The people were intelligent and apparently honest. They were cases which were pronounced by some of our best neurologists as cases of spinal concussion, by others as traumatic neurosis. Yet there can be no question that it was in the power of an intelligent physician, and within the powers of the patients to have prevented the development of the condition, and the patients could have resumed their former occupations immediately after the accident.

Case 20.—A young woman, with great nervous shock, but no evidence of external injury, claimed at first on the advice of her physician, a traumatic anteflexion of the uterus.

The matter was submitted to me and I informed her lawyers that the claim was absurd, and asked them to submit it to three gynecologists. This was done and the three gynecologists agreed with me. Then the claim of spinal concussion was substituted. In the trial she developed the usual picture of traumatic hysteria, and had an abundance of medical testimony to back up her claim. She received a verdict. The case was compromised, and she recovered.

Case 21.—A man, with no evidence of external injury, traveled two hundred miles the day following the accident. When he returned home he felt sore and stiff.

His wife sent for the family physician, who told him that he had Erichsen's disease, that he must remain in bed five or six weeks and keep perfectly quiet. He was put to bed and given large doses of bromid and chloral, and external applications were made over the vertebral column. The man was ignorant, and had failed in business a short time before the accident. The confinement in bed and the medicines affected his general health, and he lost strength and weight. Three months after the accident I saw the patient. He stated that his mind was affected and that his lower limbs were partly paralyzed. I lifted him out of bed, and persuaded him to walk about the room with my assistance. I informed him that he must get up and take exercise, that he had no injury, and that if he chose he could be entirely well within a month. He looked at me and said: "My doctor tells me that I am permanently injured. You say that I am not hurt at all; whom shall I believe?" Within six months of the time of the accident the case came to trial. The trial was hastened by his lawyers, who feared the man would die before its completion. The man was brought into court on a stretcher. Various tests were applied by experts for the plaintiff, as the dynamometer, the esthesiometer, electricity, etc. It was claimed that his spinal cord was permanently injured. He received a large verdict; this was paid. Within a few months he went to Germany, returned within a short time and resumed work, chopping cordwood.

Case 22.—A woman, having sprained ankle, claimed gross injury to vertebral column, and permanent invalidism.

She submitted as evidence of gross lesion of vertebræ, a prominent and irregular spinous process in the lower dorsal region. This claim was not made at once and the conditions following accident eliminated the possibility of fracture of the spine. Later, the claim was made that she had beginning Pott's disease, resulting from the injury. She wore a plaster jacket for some weeks. Still later, the claim was made that she had sustained some serious injury to her pelvic organs, which had resulted in cessation of menstruation. This, however, proved to be due to pregnancy. A settlement was made, she went on to term, gave birth to her child and recovered entirely.

Case 23.—A woman with sprained elbow, claimed permanent injury to her nervous system. Claim was settled and recovery followed.

Case 24.—A man, with contusion of the face, claimed gross cord and brain lesion and loss of right eye.

Had organic heart lesion. The eye was examined a short time after the accident by a competent oculist, who stated that the loss of eyesight was due to a lesion of old standing. Settlement was made, and recovery, as far as the general condition was concerned, followed.

Many of the other cases talked more or less of having sustained injury of the nervous system. Each of these twenty-four cases obtained and submitted medical opinions that they had sustained permanent injury of the nervous system. The subsequent histories showed that none of them had sustained permanent injury and that they all recovered. They were all cases of traumatic neurosis, with, in some cases, exaggeration and malingering added.

One interesting fact in connection with these cases is that the actual physical injuries were either slight or entirely absent. These twenty-four cases were the only ones of traumatic neurosis developed from this wreck. The individuals who sustained severe injuries did not develop the condition of traumatic neurosis.

The conditions were most favorable for the then so-called concussion of the spine, the traumatic neurosis of to-day. Out of the 256 people, 123 were injured, and 6 people were killed or died as a direct result of their injuries. Among the many injuries sustained, there were but two of the nervous system, one of the spinal cord and one of the musculo-spiral nerve. These were at once recognized. The twenty-four cases, above detailed, were not injuries of the nervous system, but mental states due to injury and later suggestions, such as I have previously described.

I would submit the following conclusion arrived at from the clinical and medicolegal study of about two hundred cases which I have had the opportunity of studying.

1. Real injuries of the nervous system present positive and immediate symptoms.

2. Those alleged injuries of the nervous system, without positive and immediate symptoms of gross lesion are either cases of malingering or abnormal cerebral states, traumatic neuroses, or a mixture of the two.

3. Traumatic neuroses are the result of two factors: 1, a brain readily affected by suggestions; 2, suggestions furnished by an accident with or without injury to the individual, suggestions furnished by sympathetic care or a craving for sympathy, and lastly and of greatest importance, suggestions furnished by medical attendants.

4. To establish a diagnosis requires the immediate and sometimes protracted observation of the patient, as in the study of any psychosis. The supposed refined means of diagnosis, as the dynamometer, esthesiometer and electricity, are seldom of value and are often of positive harm as suggestions to the patient.

5. These cases recover rapidly under proper surroundings and advice when the continuing causes are removed. Recovery may be indefinitely postponed under improper surroundings and advice.

6. No secondary degenerations of the nervous system follow traumatic neuroses. The pathologic conditions due to an old standing traumatic neurosis are the degenerations of disuse and the general deterioration of the individual from confinement, lack of exercise, dejection, etc.

7. The subject of traumatic neuroses will not receive its proper place until the medical profesion recognize their responsibility in the development and continuance of these conditions and until proper means are provided for the punishment of malingerers and their alleged medical experts.

I add a few words in regard to treatment: After definitely establishing a diagnosis, we should handle these patients without gloves. Have a frank, honest talk with the patient alone. Tell him to throw away the crutches, to go back to work. If the general condition is bad give him a few weeks, or even months, of exercise, and possibly change of climate. Tell him that there is nothing the matter with him; that the trouble is imaginary, is in his head and not in his feet or back; that if he will believe you and make the effort he will be perfectly well in a short time. Tell him that the constipation and hemorrhoids, the headache and tired feeling are due, not to the accident, but to his voluntary confinement. Outline definite course of treatment to be followed, a cold bath in the morning and exercise at certain definite times during the day.

If you handle your patient in a perfectly frank, open way, one of two things will happen. You will either cure him at once or prevent the development of the condition, if you see him early enough, or he will go to some other physician. If the other physician is as well posted and honest as you are and gives the patient the same advice, and if all the physicians consulted by these cases handled them in the same way, we should hear very little of traumatic neuroses. I believe, as I have already stated, physicians are responsible for the existence and continuance of the majority of these cases. I desire also to make a protest against the position taken by medical men generally on the witness-stand in testifying on this subject. Not long ago, I heard the testimony of two prominent neurologists on a case which they described as traumatic hysteria. They stated that there was no lesion of the nervous system, but that there was an injury to the higher nerve-centers controlling the will, which was far more serious than a gross lesion of the brain tissue. The jury gave a verdict for $20,000, and yet it is very evident that the man is suffering in no way from the accident. Lastly, I desire to protest against the usual method of neurologists and general practitioners of handling these cases of traumatic neuroses with gloves, diplomatically, which here means without a clear understanding between patient and physician as to the exact facts. The use of electricity and drugs, of refined means of diagnosis to discover and cure a disease which does not exist, the coaxing of the patient, are all apt to prevent a return of the patient to a normal condition.

In my own work, I have found the apparently more brutal and direct, and certainly more honest, method much more successful, and I would urge its general adoption.

MEDICOLEGAL RELATIONS OF TRAUMATIC NERVOUS AFFECTIONS.*

JAMES HENDRIE LLOYD, A.M., M.D.
Neurologist to the Philadelphia Hospital.
PHILADELPHIA.

The text for my present paper is the following case:

J. C., a colored woman, aged 53 years, in good health, without any personal history of alcoholism or syphilis, fell in the dark down a flight of stairs. She could not tell how she struck, or where she was injured, but she was immediately paralyzed in her arms, body and legs. There was no loss of consciousness. The accident occurred on April 9, 1899, and the patient was taken to a large general hospital, from which she was discharged unimproved in a few days for lack of accommodation. There was no history of her condition during these few days except that she was paralyzed as above mentioned. On April 14—five days after the accident—she was admitted into my wards at the Philadelphia Hospital.

On admission her condition was as follows:

Motion.—There was complete paralysis in all the extremities. Power was retained in the trapezius, sternocleidomastoid, and sternothyroid muscles, and in the diaphragm. The muscles of the chest were paralyzed.

Sensation.—Below a line indicated in the diagrams (Figs. 1 and 2) all modes of sensation were absolutely lost.

Reflexes.—There was a slight biceps and triceps jerk on the left side. Both knee-jerks were exaggerated. No ankle-clonus. No plantar reflex. This preservation of the knee-jerks is noteworthy.

Respiration was diaphragmatic and irregular. Inspirations were gasping, and not complete. There were no movements of the chest walls.

The bladder and rectum were paralyzed, and there was consequent incontinence of urine and feces.

Cerebum.—The mind was clear, the patient responding promptly to questions. The tongue was protruded in a straight line.

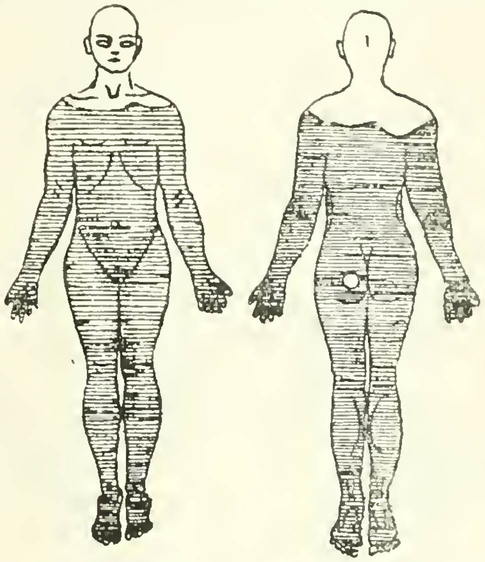
Eyes.—There was an old, probably congenital double external strabismus. It was in no wise related to the patient's condition. It has been made the subject of special study by Dr. Oliver.

There was no spinal tenderness nor deformity. There was no pain in the neck, and the movements in the neck, both active and passive, were good.

The patient's general health was good. She was a large, robust woman, without any disease of the heart, lungs, kidneys or abdominal organs[1].

With slightly fluctuating symptoms this patient lived for five days more. A slight return of sensation was noted in some limited areas, but it was only temporary and never complete. Paralysis remained absolute from the neck down. The knee-jerks were finally abolished. A bedsore formed on one buttock. The bladder and rectum continued paralyzed. Respiration became exclusively diaphragmatic. Thus, it is seen that the patient presented the picture of a total transverse lesion in the middle cervical region, with the exception of the fact that a slight return of sensation in limited areas seemed to indicate that the sensory neurons were not all completely cut off, and the further fact that the knee-jerks were not primarily abolished, as they usually are in a total transverse lesion. With such a picture presented to the eye of the clinician the diagnosis of a total transverse lesion would seem to have been justifiable. Certainly the lesion must have been an extensive one that could thus have abolished all the functions of the cord and caused the patient's death in a few days.

That the lesion was extensive the autopsy abundantly proved, but that it was extensive enough to account for all the symptoms was more difficult to demonstrate. In the diagram of the cord it will be seen that the chief lesion is a small hemorrhage invoving principally the anterior halves of the posterior columns, while the lateral tract on one side only is partially included.



Figs. 1 and 2.—Hematomyelia. Total anesthesia below the neck. Bedsore on left buttock.

The points which I wish to make in describing this case are that the amount of injury in this cord was much greater than a hasty inspection demonstrates or than the drawing shows. With a high power it was seen that the nervous tissue was the seat of edema, that nerve fibers had been compressed or even torn asunder, that minute hemorrhages were abundant and that the large ganglionic cells in the gray matter of the cord were swollen, disfigured and the seat of chromatolysis. In other words, what seemed at first glance like a very limited lesion was found on close inspection to be a most extensive destruction of the essential elements of the medullary tissue. Instead of a circumscribed hemorrhage in the posterior columns, which could not satisfactorily have explained one-half of the symptoms in this rapidly fatal case, there were extensive but microscopic changes involving practically the whole transverse area of the cord, and which explained perfectly the complete abolition of the functions of the cord.

Does such a case as this not more than support a theory? Does it not demonstrate that the abolition of function in these traumatic cases is accounted for by necrotic organic changes in the neurons and their supporting and nourishing tissues, the glia and the blood-vessels? This case, to be sure, is an extreme one, but all the more on that account it permits a panoramic view of the various degrees of injury that can be sustained by the nervous system. All this injury is not gross and "organic" in the ordinary and old sense, but much of it is minute, almost insignificant, and even quite inestimable, and yet as truly structural as is the lesion made by the stroke of an axe.

---

*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] This case was originally reported in full in the Journal of Nervous and Mental Diseases, February, 1900.

In further pursuing this subject, we may now turn briefly to some of the clinical aspects of the traumatic neuroses. These affections may be divided into two main groups—neurasthenia and hysteria. I do not propose to traverse this whole clinical field, but merely to discuss some phases of it, and those merely which have to do with the medicolegal relations of these two diseases.

First, with reference to neurasthenia, I have long felt that more precision is desirable in limiting and describing this affection. This term should not be used as a disguise for other affections, and especially for hysteria. My contention is that in those cases of profound neurasthenia, in which the symptoms are persistent, the term "functional" should be wholly abandoned and the position assumed that in the light of modern researches the indications are that most if not all of these obdurate symptoms represent changes in the organic basis. We all know now, since the researches of Hodge and others, that the fatigue neuroses represent distinct changes in the neurons. We are no longer obliged to crave the indulgence of the metaphysicians while we borrow their terms to describe so-called functional effects which are without organic changes. Such distinctions should be abandoned to the schoolmen who still delight and amuse us with their claims that the brain is the "organ" of mind and not the embodiment of it. Surely, pathology, of all the sciences, should no longer be held in the trammels of these scholastic distinctions. On the witness-stand especially such distinctions are fatal. They are quite beyond the grasp of the average juryman, who is only too apt to think that if a disease is not a bodily affair, but only represents the deviations of an intangible function, it is not worth paying for in dollars and cents. I have had under my observation this last winter a middle-aged woman who received an injury and a shock in a smash-up between two trolley-cars. The injury was a punctured wound in the abdomen, which was bad enough, but the shock was far worse. This patient has practically been bedridden for six months, with a painful spine and a paretic leg, and that mental state of worry and discouragement which is worse than all, and her profitable business as a mantua-maker has been ruined. The question arises, am I obligated to describe such a condition as this as a "functional" neurosis? When I consider what I have seen in the cord which I have just described to you, I am quite prepared to contend that that painful spine, and that paretic leg, and that disordered brain, represent distinct changes in the central nervous system, which are none the less real because I have not had an opportunity of viewing them under a microscope.

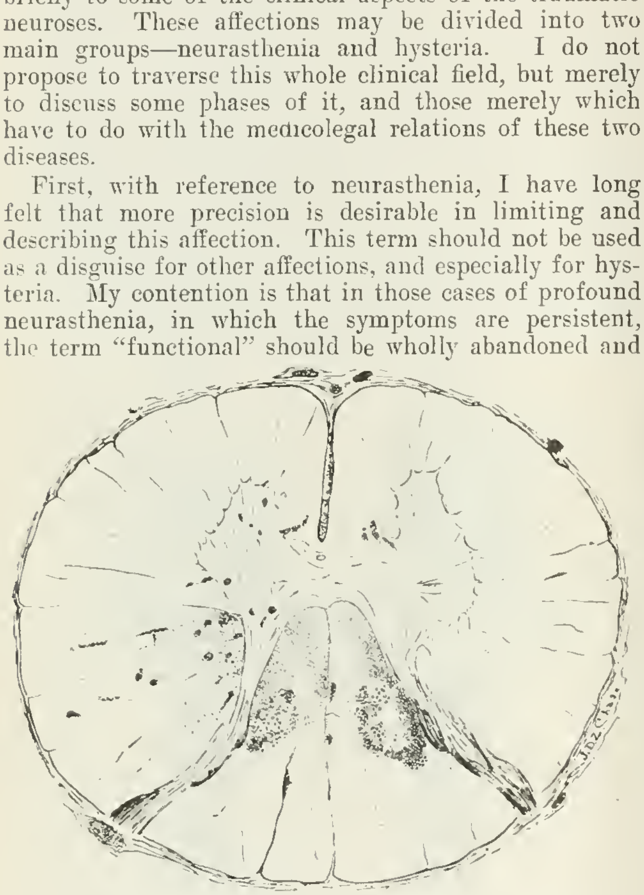


Fig. 3.—Hematomyelia. Fourth cervical segment.

With reference to hysteria, the same ground, I am convinced, may be properly held as in the case of neurasthenia. Of all the traumatic cases I suppose most men will concede that none are more common and puzzling than the cases of traumatic hysteria. That they are usually disguised in our courts under assumed names is a matter of common observation. It is believed with reason that to acknowledge to a jury that a case is one of hysteria is to give the case away. The prejudice against the term is not confined to members of the medical profession, but is widespread, especially among the more ignorant classes, from whom, as a rule, our juries are recruited. This fact has been curiously demonstrated to me by two cases in which I was engaged as an expert witness. In the first case a man, walking along the board walk here in Atlantic City on a wet evening, received an electric shock from a low-hanging arc lamp, with which the tip of his umbrella came in contact. As a result he had a typical hysteric paralysis of the arm. This limb was not only paralyzed for a year afterward, but was the seat of a blue edema, which gave it a badly damaged appearance. In this case the plaintiff's lawyer succeeded in convincing the jury that the affection was not hysteria, but that the nerves and muscles had been destroyed by the mysterious current, although it was demonstrated by the defense in open court that the nerves and muscles responded perfectly to both electric currents. In short, a verdict of $5000 was won by discrediting the diagnosis of hysteria. In the second case, a woman in Philadelphia, with an identical hysteric paralysis of her arm, caused by a blow from a falling sign, failed to obtain a verdict because apparently it was successfully shown to the jury that the affection was purely hysteria. These two cases illustrate perfectly the inconsistencies that prevail in our courts. Both cases were unjustly decided, because not decided in accordance with the facts. The man got more than his hysteria was worth, and the woman got less. Each deserved something, but justice failed to strike the average.

Why should not so-called functional disease which causes the disablement of a limb for months and even years be entitled to the same consideration as the more imposing "organic" affections? Why then should not hysteria, than which there is no more inveterate affection, be a damageable disease? I am not quite prepared to adopt the theory of the motility of the neurons, simply because it has not yet been sufficiently demonstrated. You all know, of course, what this theory is. The idea underlying it is that the neurons may display ameboid movements, and that by retracting or prolonging their dendrites and their neuro-axons with their arborizations, they may make or break contact in such ways as to cause alterations in functions. Thus, we may suppose that in a chronic hysteric paralysis the contacts are broken, and loss of function results. The same thing may happen in the profound anesthesias. The fact that mental impressions may operate to overcome and cure these various paralyses is quite explainable on such a theory, because we may suppose that a mental impulse would be potent to re-establish the lost contact. This theory has its attractions, but it is not yet sufficiently established in the domain of science for us to advocate it, at least more than tentatively. We may fall back, however, upon one of our original propositions, i. e., that no alteration in function can occur without a corresponding alteration in structure. If this alteration merely represents an alteration in nutrition it is yet a real thing, and not a metaphysical abstraction. With such views, I have for some time held that we should group the more permanent stigmata of the grand neurosis under some such term as "organic hysteria." Such a term is consistent with what we are gradually learning about the minute alterations in the central nervous system that underlie all the so-called functional diseases. Such changes are probably as real, though they may not be so permanent, as those that are caused in a neuron by the action of a poison or a process of degeneration. As I am not one of those who believe with John Locke, that it is as easy to conceive of mind without matter as it is to conceive of matter without mind, so also I can not conceive of a purely traumatic neurosis without a change in the organic structure. Let these distinctions be for scholars and transcendentalists, but as for us, in our medicolegal work, let us hold close to our material pathology.

PROGNOSIS AND TREATMENT OF THE TRAUMATIC NEUROSES.[*]

WHARTON SINKLER, M.D.

PHILADELPHIA.

The most serious problem which arises in connection with disorders of the nervous system, following railroad or other accidents, is what the outcome will be. The first question asked of a physician when called in to examine a case of traumatic neurosis, either by the patient himself or the corporation by whom he is called, is, whether the patient will recover, and if so, in how long a time. The prognosis in the traumatic neuroses depends upon a number of circumstancess and conditions, and first of all we must determine what is meant by the "traumatic neuroses." Different writers on this subject seem to have views somewhat at variance. Some—for example, Oppenheim and Strümpel—consider the traumatic neuroses as a separate class of nervous diseases, making a distinction between them and traumatic neurasthenia and traumatic hysteria. At the present day, however, it is generally considered that the traumatic neuroses include all of the diseases of the nervous system, either functional or organic, which result from accidents, either through actual injuries or from shock. Of course, in making a prognosis in these cases, the character of the disease, whether organic or functional, is to be taken into consideration, and above all, the length of time for which the affection has lasted. The previous health of the patient or the existence of a neurotic diathesis has much influence on the outcome of nervous disorders following injuries, and heredity should always be inquired into. It is therefore of prime importance to inquire closely into the previous health of the patient and the question of neuroses in his parents or near relatives. The surroundings and influences which are brought to bear upon the patient must also be taken into account in giving an opinion as to the question of recovery. What probably exerts as much influence as anything else on the condition of a patient suffering from traumatic neurosis is the question of litigation. In nearly all cases of injuries from railroad accidents, or those in which corporations may be held responsible, the patient at once seeks compensation for his injuries. He is encouraged in this by his friends, and by lawyers who are only too eager to work up a case. The patient becomes intensely self-centered, and all of his symptoms are dwelt upon and magnified. As long as litigation is pending, little or no improvement takes place, but on the contrary, the patient becomes more neurasthenic and hysteric. The questions of his counsel and examining physicians are liable to bring up new symptoms, and like all neurasthenics and hysterics, suggestion may develop features which had not before been thought of. It is therefore impossible to prognosticate as to the future of a patient with traumatic neurosis until damage suits are put out of the way.

The question as to whether a patient is simulating or not is a very serious one, and requires careful and thorough investigation. Most neurologists hold that simulation is rare, but that exaggeration of all of the symptoms is frequent. On the other hand, railway surgeons believe almost universally that simulation is very common, and that traumatic neurosis is, in the main, an imaginary disease. The truth, as usual, lies between the two extremes. Undoubtedly there are many cases of simulation met with, but they are not very numerous; and it is undoubtedly the case that exaggeration of all the symptoms in cases of traumatic neurosis is very common, whether there be or be not litigation in view. The opportunities for proper treatment will have much to do with the prognosis in such cases, and, after all, we may be justified in giving as hopeful a prognosis in cases of traumatic hysteria or neurasthenia, with favorable conditions for treatment, as we would in a case of the same disease where trauma had played no part, provided always that litigation and damage suits are set aside. The extent of hysteria and neurasthenia, and the length of time which the affection has lasted, must be taken into consideration. As a rule, a case of well-marked neurasthenia or hysteria, following injuries, will not get well until after two or three years of careful and thorough treatment under favorable surroundings. The prognosis in traumatic hysteria is not so hopeful as in neurasthenia, and the contractures and anesthesia may last for years. Traumatic lumbago is often persistent for years, and may leave the patient with a permanently weak back. Cold or strains may cause a return of the symptoms after a long interval of apparent health.

Treatment: It is of the first importance that treatment shall be begun as early as possible in these cases. The longer a case goes without treatment, the more difficult will be its cure, and it is as equally important to eliminate, as far as possible, the influence of litigation during the progress of the case. The effect of frequent examinations by experts and conferences with friends and counsel in regard to a damage suit, by keeping the patient harassed, aggravates the disease from which he is suffering, and creates a condition of expectancy which counteracts the results of treatment. The treatment of organic neuroses arising from trauma does not differ from that of the same disease not dependent on injuries. The treatment of traumatic neurasthenia and traumatic hysteria is best conducted by means of "rest treatment." Prince[1] says: "The rest cure, except so far as it secures isolation and has a mental influence, is illogical and useless, and aside from a certain class of cases, is not to be recommended." All that he has to offer, however, as better treatment, is in the line of mental therapeutics. He says that the physician should explain to his patient that his trouble is either neurasthenia or hysteria, and that he must exercise self-control and get rid of his pains, hyperesthesia and other distressful feelings by realizing that they are not real. He suggests hypnotism, the use of static electricity and hydrotherapy. On the other hand, almost all other writers on the subject are agreed that the treatment which promises the best results in these cases is the "rest treatment."

---

[*] Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

This plan of treatment is too well known to require special details. It is only well to refer to the necessity for the thorough and radical carrying out of the treatment in every particular, in order to secure a successful result. It is also essential to bear in mind that unless the question of litigation is settled in some way, or is held in abeyance, it is useless to attempt to treat the patient, either by this means or by any other. It is often the case that a patient is brought to a neurologist for treatment, either in a hospital or elsewhere, and the fact that a damage suit is contemplated is withheld until after the treatment is over. The physician is then made use of to further the ends of the patient in securing damages. The fact that he has been obliged to resort to a prolonged course of treatment is used as an argument in his behalf, and the physician's experience in the case is drawn out on the witness stand. One should always be careful to discover, if possible, whether litigation is considered by the patient before beginning treatment.

Another troublesome feature in the management of a litigation case by rest treatment is that the medical friends and family physician of the patient are insistent upon visiting him, and even when one exercises the utmost tact in refusing these visits, he is liable to give great offense. In the treatment of a case of traumatic hysteria or traumatic neurasthenia, one should insist upon rigid isolation, and on complete rest in every detail being carried out. The patient should remain in bed, and should not rise even for the calls of nature. A thoroughly competent and trustworthy nurse should be employed, and one who can offer a certain amount of entertainment and occupation to her patient without causing him to make an effort himself. The nurse should make the patient's toilet, and in some cases should even feed him. The points to be attained are, improvement in the general nutrition of the patient, the building up of flesh, improvement in the quality of the blood, and giving entire repose to the overtaxed and overstrained nervous system. The length of time which the treatment should last, of course, depends on the severity of the case, the temperament of the patient, and the duration of the disease before treatment has begun.

The rest treatment is not an infallible cure for all cases of neurasthenia and hysteria, and in those cases in which it fails, a complete change of climate and mode of life is often beneficial. The seashore agrees well with cases of neurasthenia, and great advantage may be derived from sending the patient, with a competent attendant, to a quiet resort on the seacoast, where he can have boating, sailing and an outdoor life generally, with a moderate amount of exercise. In patients who are unable to afford a thorough course of rest treatment, and often we find that this is the case, partial rest treatment may be given, with advantage in some cases, at the patient's home. It is not often, however, satisfactory, and it is much better to insist upon hospital treatment in cases where the patient can not afford the expense elsewhere.

Hydrotherapy is of great utility in traumatic hysteria and neurasthenia, either as an adjunct to the rest treatment or alone. The systematic application of douches and baths improves the general health of the patient, and is a means of improving the tone of the nervous system. Where a complete hydropathic establishment is available, the patient should always be sent there. The usual regimen consists in the patient's remaining in the hot box at a temperature of from 130 to 150 until sweating is induced, and he is then given the circular, or so-called "needle" bath for a couple of minutes at a temperature of 110, followed by a temperature of 95, for the same length of time. This is succeeded by the Scotch douche, which consists in alternating douching of the spine with a temperature of 110 and 65, at a pressure of from fifteen to twenty-five pounds. The fan douche may be used instead of the douche of full force. If a regular bath establishment is not within reach, the douches may be used at the patient's home, by having effusions of hot and cold water alternately poured down the spine, and an extemporary douche can be devised by attaching a piece of hose to the faucet of the bath-tub. The drip sheet and wet pack are advantageous in cases where insomnia is a troublesome symptom. When other means fail, it is justifiable to use hypnotism, but this procedure is of very little permanent value and is not regarded with any confidence by the vast majority of American neurologists. Even in cases where through hypnotic suggestion there is disappearance of some of the hysteric phenomena, the relief is seldom permanent. We must remember that, even in cases where the patient is susceptible to hypnotic suggestion, it does not prove the absence of organic disease

Drugs are of comparatively little value in these cases. The so-called "nervines" and "nerve tonics" are of but small value. Of course hematinics are indicated, and arsenic and strychnia in small doses help to improve the tone of the nervous system, but we must depend more upon regimen and proper feeding for the improvement in the nutrition of the body than upon drugs. The bromids are especially disadvantageous in neurasthenia and hysteria. If insomnia exists, it is better to combat this with hydrotherapy and hygienic measures than to use drugs. If one must give a hypnotic, it is best to give trional or chloralamid in small doses. Traumatic lumbago requires absolute rest in bed, with the use of massage and electricity. In severe cases, the use of the plaster jacket is sometimes necessary. The application of galvinism to the tender region of the back is serviceable, and static electricity often does good. After a sufficient period of rest, gentle gymnastic movements should be used.

DISCUSSION ON PAPERS OF DRS. BURR, BEVAN, LLOYD AND SINKLER.

Dr. F. X. Dercum, Philadelphia—I expected to hear from the lips of a surgeon statements such as were made, but hardly such reckless statements. Certainly, if the most eminent medical men in the country testified in his experimental 250 odd cases, we are justified in assuming at least a position of doubt; these men are probably neither rogues nor fools, and it becomes a serious question as to whether we are to accept Dr. Bevan's sweeping denunciation of them. That persistent symptoms follow in cases of trauma in which no element of litigation is present, we all know. Such cases are constantly being placed on record. Some of the most persistent have been nonlitigation cases. I am thoroughly in accord with Dr. Lloyd's position that these cases are not functional but are really organic; that there is some intra-cellular or other change; that something is wrong with the nerve cell if it ceases to act, or with the nerve fiber if it ceases to conduct. The question is: Do these people invent the contraction or reversal of the color fields? Do they invent the stigmata of hysteria? It is absurd to suppose such a thing.

---

[1] American System of Practical Medicine, Vol. iv, p. 467.

It is perfectly true that justice is not always done in the course, but it is true that an average of justice is done; and I have not such a contempt for the jury as some of my brethren have. It is just such differences of opinion as we have seen here today which make it difficult for the layman to decide what is right. I have rarely met with cases in which the damages are greatly in excess; if so, the cases are appealed, or new trials are had, and a smaller verdict given. It is the exception too that large amounts are given; more often the amount which is given is inadequate to the actual injury sustained. I am fully in accord with Dr. Sinkler's views in regard to treatment, and I can also endorse his statement that the rest treatment does not always cure these people. Some of them are hopelessly injured.

Dr. Daniel R. Brower, Chicago—I am glad that I had the privilege of listening to Dr. Bevan's excellent paper; no matter if we differ from him in his conclusions we must admit that he has made a very careful study of his cases. The members of the Section, generally, will agree with Dr. Bevan that many cases of so-called traumatic neurosis are manufactured by lawyers and doctors, the symptoms being developed by the expectation of damages. If all physicians were as judicious in their management as the essayist, there would be but few suits for damages. There is, nevertheless, nervous disease; of a prolonged and intractable character, that is produced by trauma. The case presented by Dr. Lloyd is in point and exceedingly instructive, demonstrating that death may occur in a traumatic neurosis, with pathological lesions, that seemed to be trifling.

Dr. Bevan's interesting paper has distinctly set forth the fact, which we all recognize, that many of the cases can be cured by suggestion.

Dr. Sayre, New York—I for one must say that I do believe in the existence of traumatic neurosis, and I have seen these neuroses simulate very closely surgical lesions. I have in mind one case that received a violent fall, was supposed to have injury of the spine, was treated in one city for six months for Pott's disease, in another by means of a plaster jacket for about a year, in another with a spinal support, and in a fourth with another plaster jacket, and who presented almost a typical case of Pott's disease of the spine. One leg was very much atrophied, and the patient was hardly able to move without assistance. I watched that case for a week or so before I came to a diagnosis, and it seemed to me that it must be something besides the spine. These symptoms had all come on immediately after an injury; there was no question of litigation, as it was a runaway accident. I found that the patient had a retroflexed uterus, pressing on her sacral nerves, and on an operation being done, the atrophy of the leg disappeared, the pain on movement and the muscular contraction of her spine also disappeared. Four other men, whom you all know very well, of wide experience, had had her under observation for a period of about three years. That woman had simply a nerve irritation from pressure, and when that pressure was relieved the atrophy of the leg passed away.

I have seen another case of a woman who was working on a stamping machine that she drove with her foot, to punch button-holes or something of that sort, and she also developed a curious train of symptoms in the leg with which she was accustomed to work. A violent pain would occur in this leg and knee. Then a large blue swelling would occur, according to her statement. That knee became very tender; she said it was impossible to move it; it seemed to so much resemble inflammation of the knee-joint that one of our most prominent surgeons in New York opened that knee and, finding nothing, sewed it up again. It was concluded that she had an abscess in the head of the tibia, and it was suggested that that be explored. She would not allow this, and went to another hospital. She was referred to me by a colleague under the impression that it was a chronic inflammation of a knee-joint. I came to the conclusion that it was not an inflammation of the knee-joint, as the temperature of that knee was very much depressed below that of the other. The red bulbous swellings were also contraindication. I believe that this woman had an inflammation of the nerves of her leg, probably caused by her occupation. She was very neurotic. I put her leg at rest, I found that she had an infantile uterus; this I stretched and faradized, and kept her at rest for some months, and then gradually gave her permission to walk slowly; I toned her up and kept control over her mind at the same time. I took her out of the hospital and kept her under my personal control.

I think that there is no question at all in these cases that the personal element is very largely responsible for the rapidity with which you cure your patients. If you allow your patients any laxity they are very apt to relapse. This patient has at the present time an absolutely perfect leg and knee, although if she does too much with it she is apt to have twinges of pain.

Dr. Charles K. Mills, Philadelphia—This subject is too important a one not to be thoroughly discussed. Naturally the attention of the neurologists here would be directed to the statements made by Dr. Bevan, the railroad surgeon, and I think with Dr. Dercum that the statements, or at least the sweeping conclusions of his paper, should not be left to pass unchallenged. For many years I have had a very large experience in litigation cases. This experience has not been solely obtained in connection with the plaintiff; perhaps more frequently I have been employed by attorneys for the plaintiff than for the defendant, from the very nature of the case, and from the fact that most corporations have particular physicians in their employ. I have, however, somewhat frequently testified for corporations. I have even appeared in court in two cases on the same day, in one of which I was a witness for the railroad and in the other a witness for the plaintiff in a case against it. More than once I have examined cases for the claim agent of a railway at the same time that I have had cases for the plaintiff against the railway. I mention these facts merely to show that my position is not taken because of any particular prejudice or bias which has been obtained by the manner of my employment as a medical witness or medical adviser. The result of my experience is that, while in some, and perhaps many, cases exaggeration is present, and while also there are a few cases of absolute fraud and simulation, yet in the vast majority there is some genuine basis in real disease of the nervous system or some other part of the body for the claims which are made. This may not always be the disease which it is supposed to be by the physicians who are in attendance or the physicians who are called in either to assist the side of the plaintiff or the side of the defendant. It is important to study the statements made by our friend, the railroad surgeon, in the light of practical experience of this kind. His statements, as I recall them, were that there are very few cases of real injuries to the nervous system, even in accidents of so serious a nature as that to which he alludes, or at any rate in a certain percentage of the cases which he presented—not in the whole number. Above all, he made the statement, which is a serious one, that the cases were made by physicians who were called in to examine them and who were called in to testify. I think this last statement, in particular, is one which should not go unchallenged. I do not know what they do in the West in these cases, but I know the course which is followed in this part of the world. It often happens that the railroad surgeon is not competent to examine a patient who is alleged to have, or is supposed to have, some disease of the nervous system. If he is competent he will be likely, if he is an honest man—and usually he is—to make some statement as to the real state of affairs. The railroad surgeon sometimes passes by the real symptoms which are present, or he adopts the "brutal" methods which have been recommended in the paper we are discussing. The cases are forced to a speedy settlement, and are supposed to be cured. Often they are supposed to be cured for reasons which are wholly insufficient, because, for instance, the patient gets married, or goes on with his business, or does not present any active symptoms, or at least any symptoms which would be open to an ordinary observer. In many cases I have known such patients, years after litigation was ended and settled, to still present serious symptoms.

Dr. William M. Leszynsky, New York—I think that every experienced neurologist will echo the sentiments of Dr. Mills and Dr. Dercum in regard to this matter. It has always seemed to me that the railroad surgeons examine these cases with the preconceived notion that all are frauds, and, consequently, the diagnosis is often erroneous and results in unnecessary confusion.

I have recently seen two patients and read the reports of the railroad surgeons, which were submitted to me by the railroad companies, in order that I might confirm or negative the official conclusions that these claimants were frauds. Both instances were perfectly clear cases of traumatic hysteria, with all of the stigmata, and many of the symptoms with which we are so familiar. If the railroad companies which employ surgeons at an annual salary would also employ a neurologist such errors in diagnosis would be avoided. The methods, recommendations and conclusions of the reader of the paper are, in general, impracticable and unscientific, and are not in consonance with accumulated neurological experience.

Dr. W. T. Bishop, Pennsylvania—My own experience as a witness in behalf of corporations is that they want you to tell the truth before and after going on the witness stand. I saw one accident in which some forty odd persons were injured, and saw every case. There was one lady who claimed to be very seriously hurt; I found that she had a very large button on her petticoat, and she imagined she had been hit in the back.

Dr. A. E. Sterne, Indianapolis—It strikes me that this question can be looked at from several sides judiciously and wisely and with perfect honesty. I am much of the mind of Dr. Brower when he says that the way things are done in the East is very different from the Middle West. I believe that a large part of the conditions that arise in these patients are bred and born of circumstances. It depends very often on the surroundings, and largely on the locality in which a person lives as to whether or not he will put his case in legal hands or whether he has any choice in this matter whatever. I know that in all parts of Indiana there are lawyers in every town, and several firms of lawyers in the city of Indianapolis, who make it a point the moment they hear of an accident to investigate it and step in and take charge of the case if possible. Those men study up these questions, usually not with the acumen of a neurologist, and usually a neurologist can trip these men up, but ordinarily they instill into these claimants for damages a certain amount of ability to do and say things as they would be done and said by patients with these injuries. As far as I am personally concerned, I try to keep out of every damage suit, whether it is for a corporation or a private individual. Further, there are a great many of these cases in individuals who are undoubtedly injured, and permanently injured. Neurasthenia, whether we meet it simply or traumatically, is certainly a loss of power of the nerve cells. Fright causes conditions outside of accident; why not then in accident? Every year the question of expert medical testimony comes up in almost every society, and we very seldom come to any definite conclusions; in fact, we can not well do so inasmuch as the law allows so much latitude in such matters. Under all circumstances this question must be very carefully handled. It would certainly be a gross error to declare that every damage case for injuries received is fraudulent, or even suspicious, but it is just as well to bear in mind the apparent necessity which compels a claimant to remain invalidized as long as litigation is in progress.

Dr. David I. Wolfstein, Cincinnati—From the tone of some of the arguments made here one might think there was doubt as to the existence of the condition known as traumatic neurosis. I certainly thought, notwithstanding the rather brisk argument of the surgeon, that traumatic neurosis was an accepted and well-defined state. Even after the surgeons have eliminated malingering, and the ills born of pending or intended damage suits, there are certainly many cases which are deserving of the name and which I fancy would defy most obstinately the essayist's methods.

I should very much like to have heard brought out in the discussion more exact information as to classification. Shall we differentiate between traumatic neurosis and traumatic hysteria? Shall we reserve the term neurosis for those cases which do not present any hysterical stigmata? Furthermore, it seems wise to me to limit the term "traumatic neurosis" to such cases as do not present palpable and visible lesions, at least of grosser nature. For this reason, with the greatest respect for Dr. Lloyd's remarks, I do not think a case such as he quoted should be made to bear upon this subject. I doubt if a case so acute, so rapidly fatal and with such grave symptoms, presenting what seems to me to have been small hemorrhagic foci, is properly a case of traumatic neurosis. I think traumatic acute myelitis would probably better apply.

Of course, we must continue to believe that every pathologic condition has underlying it a corresponding anatomic, or molecular alteration of tissue, in the nervous system, as elsewhere. However, I fear we are accentuating too enthusiastically the advantages of the Nissl, and even the Marchi, method in diseases of this order.

Dr. Richard Dewey, Wauwatosa, Wis.—I regret that Dr. Bevan did not remain to hear the discussion of the paper, and to sum up in answer to the objections raised. The paper is one which I heard him read several years ago before the Medicolegal Society of Chicago, and it seems to me desirable that the secretary of the Section be invited to request him to bring his paper down to date and to report at the meeting of this Section next year, giving any further light that may be possible on the cases which are reported as they stood several years ago. The remarkable fact of all the patients recovering that were under his care, and none of those, or apparently very few of those that were not, would make it seem that there was something fallacious in that. It is possible that the patients, as has been mentioned here, who apparently were well, might have many symptoms remaining of the neurosis from which they suffered, and that the apparent recovery was not merely the result of their being under the care of a particular physician.

Dr. Watson—I want to speak of the possibility of injuries being very slight, so far as external appearances are concerned, and yet develop very serious nervous disturbances, extending over years. I recall to mind a case of railroad injury, some eight or nine years ago, where there seemed to be but very slight injury, with recovery in three weeks' time, but after about five years she exhibited symptoms which were only referable to the accident; until she came under my treatment she was a hopeless invalid.

Dr. Nathan Herman, Baltimore—I notice that there is a tendency in this interesting discussion, the whole of which I unfortunately did not have a chance to hear, to make a distinction between psychoses and neuroses, between functional and organic derangements. I am one of those who believe that there is no functional derangement without an organic basis, and although, as in other diseases, the extent of the organic lesion may not comport with the functional disturbance, or vice versa, still I believe there is always some organic disturbance as the basis of the trouble. If this is difficult to find post-mortem, as we know it is, how much more difficult ought we expect its discovery to be ante-mortem.

I will cite a case of mine which will at least serve to illustrate the reality of the disease. It is the case of a youth of 20 years of age, who, in consequence of a slight accident in connection with a cable car, developed a marked tremor, or rather jactation, of the right leg. He went the rounds of hospitals in various cities, becoming, with some remissions, on the whole gradually worse, and finally landed at the Hebrew Hospital, of Baltimore. When he came under my treatment his condition resembled very much that of paralysis agitans, and I so called it in a paper presented before the Medical and Chirurgical Faculty of Maryland. There was no possible reason why this youth should malinger. The case was finally cured by hypnotism, all other means having failed. It might be contended that the fact of the cure being effected by psychical means would prove the purely psychical nature of the case, but, on reflection, it appears not more unlikely that a pathological condition with an anatomical basis should be benefited by the exercise of psychic function than that a similar state of affairs in the so-called physical realm should be benefited by means of the exercise of physical functions, which, indeed, is a common occurrence. The success of the psychical treatment, therefore, by no means justifies the condition that a lesion did not exist.

Dr. G. W. McCaskey, Fort Wayne, Ind.—It seems to me that there must necessarily be some sort of anatomic basis for the chronic functional disturbances of neurasthenia, although there are some things which appear very difficult to explain in harmony with this theory, among which may be mentioned the sudden development of symptoms in some cases. These anatomic changes are not, of course, supposed to be of a gross character, but relate to the intracellular structure of the protoplasm. Such changes may be the result of either excessive fatigue, autointoxication or traumatism, as in the cases of traumatic neurasthenia, the existence of which was pointed out long ago by Charcot. There are many elements in these cases connected with railroad injuries, the psychical ones being quite important, and I can fully corroborate the statement made that these cases, especially when concerned in litigation, practically always exaggerate their symptoms. Sometimes this is done consciously and at other times unconsciously, but always to the great detriment of the plaintiff in the eyes of the expert, the jury and the court.

Dr. Barker—It must be remembered that in all large railroad accidents there is a certain percentage of those who go on their journey and make no claim for damages, and yet who are injured seriously by shock.

Dr. C. C. Herman, Pittsburg—One feature of these cases is that when a physician gets on the stand to testify he is put upon self-defense, as each lawyer is trying to obtain such answers from him as will strengthen his side of the case—questions of a double meaning, unanswerable until rearranged and answered separately. I think the author unnecessarily severe in some of his statements; also he seems to have little faith in either the ability or honesty of the neurologist. I have often seen faith limited by the meager knowledge of the subject. I am willing to endorse the essayist as a surgeon on the merits of his paper, but not as a neurologist.

The Chairman—I believe that some misapprehension has arisen as regards Dr. Bevan's stand on this subject. I happen to know Dr. Bevan very well, have talked with him about the affections under consideration, and am sure he does not at all believe that these patients with traumatic neuroses or psychoses are simply simulators, exaggerators, liars and plunderers of the railroad systems. I regret that he could not remain to explain his position, but I think he did not make any statement approximating that idea in his paper. What he particularly meant was that if taken promptly after the accident, and then handled properly, the old chronic cases of traumatic neurosis, which he recognizes as a disease, would be obviated. I believe that that is a fair statement of Dr. Bevan's position as regards that particular point.

Dr. Charles W. Burr, Philadelphia—It seems to me that a very large part of the discussion this afternoon has been used in breaking down an already open door. Certainly no one doubts the existence of traumatic hysteria. I do not know what Dr. Bevan meant to say, but certainly the whole implication of his article was that practically hysteria was another name for fraud. That was the moral most of us drew from his paper. Of course, men may pretend to have hysteria, as men pretend to have broken legs, but the reality of the existence of the disease is beyond question.

I was in hopes that something would be said on the other side of the functional question. Most of the speakers have assumed that hysteria has an anatomic basis. There is no known anatomic basis for hysteria. If by organic disease we mean a disease that, either to the naked eye or to the microscope, will show some change in which we can say, from the state of the organs in death, without any prior history, that the patient had that or the other disease, then we must say that hysteria is not an organic disease. The most careful study will not enable any man to say post-mortem that this was a case of hysteria. So long as that is true, we are bound to say that hysteria is a functional disease.

As to prognosis, I have had one case which lasted for twelve years, although it was settled three months after the accident. The patient is now a classical picture of hysteria, and will probably so continue until death. As to the possibility of disease, at first functional, becoming organic, a year ago I made an autopsy on a woman who had been an inmate of the Philadelphia Home for Incurables for fifteen years. She was sent there fifteen years ago with a diagnosis of chronic incurable hysteria. She was paraplegic, anesthetic, and had some special sense symptoms. Many very good physicians had examined her during the years of her illness, and all agreed that she had hysteria. I watched her three months out of every year for ten years. She did not change at all. Last year she died of Bright's disease, and post-mortem there was a diffuse myelitis of the spinal cord. Did that woman start out with a functional disease thirty years ago and finally end up with the organic disease, or was the disease originally organic? Of course, I agree entirely with Dr. Sinkler as to treatment.

Dr. Wharton Sinkler—In regard to the matter of bulldozing sick people, the fact that a person may be made by strenuous effort and insistence to get up and go about does not prove that he has no organic disease. It is a well known fact that a person having an organic disease, like a brain tumor or a myelitis, may, through hypnotic suggestion, be brought to do certain things. The fact that this has been done by the method which Dr. Bevan has suggested does not prove that his cases were simply imaginary.

PHYSICIANS AS SPEAKERS.

WILLIAM WHITFORD.

OFFICIAL STENOGRAPHER, AMERICAN MEDICAL ASSOCIATION.

CHICAGO.

Introductory Remarks.—The communication of thoughts by means of spoken language is an art that can not be acquired to any great degree of perfection except by long and continued practice. Some physicians are more highly gifted than others with facility of expression, and they are naturally endowed with the power of eloquence; but to none is it at all times an easy process to embody, in exact and appropriate language, the various trains of ideas that are passing through the mind. However distinct may be a physician's voice, however vivid his conceptions, he is often conscious that the phraseology at his command, particularly in public speaking, is inadequate to do them justice. He seeks in vain the words he needs, and strives ineffectually to devise forms of expression which shall faithfully portray his thoughts. He employs words and phrases either too general or too limited, too strong or too feeble, which suit neither the occasion nor the subject-matter.

It has been said that physicians seldom appear to advantage in public speaking. They are often summoned to testify in courts of justice, where their resources of expression may be taxed for hours. They are frequently placed on boards of education, on committees dealing with sanitary conditions, and on the common councils of cities. In meetings of citizens they are asked for their views on propositions affecting the public health, and, if successful in their professional careers, may be associated with the faculties of medical colleges. They are also members of city, county, state and national medical associations, where debate is had on papers read and questions relating to the rights, privileges, or standing of the profession, or regulations for the management of the organizations. Yet for such positions many, otherwise qualified, are unsuited because they have neglected the study and practice of free expression. Some distinguished members of the medical profession have deplored this lack and have urged upon medical students the importance of attending to the subject.

Voice and Pitch.—The pitch, intensity, and amplitude of a speaker's voice have much to do with the work of the reporter, in that they will greatly expedite his work or render it extremely difficult. A physician, in addressing a convention in a large hall, may pitch his voice so low that perhaps only one-half of the members can hear distinctly what he says, and it is largely guesswork for the other half to grasp his meaning. If a reporter be reporting the proceedings of a large association, as, for instance, the American Medical Association, and the members rise and speak from various parts of the hall, the pitch of their voice will play an important rôle for good or bad. The acoustics of a hall may be perfect, but if a physician's voice is improperly pitched, he will be imperfectly heard; and, in such instances, incorrectly reported. It is an irksome task for any reporter, no matter how acute his hearing may be, to report a physician who has a low-pitched, thick voice, coupled with a mumbling mode of utterance. On the other hand, the physician who takes cognizance of acoustics and pitches his voice in a much higher key, if he articulates well, can be heard in the remotest nook or corner of a large convention hall without apparently any unusual effort. A low-pitched voice, combined with rapidity and indistinctness of utterance, will worry most reporters. A physician with a tolerably high-pitched voice may be clear and distinct in utterance, yet excessively rapid in delivery. His clear-cut sentences may flow uninterruptedly at the rate of between 160 and 190 words per minute. Such a man can be reported with comparative ease by an efficient hand. Reporters sometimes have to report physicians with imperfectly attuned voices, who speak in a go-as-you-please fashion. Their sentences are diffuse, involved, and deficient in precision. The one who tries the mettle of the reporter is the quiet, easy, fluent speaker, who speaks just loudly enough to make himself distinctly heard, and pursues the even tenor of his way without a pause, without emphasis, without anything that can check the rapidity of his utterance.

It is a pleasure to report the masters of language, of tone and gesture, who possess voices remarkable for their volume and range and their capacity to express every shade of feeling and of passion of the human soul. Deep in tone, and perhaps melodious, such voices are magical in their power of controlling the feelings of those who listen to their varying cadences and exquisite modulations. The Rev. Joseph Parker said that the late Mr. Gladstone had "a rich, round, deep, expansive, melodious, grand voice." The voice of Henry Clay, we are told, had "an indescribable charm. It could ring out in trumpet tones, or it could plead in low, plaintive notes, which pierced and thrilled the hearer." The voice of Daniel Webster was "deep, rich, musical, flexible, and of prodigious volume and force." Mr. Lecky, in writing of O'Connell, says: "With an easy and melodious swell, his voice filled the largest building and triumphed over the wildest tumult, while, at the same time, it conveyed every inflection of feeling with the most delicate flexibility." On the other hand, Thomas Jefferson failed as a speaker simply for lack of voice. His voice became guttural and inarticulate in moments of great excitement, and the consciousness of this infirmity prevented him from risking his reputation in debate.

Wendell Phillips advised, for public speakers, a sustained conversational tone, a little elevated above the ordinary, with an effort at distinct enunciation. He advised, too, vernacular speech, even colloquial in tone.

A clear, distinct, far-reaching voice is undoubtedly a natural gift, although physicians, as speakers, can do much by training to acquire an agreeable tone. In reporting loud, excitable, inflammable speakers, I have met with difficulty at times in catching the exact words, owing to deficient enunciation or muffled syllables. Occasionally a great speech is delivered which seems to preserve in print some of the chief elements of its power; but in the vast majority of instances it is but the worthless remains which the most expert reporter can give of that which, in its utterance, so charmed or electrified the audience. Bright, Gladstone, Phillips, Clay, and other great orators understood the secret of how to pitch the voice so as to make it audible to everybody in a large hall. If the acoustic properties of a hall are good, the voice pitched in the right key will carry; if those properties are bad, the shouted words will be heard no better than if they were whispered.

As the possessor of a good, clear, penetrating voice, I may mention Dr. Dudley S. Reynolds, of Louisville, Ky., who usually takes a conspicuous part in the proceedings of the general sessions of the American Medical Association. A more powerful, rotund, far-reaching voice is rarely possessed by any public speaker. It is an organ-toned basso of unusual range and carrying power. Whenever Dr. Reynolds utters the words, "Mr. President!" in true oratorical style, in a general meeting of the Association, it is the signal for craning of necks and upturned faces. He commands attention at once. The same may be said of Dr. W. T. Bishop, of Harrisburg, Pa., who has a naso-metallic voice of wonderful carrying power. He likewise takes an active part in the general meetings of the Association, and whenever he rises to speak and the President asks him to announce his name and state, he exclaims, "Bishop, of Pennsylvania," with a trumpet ring of the voice that can be heard in the remotest nook of a large assembly hall.

The voice and manner of some speakers make those listening restless, weary and uncomfortable, even when the subject-matter of the address was valuable and of interest, the speakers themselves being usually entirely unconscious that the effect produced was so contrary to their aim. Doubtless, too, nearly all have at some time been made sensible how much of soul-stirring power may be communicated by the tones of the human voice alone, whether employed in speech or song, and I can appeal to the experience of many to witness that it is not so much in the words, however intense their meaning, as in the tones which convey them, that the soul's utterings are clearly recognized. The possibilities and results of a good voice can not be fairly estimated; they are too far-reaching; and it requires but little thought on the subject to realize that the direct benefits accruing to the possessor of a clear, well modulated voice are incalculable. The conversion of a poor, unpleasant voice to one of rich and musical quality discovers to its owner the energy of unsuspected forces.

The disadvantage of a weak voice or of speaking habitually in a feeble manner is the not being heard at all, or with difficulty. But a more subtle and pernicious consequence is that it reacts unfavorably upon the mode of thought and expression. While speaking too low is a fatal impediment, it is detrimental to speak too loud, for the reason that the ear is pained, the attention distracted, emphasis defective or excessive, the nerves of the hearers irritated, and if the voice be in any degree strained, it will be neither sweet, soft, nor agreeable. The consonants should be articulated distinctly, but not to the neglect of the vowels, in which inhere all the best qualities of the voice as well as its carrying power.

It is said that a medium pitch should be the basis of speech. From it one may rise or fall, according to intellectual and emotional requirements. Height and depth are necessary. Beecher said, "What a speaker most needs is to strengthen his ordinary conversational voice, without giving it a hard, firm quality; that is, without destroying its flexibility and power of adaptation to every mood." It is a fine art to be able to lower one's pitch. Some scream on to the end during an animated discussion from sheer exhaustion; others spasmodically fall to a low note, but immediately forget themselves and run up to the same pitch, vociferating until out of breath.

The acoustic properties of most auditoriums or convention halls are imperfect. But these defects generally have a physical cause which admits of being guarded against by the adaptation of the speaker's position and tone. Monotony of a low-pitched voice exerts a soporific influence over an audience, which no strength of thought nor beauty of language can wholly counteract; and if there be regularly recurring minor notes, the most startling expressions lose their power. Even to those who do not sleep the sounds bear no sense. The prime object of a speaker should be to make himself understood, and to this end sense should never be sacrificed to sound. A speaker should never use more force than necessary. If requested to speak louder, he should beware of raising the pitch of his voice; by a slight increase of volume on the same key he can make anyone, whose organs of hearing are not defective, hear distinctly. The groundwork of good speaking is the tone of lively conversation.

Vivacity is not force, yet many speakers, to evoke interest, use more force, when the only means of gaining what they seek is increasing animation. Dr. Henry Mandeville gives a distinction of supreme moment between force and vivacity. He says: "We should be careful not to confound force with vivacity. Force is strength, energy; vivacity is life, animation. Force has respect to the hearer, vivacity to the subject. . . . Force, to the verge of vociferation, especially if uniform, may be associated with dullness; vivacity never; and yet there may be great vivacity in speakers who have little force. . . . Force is under the control of the will, and is measured and regulated by the judgment; vivacity depends upon the feelings and their susceptibility of excitement from the progress of discussion. The one is therefore voluntary; the other involuntary. A speaker can command force at any time; but vivacity, if it comes at all, comes without being summoned or solicited. It appears only when the speaker begins to be interested in his subject; and as this penetrates and warms and absorbs him it grows apace independently both of judgment and volition."

The late Mr. Thomas Allen Reed, an eminent English reporter, says: "I have heard speakers laboring hard to make themselves clearly heard by a large audience, but to very little purpose; they have been speaking in their ordinary tone of voice, and straining every nerve after a distinct utterance; but their pitch has been too low. A very little elevation would have made them more audible with much less exertion. I have known speakers with extremely weak voices make themselves well heard in large rooms by simply attending to pitch and clear articulation." A loud voice may be a very indistinct one, sometimes indistinct because of the loudness. The essence of distinctness is a clear, crisp articulation. With some speakers the vowels absolutely drown the consonants, which have thus no opportunity of asserting themselves, and the result is that the hearers have but a vague conception of the words that are uttered. Audibility is not dependent on volume of sound. Many speakers are unintelligible because of loudness of voice. A peculiar effect is often produced after the first few minutes by the very loud speaker, especially if in a monotone. The auditors are delighted to hear his strong, melodious voice, but after listening for a while they become conscious of difficulty, and before he closes have lost interest. The impact upon the tympanum and upon the finer fibers within has dulled sensibility. Some speakers employ but two tones, one a low pitch, and the other a piercing shriek, which they alternate with uniformity now and again, with no regard of sense or length of the intervals. Others allow the voice to fall at the end of sentences, and occasionally on emphatic words. Those who attain high success as speakers must be heard agreeably, and, if possible, their voices should be musical. Under no circumstances should the speaker be content to allow his voice to remain rough, harsh, or grating. Many extemporizers have but one style of delivery. Their tones are the same whether they deliver a business statement, a presentation speech, a congratulatory address at a golden wedding, a witty after-dinner response, or a patriotic oration.

Suggestions for Speakers.—No pains, nor toil, nor time should be spared in careful preparation, in making descriptions of cases graphic and forcible, statements lucid, appeals pathetic, in filling the subject with what will both strike and stick. It is necessary that a doctor shall have a clear conception of his subject in order to instruct and convince. Vivid conception generates power. Let the divisions of subjects be clear and logical. These should be simple, natural, progressive, and thoroughly mastered. If possible, the physician should have facts, points, arguments and illustrations at his tongue's end. There is power in illustration. Let the illustrations be from recent occurrences.

Delivery.—The first duty of a physician in addressing an audience is to make himself heard. If he speaks very rapidly, his hearers will miss words here and there, and he fails to produce the effect intended. He should be full of his subject and impressed with its importance. He should speak deliberately, enunciate distinctly, and in a natural voice. He should express his thoughts with clearness and force. His peroration should be a sharp, clear summary of established propositions, forced home, perhaps, by an impressive illustration. One of the cardinal virtues of good speaking, therefore, is distinctness of utterance. A speaker may be slow and deliberate, may express himself in exceptional English, and be in all other respects easy to report; but if he has not acquired the art of making himself heard, much of what he says loses its effect.

The real secret of effective delivery lies in the ability of a speaker to impress himself with his subject. He for the time becomes the standard by which all thought and feeling and sentiment of a whole assembly are measured; nor can he hope to produce in his hearers an interest greater than his own. A good speaker, as his mind becomes inflamed with unwonted activity, rises to a plane of thought and feeling of which he himself is altogether incapable in his calmer moments. His conception is sharpened and his thoughts come with a clearness and precision that leave no time for hesitation. The mind, as it were, becomes intoxicated with its own ideas. The perception of the hearer is correspondingly quickened, and the audience, catching the inspiration of the speaker, unconsciously rises with him if animated by the same spirit. Speaker and hearer have become thoroughly *en rapport,* and it may be truly said of a great assembly, "a thousand souls with but a single thought, a thousand hearts that beat as one." Ability to become deeply impressed with the subject under consideration, the power to rise to a sublime conception of it in delivery, and the faculty in a speaker of transmitting his own inspiration to his hearers is the real basis of good, effective speaking. While all physicians can never hope to attain a high type of oratory, still some may be greatly benefited by a better understanding of the principles that underlie good speaking.

One of the facts disclosed by reporting physicians for the last sixteen years is the marked tendency toward greater simplicity of expression. Involved sentences and the use of big words to say little things are not tolerated as they once were. Conciseness and condensation, as elements of style, have largely taken the place of classicism. It is not so much stateliness as incisiveness that is sought. The axiom of the modern speaker appears to be that to talk effectively one must speak tersely. The most pleasing and impressive speakers are those who understand word-history best, and who are most skilled in the nicer refinements of our vocabulary. To feel the force of all there is in their speeches we must partake of the same kind of knowledge, and hence derive the same discriminating instinct.

Diffuseness.—A common error among young physicians, in discussing papers read before medical societies, is a tendency to diffuseness, which may be defined as a copious use of words so arranged as to create the suspicion that a thought is somewhere concealed among them. The youthful physician, and, we regret to say, some of the older members of the profession, in debate, feel it necessary to describe ordinary things in an extraordinary way, and strive to dignify commonplace thoughts by clothing them in fulsome rhetoric. The result is a painful incongruity between the thoughts and their apparel. For instance, a young physician instead of saying that a man was thrown sideways from his carriage, breaking his leg and putting his ankle out of joint, said that "the patient was projected transversely from his vehicle, fracturing the tibia and fibula and luxating the tibiotarsal articulation."[1] Again, another speaker, instead of saying that he had found a large cancer of the liver at a post-mortem examination, said that he had found "a colossal carcinomatous degeneration of the hepatic mechanism." The effect of the use of such large words is usually heightened by an overwrought, stilted delivery as unnatural as it is unnecessary. These faults can be corrected by time and experience. Simplicity is really the thing to be sought. In this connection we are reminded of an excellent story which is told of Dr. Skinner,[2] an eminent theologian. He was unable to use simple words in either preaching or lecturing. One Sunday he was asked to address the Sunday-School class, and consented to do so. He began his address in this wise: "The Westminster Catechism is an admirable syllabus of Christian doctrine." As soon as he had uttered those words, the superintendent intimated that the children could not understand him, whereupon he said: "Your superintendent informs me that you do not understand what I say. Let me explain: Syllabus, my dear children, is synonymous with synopsis."

Rate of Speaking.—The average rate of public speaking is put down in most shorthand text-books at 120 words per minute. This average is too high for the medical profession, whose members deal largely in technical terms. The rate of speaking of some of the greatest orators varies from 100 to 130 words per minute. It is said that John Bright and Gladstone, in beginning their speeches, rarely exceeded 85 words per minute, but as soon as they became interested and deeply absorbed in the subject in hand, their rate of speaking ranged all the way from 85 to 130 words per minute, and during flights of oratory they would reach 150 words per minute for a short time. Bryan, the Democratic candidate for President, in delivering an address to a large audience in this city not long since, spoke so slowly that his speech was taken verbatim by an expert typewriter operator. He did not exceed 82 words per minute. The late Colonel Ingersoll, one of America's greatest orators, spoke at the rate of 130 words per minute, and could keep it up for hours without, apparently, any strain on his voice, which was that of a sustained, animated conversational tone. My estimate of his rate of speaking is based on a lecture which I reported for a local newspaper several years ago. At that time the Colonel spoke for two hours and forty minutes. One of the most rapid speakers in the medical profession I have ever reported was the late Charles T. Parkes, professor of surgery in Rush Medical College. I reported twelve didactic lectures for him on "Fractures and Dislocations." These lectures were delivered without notes. His average rate, during a fifty-minute lecture, was 175 words per minute. Parkes belonged to the jerky, spasmodic type of speakers. Words fell from his lips in volleys, and each volley was usually preceded by a short grunt.

I append a partial tabulated statement, giving the rates of speaking of those physicians whose discussions and lectures I have repeatedly reported from time to time:

Speaker.	Rate of speaking.
Joseph M. Mathews	110 words per minute.
George Ben Johnston	110 .. .. ..
William E. Quine	115-130 .. .. ..
D. R. Brower	115 .. .. ..
F. W. McRae	115 .. .. ..
Robert T. Morris	120 .. .. ..
W. E. B. Davis	120 .. .. ..

---

[1] Edmund Andrews: Introductory Address, JOURNAL, Vol. xxv, Nov. 2, 1895.

[2] James M. Buckley: Extemporaneous Oratory.

Speaker.	Rate of Speaking.
W. W. Keen	125 words per minute.
Rudolph Matas	130 " " "
Charles A. L. Reed	130 " " "
Arthur D. Bevan	130 " " "
T. J. Happel	135 " " "
D. A. K. Steele	135 " " "
Richard Douglas	140 " " "
Nicholas Senn	140 " " "
J. Henry Carstens	140 " " "
Howard A. Kelly	140 " " "
Henry M. Lyman	145 " " "
James F. Baldwin	150 " " "
J. B. Murphy	150 " " "
A. M. Cartledge,	160 " " "

Only a rough estimate can be given of the speed of any speaker, for the reason that his rate of utterance varies with the nature of the subject, his familiarity with it, etc. Senn, Carstens, Quine, Bevan, Kelly, Keen, and many others vary their rate of speaking very materially, particularly when familiar with the subject under discussion, and pressed for time.

Logorrhea.—Washington Irving says: "Redundancy of language is never found with deep reflection. Verbiage may indicate observation, but not thinking. He who thinks much says but little in proportion to his thoughts. He selects that language which will convey his ideas in the most explicit and direct manner. He tries to compress as much thought as possible into a few words. On the contrary, the man who talks everlastingly and promiscuously, who seems to have an exhaustless magazine of sound, crowds so many words into his thoughts that he always obscures, and very frequently conceals, them.

The free and unrestrained use of words leads to volubility, profuseness and increased rapidity of speech, and increased rapidity of speach leads to inaccuracy of expression, which sometimes renders the efforts of a speaker worthless and unavailing. The reporter in such cases is the protective shield of the speaker, and everything spoken by such men should go through a kind of reportorial refinery before it is published. A lawyer, for instance, has a good case, and has it well prepared. On the trial he examines his witnesses with a string of questions so involved, complicated and illy expressed, and the ideas sought to be conveyed to the jury are so deeply buried and hidden beneath a mountain of needless words, as to bewilder and confuse, and then he wonders why he lost his case. No one is better situated to note the disastrous effects of the inapt and ineffective use of words than the reporter. Pope expressed the matter in a few words when he said:

> Words are like leaves, and where they most abound,
> Much fruit of sense beneath is rarely found.

Long sentences are fatal to clearness and force, however well constructed they may be, and should be studiously avoided.

Precision.—Precision is also of the utmost importance, and can only be attained by a nice discrimination in the use of words. Such words should be chosen as shall express the exact shade and quality of meaning required by the context.

Ambiguity.—Ambiguity is another foe to clearness. The arrangement, as well as the language, should be such that we not only may, but that we *must,* be understood. The first principle of strong oral composition demands the employment of as few words as will clearly express the thought. This rule, carefully followed, will eliminate redundancy, circumlocution, and all kindred evils that weaken the style of many otherwise good speakers.

Analysis and Plan of Delivery.—Much depends upon the analysis of the subject and the plan of delivery. Many physicians, gifted with a certain eloquence of voice and manner, have a faculty of entertaining their auditors with a sort of medley in which neither plan nor purpose is apparent. They may discontinue speaking at any point, and no one would feel its incompleteness, or be in anywise disconcerted. After hearing such a speaker one is conscious of having remembered nothing in particular, and carries away no impression save that of having been pleased. With other physicians the marshaling of sentences and propositions is apparent from the beginning, and the march to a conclusion as concerted and orderly as the advancing columns of an army.

As one of the greatest elements of success in good speaking, may be mentioned careful and thorough preparation, and a clear idea of the subject to be discussed. No physician can expect to sway his hearers unless he is a perfect master of the subject in hand. In growing earnest, impressive, or in reaching for a climax, it is not necessary for him to rant or roar. Much energy is wasted by professors in lecturing to medical students in this way that might be advantageously saved. To be energetic and eloquent, it is not necessary to declaim boisterously.

Many physicians begin speaking before they know precisely what they mean to say. Others perceive things clearly, and those having this power, though of slow mind, may speak more coherently and fluently than those who, without clearness of thought, possess greater animation. The unlearned and untrained may think as clearly and deeply, within the circle of their powers, as the accomplished; and frequently, on account of freedom from abstraction or distraction produced by a multiplicity of ideas, they penetrate to the heart of a subject, and reason more shrewdly and correctly than do the educated. This is particularly true of country physicians. In discussing ordinary medical and surgical topics, they frequently surpass the average college professor in clearness of thought, command of language, ease and vigor of expression.

Paucity of Language.—Paucity of language is a common defect of extemporaneous speech, and a stenographic report of several speeches delivered by the same person will exhibit this defect in a mortifying manner, when, in response to the requests of those who have heard them, the orator attempts to collect them for publication. It is then difficult for him to believe his vocabulary so meager, the forms of his sentences so similar, that so many phrases often recur, and that there seems to be an irresistible tendency to use the same words, even when other words express the shade of meaning which he endeavors to communicate with greater accuracy than the familiar terms which go so trippingly over his lips. Excess of repetition in the same speech is a serious evil and sufficient to account for the lack of success which attends many who are nobly endowed in voice and figure, and not destitute of a rich and expressive vocabulary.

Oft-Recurring Phrases.—Scattered throughout a reporter's note-book will be found such oft-recurring phrases as, "Permit me to say"; "I am ready to declare"; "I am bound to maintain"; "This is a fact and nobody can deny it"; "I don't mean this"; "In addition to this I mean"; "What I mean is this"; "It seems to me"; "It appears to me"; "One word more and I have done."

These are a few of many examples of such oft-repeated expressions. The legal and ministerial professions are as guilty as the medical profession in this regard. An old physician once said to me that whenever a man used such phrases during an impromptu speech he was "simply sparring for thought, and as filling material they came in nicely, but should never appear in print."

Reporters Sometimes Unjustly Assailed for Inaccurate Reports.—Occasionally a physician will severely and unjustly denounce a report of a lecture or discussion as inaccurate without stopping to think of the causes which lead to it. Inaccurate reports may be largely attributed to:

1. Noises in the room or hall in which the reporter is taking notes.
2. Indistinct utterance or imperfect enunciation on the part of the speaker himself.
3. A conversation being carried on near the reporter's table between two members, while some one is addressing the society.
4. The speaker dropping his voice at the end of sentences, the final words being inaudible or doubtfully heard.
5. Extreme hoarseness on part of the speaker.
6. Too great a distance between reporter and speaker, particularly when the latter has a voice of feeble carrying power.
7. Stifling of the speaker's voice by the noise of a car heard through open windows.
8. Sneezing or coughing during debate.
9. The slamming of doors.
10. Noises from the street during hot weather, when the windows of the hall in which a meeting is being held are open.
11. Clearing of the throat on the part of some person while another is speaking.
12. Partial, but temporary, deafness on part of the reporter induced by a cold.
13. A change in the physical and mental condition of the reporter, induced by a long siege of note-taking, the mind acting sluggishly and the muscles protestingly.
14. The speaker turning his back toward the reporter.

Physicians and Lawyers Compared.—The art of speaking well is not confined to statesmen, jurists, and clergymen. The medical profession, like the ministerial and legal professions, has orators within its ranks. The experienced doctor strives to use the simplest and most expressive words. According to Bryce, rhetorical excellence consists in: "1. The power of finding good ideas and weaving effective arguments. 2. Skill and taste in the choice of appropriate words. 3. Readiness in producing appropriate ideas and words at short notice. 4. Weight, animation, and grace in delivery."

I have had the pleasure of reporting the utterances of several eminent lawyers from time to time, and, to speak candidly, I must confess that they were not the superiors in any sense of many of the physicians whose impromptu speeches I have reported. I shall mention three striking examples of the extemporaneous type of speakers in the medical profession, and later submit a classification.

Dr. Nicholas Senn is a fluent, forcible and impressive speaker. He has an excellent command of language. There is a richness in his diction, a copiousness, ease, and variety in his expression which are rarely surpassed by the best extemporaneous speakers. The arrangement of his sentences in debate seems never to have been studied, yet every word falls into its proper place. He displays his ability as a debater to best advantage when under a heavy fire. On one occasion, during a spirited discussion, which was called forth by a paper which he had read, he sat with a smile on his face, listening attentively to everything that was being said, while several prominent surgeons were severely criticising the operation he had proposed; but when the time came to reply to the various criticisms that had been showered upon him, in an unassuming way he scored his opponents one after the other in a dignified but merciless manner, and showed with great clearness of statement how feeble and groundless were some of the views that had been advanced.

Dr. Charles A. L. Reed, of Cincinnati, Ohio, the President of the American Medical Association, is a splendid example of the extemporaneous speaker. As a debater he is well equipped. He is known for his elegant diction, his scholarly references, and the ornateness of his phraseology. His well-rounded sentences are marvels of construction. No matter how sudden the summons, or what the subject, a speech from him is always interesting. His rhetoric is faultless; his delivery graceful and easy.

Dr. Joseph M. Mathews, of Louisville, Ky., is an easy, graceful, fascinating, polished speaker. His style is notable for its simplicity. He can adorn any subject. Those who have had the pleasure of hearing his celebrated lecture on "The Lights and Shadows of a Doctor's Life," will recall with what eloquence, pathos, and flashes of humor he treated this subject. One minute his hearers were on the verge of shedding tears, the next convulsed with laughter, so easily and tenderly did he touch the chords of the human heart.

As examples of good extemporaneous speakers in the medical profession, men who make themselves heard, who know and feel what they say, and who can command the undivided attention of any audience. I may mention Drs. W. W. Keen, William E. Quine G. Frank Lydston, Harold N. Moyer, J. Henry Carstens, James B. Herrick, Weller Van Hook, Arthur D. Bevan, D. R. Brower, A. M. Cartledge, J. B. Murphy, Henry M. Lyman, William A. Evans, F. W. McRae, L. S. McMurtry, Dudley S. Reynolds, W. E. B. Davis, Rudolph Matas, T. J. Happel, Richard Douglas, George Ben Johnston, Lawson Tait, Joseph Eastman, Sir Thomas Grainger Stewart, William Macewen, and a host of others did space permit.

Classification of Speakers.—The reporter is constantly listening to speakers, good, bad and indifferent, and soon comes to recognize the qualities that cause a man to rank in one or other of those classes. He is essentially a speech-taster. It is a significant fact that speeches delivered in a quiet, deliberate way, when the speaker has a good command of sound English, and has something to say that is worth hearing, nearly always give the reader the idea that they must have been delivered with great fluency. On the other hand, the really fluent speeches, those with long sentences, each sentence containing several clauses, and sometimes one or more parentheses, give the reader of them the idea of hesitation and lack of preparation. A study of the different styles of doctors as speakers encountered during an extensive and varied reportorial experience is an education in itself, and by virtue of his vocation the reporter is compelled to study them. As there is no one more competent to criticise physicians as speakers than the man on whom devolves the duty of reporting them, I have made an attempt to classify the speakers whose utterances I have reported from time to time in medical societies. We have the following classes:

1. The moderately slow speaker.
2. The exuberant and tempestuous speaker.
3. The musical, flowery speaker.
4. The loud, husky speaker, whose voice is somewhat indistinct.
5. The grandiloquent speaker.
6. The rapid and spasmodic speaker.
7. The excessively rapid speaker.
8. The rapid, involved and indistinct speaker.
9. The one who hurls disconnected sentences at the reporter.
10. The clear, distinct, unassuming speaker, who talks with absolute precision, with perfect grammar. He is a *rara avis*.
11. The physician who commences his speech in a deliberate, measured, distinct, far-reaching tone of voice, and who, when he becomes influenced by the magnetism of his audience and their rapt attention, gives vent to rare flights of oratory.
12. The irrepressible speaker, who does not know enough to sit down while he is down, but who monopolizes the precious time of an important convention in saying practically nothing; still, his remarks are reported, transcribed, and then, perhaps, liberally blue-penciled, or consigned by the secretary of the association or editor to the waste-basket.
13. The one who jumbles up his nominative, his accusative and his verb with such picturesque incoherence that it is almost impossible to make head or tail of what he means.
14. The physician who threads his way through a long and apparently intricate sentence, never losing the connection of the parts, and coming out at the end with absolute precision.
15. The man who does not realize that his first duty is to make himself heard.
16. The physician who never completes his sentences, but is utterly oblivious of that fact when he criticizes the report of his speech.
17. The physician who misquotes, and then blames the reporter if he has not supplied the correct quotation.
18. The foreigner, who imagines that he speaks like a native.
19. The speaker who drops his voice at the end of sentences.
20. The low, mumbling, conversational style of speaker, who indulges in a free and rapid flow of words which taxes the reporter's skill and dexterity.
21. The physician who is extremely subtle in the use of words and phrases. The shades of meaning are so delicate by the judicious selection of them that the reporter must retain the original force and color of each sentence.
22. The physician who habitually clothes his hazy ideas in loose, disjointed talk, which, if transcribed as uttered, would mar, if not ruin, his reputation.
23. The one with a slow and fatiguing mode of utterance, whose sentences are diffuse, intricate and deficient both in eloquence and precision.
24. The physician who is clear, forcible, persuasive, with an eloquence natural and direct. (This type of speaker usually spends much time in meditation and in the composition of his speeches.)
25. The physician whose speeches are notable for their subtlety of discrimination and depth of learning.
26. The physician who evolves original thoughts and whose voice and gesture emphasize living truths.
27. The eccentric physician who stifles and distorts natural eloquence. His introductory is long; divisions and subdivisions of speech are perhaps illustrated by a pointless story.
28. The physician who carefuly selects his words and utters sentences that are models of syntax.
29. The man whose style is natural, easy and varied, with short clauses expressing vivid ideas.
30. The tautological physician.
31. The vivid, brilliant speaker who pours out a torrent of words, dexterously handled, and whose remarks are full of sudden turns and surprises, but are illumined by ingenious reasonings.
32. The man with a strange and unfamiliar style, whose sentences are portentously long.
33. The rapid and monotonous speaker who becomes tangled in his own sentences, and mispronounces words.
34. The physician who is known for his elegant diction, his scholarly references, and the ornateness of his phraseology.
35. The physician who stutters, speaks indistinctly, and yet is extremely technical.
36. The pompous speaker.
37. The physician who begins a sentence, but is not satisfied with its construction; he therefore draws up, makes a plunge in another direction, wanders about in a maze, and finally lands in a region of impenetrable obscurity.
38. The physician who is afflicted with that terrible malady—*cacoethes loquendi.*

The two qualities in a speaker which most delight reporter and hearers are lucidity of thought and distinct utterance. Purity of tone, clearness of enunciation, and deliberate utterance are what make public speakers heard and interesting.

THE IDENTIFICATION OF DEXTROSE IN HUMAN URINE.*

HEINRICH STERN, Ph.D., M.D.

Professor of the Diseases of Metabolism, College of Physicians and Surgeons, St. Louis; Visiting Physician, New York Red Cross Hospital; Attending Physician, St. Elizabeth's Hospital; Member American Medical Association; Member American Chemical Society; Fellow New York State Medical Association, etc.

NEW YORK CITY.

(Concluded from page 683.)

Repeated filtration of the urine through animal charcoal causes retention by the latter of uric acid, urates, coloring substances, some albumin, but also of certain amounts of dextrose. Powdered animal charcoal, freed from impurities as well as possible by washing and by extraction with hydrogen chlorid, is put to the height of 3 cm. into a filter measuring 5 to 6 cm. in diameter. Twenty to 40 cm. of urine are repeatedly filtered through this layer, until the filtrate is rendered perfectly colorless. As particles of dextrose are retained by the charcoal, this should be washed three times with distilled water, and each of the three washings is examined separately. Fehling's test is then applied to the filtered urine and the washings. The advantage obtained by this procedure is obvious, still decolorized urine may yet possess reducing factors.[9] It was found that, notwithstanding the absence of dextrose, the test occasionally reacted positively, and that, on the other hand, dextrose, which was positively recognized by other processes, could not be detected when repeated filtration through animal charcoal had taken place. The modification of Worm-Müller is a decided improvement on the older copper tests. It does not, however, eliminate the afore-mentioned disturbing factors, but their occurrence is not so formidable. This method depends on the fact that at a temperature below 70 C., reducing substances other than dextrose either do not react at all with the Fehling's solution, or only to a diminished degree. The reagent is prepared by dissolving 10 grams of potassium and sodium tartrate in a 4 per cent. solution of sodium hydroxid, or in a 5.6 per cent. solution of potassium hydroxid; 2.5 cm. of this solution, together with 1 c.c. of a 2.5 per cent. solution of copper sulphate, are heated not quite to the boiling-point. Five c.c. of the suspected, previously filtered, albumin-free rendered urine is heated to the same degree and at the same time. Twenty to twenty-five seconds are allowed to elapse for cooling, after which the urine in small portions is carefully put into the test-tube containing the reagent. The bluish-green color of the latter rapidly disappears if glucose is present; yellow-red cuprous oxid is separated, and together with xanthin bases and uric acid, is kept suspended in the mixture for a long time. The cuprous oxid is readily recognized by holding the well-illuminated tube against a dark background. If no cuprous oxid is separated within five or ten minutes the test should be repeated with 1.5 c.c. of the solution of copper sulphate; then, if still negative, 0.5 c.c. more of the copper solution—that is, 2 c.c.—are used. The testing, if the cuprous oxid has not separated in the meantime, is continued, and for each successive application 0.5 c.c. more of the copper solution is added, until 4.5 c.c. are utilized for one test.

---

*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

Phosphates, the presence of which may give rise to wrong interpretations, unlike cuprous oxid, are thrown down in short order. All the other copper tests, Salkowski's, Fehling's, Haines', Pavy's and Elliott's, are nothing more than modifications of the original copper test—Trommer's; they are affected by the very same disturbing factors, and are consequently liable to kindred erroneous interpretations. Haines' and Elliott's methods, however, possess the advantage over the other modifications that only very small amounts of urine are needed. Eight drops of urine, and never more, are utilized in performing one of these tests, which, therefore, lack somewhat in sensitiveness. On the other hand, by the utilization of only small amounts of urine, a possible pseudo-reduction by a nonsaccharin reducing agent is excluded to some extent, as but eight drops of urine, even if in a somewhat higher degree of concentration, do not contain sufficient quantities of reducing substances other than dextrose to effect a pseudo-reduction.

THE PHENYLHYDRAZIN TEST.

This test depends upon the quality characteristic of phenylhydrazin to form compounds—osazones—with different varieties of sugar. The union with grape-sugar—phenylglucosazone $(C_{18}H_{22}N_4O_4)$—occurs in yellow needle-shaped crystals, which must be detected by the aid of the microscope. Jaksch, Jolles, Ultzmann and Havelburg devised different methods for the execution of these tests. Havelburg's modification, which is a much more convenient process than the original mode of application, is yet not mentioned by the standard works. In my "Recent Studies in Urinology," N. Y., 1898, I gave the following directions for the application of Havelburg's modification: "Put in a test-tube 1.2 grams phenylhydrazin hydrochlorate and 1.8 grams sodium acetate; add 10 c.c. of distilled warm water. Warm a little and add 10 c.c. of the suspected, previously filtered, urine and from eight to fifteen drops of chloroform. Shake well and set aside. The chloroform will soon fall to the bottom, and, if sugar is present in the urine, a fluid layer will be produced above it in which the phenylglucosazone crystals are contained. Remove part of the fluid layer by means of a pipette and examine it on a slide under the microscope for crystals of phenylglucosazone."

Tolles recommends the following modification: To 10 c.c. of albumin-freed urine of normal consistency (of concentrated urine 5 c.c. are utilized and diluted with an equal volume of water), 0.5 grams phenylhydrazin hydrochlorate and 1 gram of sodium acetate are added. The mixture, while warmed for an hour or longer on a water bath, is repeatedly agitated; after cooling, a small amount of the yellowish deposit is examined under the microscope for phenylglucosazone.

Notes.—The phenylhydrazin test, formerly considered the most sensitive and trustworthy method for the detection of urinary glucose, in point of accuracy, has been decidedly overrated, for normal urine treated with phenylhydrazin may occasionally furnish crystals, which in appearance do not at all differ from those of phenylglucosazone. A certain individual's urine, which I had occasion to examine more than thirty times, and which in every instance proved to be absolutely normal, when subjected to the phenylhydrazin test, always furnished crystals seemingly identical with those of phenylglucosazone. Glucose, however, and glycuronic acid combinations were positively not contained in the urine. On the other hand, the phenylhydrazin test may at times not respond when the presence of sugar has been proved beyond a doubt by other methods. Shape and arrangement of the crystals are apparently of no significance regarding the nature of the osazone constituents. In order to render the phenylhydrazin test conclusive, the true nature of the crystals has to be ascertained. This is accomplished by a determination of their melting-point. Other urinary constituents besides glucose combine with phenylhydrazin to form either insoluble, or, with difficulty, soluble, compounds. With the pentoses, pentosazone; with acetone, acetonhydrazon, $(CH_3)_2C:N.NH.C_6H_5$, are furnished. Glycuronic acid, which never occurs in the free state in the urine, combines with phenylhydrazin; so does oxalic acid; carbamid in concentrated urine of the dog also enters into a union with phenylhydrazin.

Disturbing factors and sources of error.—Glycuronic acid combinations, fructose, pentoses. While in all probability glycuronic acid as such is never found united with the phenyl salt in human urine, some of its glycosidal combinations undoubtedly form osazones. In appearance and solubility the phenylosazone crystals of glycuronic acid or its combinations are analogous to the crystals of phenylglucosazone. Glycuronic-acid phenylosazone is distinguished from phenylglucosazone by its melting-point. The former melts at 114 to 115

---

[9] Robert Ssundby (Brit. Med. Jour., April 14, 1900) is still of the opinion that all of the reducing agents except sugar are removed by this process. Decolorization of normal urines, however, is by no means identical with the separation of all possible reducing substances.

C., phenylglucosazone at 204 to 205 C. and in its impure state at 173 to 191 C. The osazones of the various sugars possess specific characteristics as to form, melting-point, solubility and optical behavior. The osazone of fructose, however, is identical with glucosazone. Fructosazone forms somewhat more rapidly than glucosazone, which fact seems to be due to the quicker decomposition of levulose. Pentosazone differs from glucosazone in its melting-point, which is at 159 to 160 C. Lactosazone melts at 200 C.

MOORE-HELLER'S TEST.

Moore-Heller's test depends upon the decomposition which dextrose undergoes when it is boiled with sodium or potassium hydroxid. To the urine contained in a test-tube one-third of its volume of sodium or potassium hydroxid solution is added, after which the mixture is boiled. If sugar is contained in the urine a brownish coloration will presently ensue. The change in color is more readily noticed if only the surface part of the mixture is heated. The brown color becomes more intense if the boiling is continued for one or two minutes, provided the percentage of glucose is above 0.5. The alteration in color is due to the production of glucic and melassic acids. On addition of a little nitric acid the brown color disappears, and the odor of caramel or of formic acid is evolved.

Notes.—The precipitate separating from the urine after the latter has been rendered alkaline, and which increases after the mixture has been subjected to heat, is of no moment, as far as the reaction is concerned, as it is composed of earthy phosphates; it is better to separate them by filtration before the mixture is boiled. As normal urine, when subjected to heat, will also assume a slight degree of brownness, the darkening must be well pronounced if sugar is contained in the examined specimen. Urines containing carbonate of ammonium must be repeatedly boiled with an excess of the alkaline hydrate before results can be obtained.

Disturbing factors and sources of error.—Impure alkaline solutions, mucin, proteids, biliary pigments, alkaptonic acids. The reagents should be chemically pure and should be kept in green-glass bottles. Urine rich in mucin, when boiled with NaOH or KOH, darkens to about the same degree as does a urine containing a small percentage of glucose. Mucin and proteids are previously separated by boiling and filtering. Biliary pigments occurring in urine call forth a brown coloration of the latter on the addition of NaOH and KOH without the employment of heat. They are removable to some extent by filtering the urine through animal charcoal. Urine exposed to the air and containing alkaptonic acids, when treated with NaOH or KOH, assumes a dark-brown color. However, I have noticed the gradual appearance of the dark coloration in urines containing alkaptonic acids which were simply left exposed to the air when no caustic alkalies had previously been added.

PENZOLDT-RUBNER TEST.

Equal parts of urine and of a concentrated solution of normal plumbic acetate, $Pb(C_2H_3O_2)_2 + 3H_2O$, are added together, and the resulting precipitate is filtered off. To the filtrate, ammonia is added, drop by drop, until a heavy white deposit of lead saccharate is formed. On the application of heat the precipitate turns to a flesh color or to a darker shade of red. If the heat applied does not exceed 80 C., the red coloration is indicative of glucose only, and not of lactose.

Notes.—Urines of a higher specific gravity than 1010 should be diluted before the test is applied, which is spoiled by an excess of ammonia. Voit and Moritz devised modifications of this test, which, however, do not seem to possess any special advantages. I have used the following modifications for the past ten years with uniformly good results. I cite from my "Recent Studies in Urinology," page 33; "Take from 1 to 5 c.c. of urine and put to it an equal amount of ammonia hydroxid; add about 5 drops of a strong solution of lead acetate. A whitish, flocculent sediment composed of sulphate, phosphate and chlorid of lead and hydrated lead oxid, $PbO(OH)_2$ appears immediately. Heat gently a part of the sediment over an alcohol lamp until two or three bubbles ascend. If glucose is present there will appear in the heated region of the sediment a well-defined, distinct pink spot, the intensity of which is dependent on the amount of dextrose present." I have found that when glucose occurred in as small an amount as 0.1 per cent., the pinkish spot was plainly noticeable. If glucose is present in smaller quantities than 0.1 per cent., the spot on the heated portion of the sediment will appear yellowish. This spot, on account of the coloration of the urine, is not always noticeable. It is best to use test-tubes of the smallest caliber only, when applying this test, and I advise the use of new tubes—previously well cleaned with distilled water—if urine containing but small amounts of dextrose is to be scrutinized. Albumin, uric acid, creatinin, pigments and the alkaptonic acids do not influence the reaction.

Disturbing factors and sources of error.—When the test is properly executed apparently no source of error arises. It is possible, however, that certain glycuronic-acid combinations may call forth a similar circumscribed coloration in the precipitate. Indoxyl-sulphonic acid is present in the precipitate, and may, under certain conditions, give rise to a discoloration.

THE METHYLENE BLUE TEST.

Frœlich[10] employs the following procedure (Stern, Recent Studies in Urinology): "To 10 c.c. of the urine to be examined add about 5 c.c. of a concentrated solution of sugar of lead (neutral plumbic acetate), shake well and add 5 c.c. of a concentrated solution of lead acetate (basic lead acetate). Put on a dry, open filter. The filtrate will be almost always of a water-like, colorless, sometimes slightly yellowish, appearance. Place into a test-tube some of the filtrate; into another test-tube put an equal volume of a concentrated aqueous solution of methylene blue (1 gram of the purest methylene blue in 300 parts of water). Render the methylene-blue solution strongly alkaline by the addition of potassium hydrate (to 5 c.c. of the methylene-blue solution add about 1 c.c. of a 10 per cent. solution of KOH). Warm the alkaline solution of methylene blue over an alcohol lamp and add to it the filtrate contained in the other test-tube and heat again to the boiling-point. If dextrose be contained in the urine, the bluish-black mixture will turn lighter, become whitish, and finally clear and transparent, with a faint tinge of yellow. The reaction is not disturbed by the excess of lead, which is thrown down as a white deposit. Frœlich employed in every instance 5 c.c. of the filtrate, and 5 c.c. of the solution of methylene blue, with the addition of 1 c.c. of KOH solution to the latter; however, a few drops of the filtrates of urines abundant with glucose are sufficient to decolorize 5 c.c. of the solution of methylene blue. When the percentage of dextrose is small, less than 2 per cent. the equal volume of the filtrate must be added. The discoloration of the mixture occurs most always within twenty to twenty-five seconds after the removal of the tube from the lamp. The tube should be kept as quiet as possible, as even a slight shaking may result in a bluish coloration of the upper layers by the oxygen of the atmosphere. The decolorized mixture will again turn bluish on shaking, which will, however, disappear upon standing. The limit of sensitiveness of this test Frœlich maintains to be between 0.4 and 0.5 per cent. glucose. With a percentage of less than 1 per cent., the reaction will occur somewhat slower. Every urine may decolorize methylene blue. Urea, uric acid, chlorid of sodium and albumin do not reduce methylene blue in an alkaline solution. Creatin and creatinin, according to Frœlich, will not reduce the same; neither will the biliary pigments, which, however, will turn the solution to a green color. Those urinary constituents, which, besides glucose, may decolorize methylene blue—pigments and glycuronic acid and its compounds—are thrown down by the lead solutions, and, therefore, do not disturb the test.

---

[10] Centralblatt f. innere Med., Jan. 20, 1899.

Disturbing factors and sources of error.—Levulose, creatinin may reduce methylene blue in an alkaline solution, also creatin on boiling for a longer period. Normal urine, as I have repeatedly noticed, will also cause a reduction of the reagent. Normal urine possesses the reducing qualities of a 0.1 per cent. solution of glucose.

THE PICRIC ACID TEST.

A solution of grape-sugar on being heated with an equal bulk of saturated watery solution of picric acid and some potassium or sodium hydroxid will assume a beautiful dark-cherry coloration. The alteration in color is caused by the production of picramic acid. The presence of albumin does not interfere with this test.

Disturbing factors and sources of error.—Uric acid, creatin, creatinin, acetone, pigments, glycuronic acid combinations. Urine free from glucose to which this process has been applied undergoes a similar, but slighter, coloration. The power of reducing picric acid is possessed by normal urine to the same degree as by a 0.1 per cent. solution of dextrose.

THE TEST WITH SODIUM-SULPHO-INDIGOTATE.

$C_{16}H_8N_2O_2(SO_3Na)_2$.

Take a solution of indigotin—disulphonic acid—$C_{16}H_8(HSO_3)_2N_2O_2$—saturated with sodium carbonate, on being boiled with a solution of dextrose turns green, purple, red and yellow. The mixture resumes its original blue coloration on shaking the still warm yellow solution, when the order of appearance of the colors is reversed—yellow, red, purple, green and blue. Care should be exercised in avoiding agitation of the tube during heating.

Disturbing factors and sources of error.—Pepton, glycuronic acid compounds, inosit, lactose, gallic and tannic acids, salicylic acid, salol, salicylates.

THE TEST WITH ORTHONITROPHENYLPROPIOLIC ACID

$C_6H_4(NO_2)C:C.COOH$

G. Hoppe-Seyler's test: Orthonitrophenylpropiolic acid, on being boiled with glucose and sodium carbonate, furnishes indigo; excess of sugar causes a reduction of indigo-blue to indigogen (indigo-white) $C_{16}H_{12}N_2O_2$. The test is applied as follows: To 5 c.c. of the reagent—0.5 per cent. of the solution of orthonitrophenylpropiolic acid in caustic soda and water—10 drops of the suspected urine are added, after which the mixture is boiled from fifteen to thirty seconds. If the solution turns dark blue—indigo reducing agents—at least 0.5 per cent. sugar are present.

Notes.—The test should be applied only with an excess of the reagent. Normal urine causes a green coloration after at least 1 c.c. has been added. A pronounced blue coloration with normal urine occurs but rarely. Albumin does not interfere with the test.

Disturbing factors and sources of error.—Lactose, indoxyl, and indoxylic acid cause the same reaction; creatin in excess calls forth a green coloration.

THE TEST WITH PARADIAZOBENZOLSULPHONIC ACID.

Penzoldt's test: If to a solution of sugar rendered alkaline with fixed alkali, paradiazobenzolsulphonic acid —$C_6H_4N_2SO_3$—is added, a red coloration turning gradually to violet will ensue within ten or fifteen minutes. When properly diluted the mixture may then show an absorption band between D and F and another one at G.

Notes.—Penzoldt uses the reagent in a dilution of 1 to 60 parts of water. The reagent should be kept under chloroform to prevent its explosion.

Disturbing factors and sources of error.—Albumins react with the reagent; like sugar; acetone; phenol and brenzcatechin.

THE FURFUROL TESTS.

The decomposition of the carbohydrates by sulphuric acid occurs under the production of furfurol. This is detected, even if it is present but in traces, by the color of the combination which it forms with certain chemicals. Dextrose furnishes furfurol reactions with alphanaphthol, thymol, xylidin, and under certain conditions also with resorcin.

The reaction with alphanaphthol: If 1 c.c. concentrated sulphuric acid is allowed to run beneath 0.5 c.c. of a diluted sugar solution containing one drop of a 15 per cent. alphanaphthol solution, there appears at first on the line of contact of the two fluids a greenish coloration, which, however, does not pertain to the reaction, and afterward above the latter a ring of dark violet. If the contents are now shaken together the mixture assumes a carmin-red coloration with a bluish hue. Spectroscopically a narrow band between D and E, disappearing afterward, and darkening, beginning at F and extending to the violet end, is noticed.

Notes.—The urine should be rendered free of albumin. The green coloration at the point of contact of the two solutions is caused by nitric or nitrous acid contained in the sulphuric acid. The reagents should be chemically pure and the test-tubes should be boiled in distilled water and thoroughly cleansed before the test is applied. The colorations are best seen in strong light before a white background — sheet of unruled white paper. Carbamid, uric acid, creatinin, xanthin, allantoin, phenol and hippuric acid do not interfere with the test.

Disturbing factors and sources of error.—Other carbohydrates, glycosides, serum albumin, peptone, some unknown urinary constituents.

The reaction with thymol: Two drops of a 15 to 20 per cent. alcoholic solution of thymol are mixed with 1 c.c. of the suspected urine, after which concentrated sulphuric acid is added. On shaking, a vermilion-, or rubin- or carmin-red color of the mixture ensues.

Note.—Thymol is not very well adapted for the detection of the carbohydrates in urine as the color reaction may not be distinguishable from the coloration which urine attains with sulphuric acid alone.

Disturbing factors and sources of error.—The same as with alphanaphthol.

The reaction with xylidin: Strips of paper are dipped in a mixture composed of equal volumes of xylidin and glacial acetic acid to which some alcohol has been added. After the papers have been completely dried they are exposed to the vapors of furfurol—the urine having been warmed previously with strong sulphuric acid. Furfurol turns the papers red.

Disturbing factors and sources of error.—About the same as with alphanaphthol.

HORSLEY-PRATESI'S TEST.

This test depends upon the reduction of potassium bichromate by the products of sugar decomposition. Potassium hydrate 2.5 grams are dissolved in 60 grams of a very strong solution of potassium silicate—waterglass solution—to which 2 grams of potassium bichromate is then added. The solution must be kept in a tightly stoppered bottle. A small sheet of tin is cut into strips, each measuring about 7 cm. in length and 1 cm. in width. A drop of the reagent is placed with a glass rod on the end of one of the strips of tin and there dried by holding it over a small flame. Four more drops of the reagent are allowed to evaporate on the same spot. When the dried reagent on one of these prepared strips is heated it swells up and assumes a distinctly yellow color. When testing for glucose, the suspected urine, drop by drop, is allowed to come in contact with the reagent heated; heat being applied after each additional drop of urine, to facilitate evaporation. A green coloration makes its appearance when sugar is present in the proportion of 0.5 per cent. and over.

Disturbing factors and sources of error.—Albumins, glycuronic-acid combinations, pigmentary bodies.

THE FERMENTATION TEST.

This is one of the most reliable tests for the detection of urinary glucose provided the latter occurs in quantities above 0.5 per cent. Certain vegetable organisms by their vitality call forth disintegration of grape-sugar. The products of decomposition vary according to the species of organism present. Beer-yeast breaks up the sugar molecule into carbon dioxid, and alcohol in neutral or faintly acid solutions. In the main the fermentation occurs thus: $C_6H_{12}O_6 = 2C_2H_6O + 2CO_2$. Lactic acid yeast converts glucose into lactic acid; lactic fermentation may take place in diabetic urine if ammonium carbonate has replaced the latter's carbamid. Butyric acid yeast converts sugar into butyric acid. Mycoderma aceti causes conversion of dextrose into an acid identical with glucinic acid. Kefyr produces fermentative changes of glucose. A number of other specific micro-organisms cause specific fermentations. The fermentation test for urinary glucose is made with fresh beer-yeast, or with dried German yeast, a combination of beer-yeast and dry starch, at a constant temperature of 33 to 35 C. For qualitative testing the fermentation tubes devised by Fritz Moritz[11] suffice. The determination of dextrose by collecting and measuring the carbon dioxid evolved during the process of fermentation may be approximately done with Einhorn's or Fiebig's saccharometers. The method of determining the amount of glucose by the evolved carbon dioxid must always remain inexact, as the yeast *per se*, no matter what precautions are taken, furnishes small amounts of alcohol and carbonic acid gas. Einhorn's apparatus presents a further disadvantage in its open bulb, which permits the escape of considerable quantities of carbon diozid. The detection and determination of glucose by Robert's method—by ascertaining the density of urine before and after fermentation and by calculating the urine's contents of sugar by the loss of specific gravity during fermentation—is by far the most practical and trustworthy means in the hands of the general practitioner. Lohenstein and Stern have devised apparatus for the more practical and convenient application of this method. Stern's apparatus, moreover, may be utilized for the *detection* of glucose only, by interrupting the fermentation after an hour or so and by ascertaining any decline in the specific gravity of the dextrose solution.

Disturbing factors and sources of error.—Maltose, fructose, and similar carbohydrates ferment with commercial yeast. The process, however, is a much slower one. It happens occasionally that a urine containing glucose is not fermentable. This is due to anti-fermentative agents, as salicylic acid, salol, arbutin, extractum myrtilli, etc., after their internal administration.

Polarization.—The value of polariscopy for the detection of urinary dextrose is dependent upon the sensitiveness of the instrument used. Diabetic urine is dextrarotatory. If the urine is light shaded and transparent the examination may be made without further manipulations; if, on the other hand, it contains proteid material and pigmentary substances in excess, they should be first eliminated. A 10 per cent. basic lead acetate solution and repeated filtration is used for this purpose.

Disturbing factors and sources of error.—Not every rotation of polarized light toward the right is due to the presence of glucose, as other dextro-rotatory constituents may occur in the urine. Pronounced rotation to the right, however, is conclusive evidence of the occurrence of dextrose. Maltose, lactose, dextrin, and glycuronic acid turn the polarized ray to the right. The urine may also be dextro-rotatory after the ingestion of certain drugs, especially alkaloids or glucosids; morphin has been found to be optically active in this manner. Dextro-rotation due to urinary glucose may be averted or neutralized by simultaneous occurring levorotatory substances, as proteid bodies, levulose, beta oxybutyric acid, cystin, and some medicinal agents.

SUMMARY.

The brief discourse upon the nature and value of the most frequently applied tests for the detection of urinary glucose divulges the important fact that there is not a single method which is entirely free from possible sources of error. Some of the processes for the recognition of grape sugar in human urine, it is true, possess considerable value and are relatively trustworthy; perfection, however, is not found in any. Absolute reliance can therefore not, and should not, be placed on any single test. Among the numerous methods in vogue, three especially are of considerable value, namely, Nylander's, Penzoldt-Rubner's and the fermentation tests. The great value of Nylander's modification of the bismuth test is virtually but an indirect one—*the non-reduction of the bismuth salt being positive evidence of the absence of pathologic amounts of dextrose.*

Penzoldt-Rubner's ammonia-lead acetate reaction is the most brilliant and reliable process at the command of the physician, the fermentation test being a close second in point of reliability. There are two great advantages the Penzoldt-Rubner test possesses over the fermentation process, viz., it renders immediate results and its limit of reliability is more extended. Although a single testing method *per se* can never furnish positive proof of the presence of urinary glucose, especially when this occurs in amounts less than .5 per cent., a number of judiciously selected control tests cautiously applied may complete the identification.

---

[11] Münchener Med. Wochenschrift, 1891, Nos. 1 and 2.

For the positive recognition of dextrose in human urine—in routine work—I proceed in the following manner: About 15 c.c. of the freshly voided, non-ammoniacal urine is boiled and filtered. To a portion of the filtrate Nylander's test is applied. If, after prolonged boiling the precipitate retains its white color, I stop with the testing there and then, as no pathologic quantities of grape sugar are contained in the urinary fluid. If, however, the bismuthic salt has undergone even a slight reduction, another portion of the filtrate is subjected to the modification of the Penzoldt-Rubner process described in the foregoing. In case the careful and repeated application of this test yields but negative results, it may be concluded that the urine is free from dextrose. On the other hand, if a pinkish spot has appeared on the heated region of the sediment, indicating the presence of either glucose or of a glycuronic-acid compound, a fresh portion of the urine is boiled, filtered, and subjected to the fermentation test in the urino-glucometer. If after the apparatus has been placed for a few hours under the proper temperature, the urine does not show a reduced density, either no glucose at all or in amounts less than .5 per cent. or anti-fermentative agents are contained in it. A loss in specific gravity taking place soon after subjecting the urine to fermentation points with certainty to the occurrence of grape sugar in quantities above .5 per cent.

The urine, it is needless to say, must be in all instances a sample of the 24-hours product and the patient during the day of its collection and the 24 hours preceding it should not be under the influence of any medicinal substances.

In case the fermentation process, on account of its limitations, does not confirm the results obtained by the Penzoldt-Rubner test, in order to positively identify the dextrose I proceed at once to separate it from the urine. The isolation of glucose from the urine is accomplished by first condensing the same to the consistency of a thin syrup, after which about half its volume of ether is added. The mixture is then allowed to evaporate. At the end of a few days or a week all the syrup has crystallized. The granular mass is now treated with a small amount of alcohol to effect the removal of carbamid and extractive matters. Following this the residue is dissolved in boiling alcohol, the solution filtered while hot and the filtrate permitted to crystallize. The separated cystals are then repeatedly subjected to crystallization from alcohol, or preferably, methyl alcohol. Dextrose thus obtained is anhydrous, colorous, and forms four-sided transparent prisms; the crystals are closely grouped in little white, nodular masses, are hard, become less transparent and liquefy when exposed to moist air, melt at 144 to 146 C., and do not readily dissolve in water. In cold alcohol the crystals dissolve with difficulty, but are readily soluble in boiling alcohol. They dissolve slowly but in large amounts in methyl alcohol and are insoluble in ether. When carefully applied and with sufficient amounts of suspected fluid, this process may yield positive results even with normal urines. Insignificant quantities of dextrose crystals are, however, of no pathognomonic value.

If somewhat quicker results are desired, than with the confirmatory process just mentioned, I try to isolate the dextrose from the urine in the form of lead saccharate, $(PbO)_3 (C_6H_{12}O_6)_2$. This method, however, is inferior to direct crystallization, as from 33 to 50 per cent. of the sugar is lost in the course of the process and as the deposit also contains urinary constituents other than glucose; principally indoxyl sulphonic acid.

Plumbic saccharate is best obtained from the urine in the following manner: An excess of saturated (by heat) solution of lead chlorid is added to 250 c.c. of fresh urine. The precipitate is then separated on a filter and the filtrate treated with ammonium hydroxid. Following this the precipitate is collected, washed, and suspended in water and decomposed either with oxalic or sulphuric acid or with hydrogen sulphid. By treating with calcium carbonate an eventual excess of oxalic acid, and by adding a concentrated solution of neutral lead acetate an excess of sulphuric acid is removed. After another filtration the filtrate is boiled to effect the separation of the excess of hydrogen sulphid. The filtrate reduces Fehling's solution.

Dextrose may be separated from the urine in a variety of other combinations; for instance, as sodium-chlorid-dextrose—$(C_6H_{12}O_6)_2NaCl+H_2O$—as potassium dextrose — $C_6H_{11}KO_6$ — as cupric-hydroxid-dextrose — $C_6H_{12}O_65Cu(OH)_2$, and as benzoyl-dextrose. In my experience, however, the repeated crystallizations from alcohol or methyl alcohol is the most simple and at the same time the most reliable method for the preparation of the urinary glucose.

If after several attempts I have not succeeded in isolating glucose from the urine, I proceed to qualitatively determine the urine constituent or constituents which have caused the reaction. Quite a number of urinary substances other than glucose may bring about a reduction or pseudoreduction of the bismuth salt. The Penzoldt-Rubner test, at its worst, only reacts with two other urinary constituents—glycuronic-acid combinations and indoyxl in excess. In case this test has given positive results which as afterward proved were not found due to the presence of sugar, I make a search for the glycuronic-acid compounds and for indoxyl. I ascertain the nature of the bismuth reducing agent or agents, only when no reaction has occurred with the Penzoldt-Rubner test. The tests for indoxyl and some of its compounds are simple. I have already described a method for the detection of this urinary constituent.

It is a simple matter to differentiate between urinary glucose on the one hand and glycuronic acid or any of its compounds on the other, provided the former occurs in the proportion of .5 per cent. and over, as the latter do not ferment with alcoholic yeast. However, if glucose is present in but minute quantities, it is often very difficult to identify the glycuronic-acid combination, as it possesses reducing qualities similar to dextrose. The glycuronic-acid combinations are found in strongly levorotatory urines only, and they may thus be recognized. Glycuronic acid, *per se,* is, like glucose, dextrorotatory.

The identification of dextrose in human urine can not be accomplished by any single test. The copper tests, as Fehling's, Pavy's and Purdy's, serve admirably when employed for quantitative determination after identification has taken place. The employment of a copper test without a control process, even in mere routine work, is objectionable. How we are all apt to wrongly interpret a copper test is drastically shown by the following illustration:

A woman, aged 63, affected with diabetes mellitus for several years, was referred to me by her family physician.

A careful urinary analysis, made after the positive recognition of dextrose, revealed the presence of 101.82450 grams of this substance in 1925 c.c. of urine, the diurnal output. The patient was placed on a diet rich in proteids and fats, and at the end of one week, the urine was again subjected to examination. The patient was anxious to know the result of her week's dieting before she left for home—a neighboring town—and I myself, having been greatly pressed for time, applied Fehling's test. Reduction soon occurred and the patient was advised to continue with the rigid diet. A week after, under similar circumstances, on the application of the same test, reduction again ensued. The patient who positively denied having ingested any carbohydrates, remonstrated on being told that she had to still continue her abumin-fat diet, and gave me to understand that she would cease dieting. A more careful examination of the urine several hours after her departure pointed out the absence of glucose but revealed the presence of creatinin in excess—the true reducing agent. Undoubtedly the enlarged consumption of meat had given rise to an increased amount of creatinin. Thus, through sheer neglect a patient came nigh leaving me.

The concomitant phenomena of a supposed glycosuria are not always well pronounced and the diagnosis hinges, therefore, solely on an examination of the urine. In other instances where the symptoms unmistakably point to diabetes mellitus and the behavior of the urine to the different reduction tests is indicative of the presence of glycosuria, we may well assume the presence of this affection. However, without its definite identification we are never certain that glucose is the real reducing factor.

My experience does not tally with that of Saundby,[12] who maintains that during the many years he has devoted special attention to urinary diseases and diabetes, he had never seen but sixty-nine specimens of non-diabetic urine which reduced copper. I do not know what proportion these sixty-nine instances form of the total urinary examinations conducted by Saundby, but I assert that every sixth or seventh case of "diabetes" referred to me for treatment is neither diabetes nor glycosuria, and that the urine of the majority of these patients reduces copper in an alkaline solution.

Viewed in this light, we may readily understand some of the occasional spontaneous cures of diabetes, as these cases, in all likelihood, were but those of pseudoglycosuria. Pseudoglycosuria, however, is a negation in itself, an affection which does not exist, a euphemism for a reduction test erroneously interpretable or interpreted.

The identification of glucose in human urine has not been accorded the attention which its importance might demand, and a great deal can still be said and remains unsaid by me on this subject; but I feel that I have already transgressed beyond the limit of your patience. If you, however, agree with me as to the importance of this theme, you will not find me guilty of having carried coals to Newcastle.

56 East Seventy-sixth street.

Diagnosis of Stricture of the Esophagus.—Pauli has found that a stricture of the esophagus can be diagnosed by having the patient ingest 80 to 100 c.c. tartaric acid, and then in twenty minutes a solution of potassium bicarbonate. If the esophagus is freely permeable, nothing unusual is observed in consequence, but if there is a constriction, the mouth fills with foam from the effervescence.

The Cash Value of an Infant's Life.—Are more than nominal damages recoverable for the negligent killing of an infant incapable of earning anything, without direct evidence of pecuniary damage other than sex, age, and condition of health of the infant at the time? This was the contested question presented to the Supreme Court of North Carolina by the case of Russell vs. The Windsor Steamboat Company. Here, a male child five months old had been killed by the alleged negligence of the company, and the father brought this action to recover damages. However, he did not try to enforce the common law remedy, to which the court says that he would probably have been entitled, of an action based upon a loss of services. Instead, he sued as administrator, under the North Carolina statute, which does not regard the family relation, but gives the cause of action to the personal representative of the deceased, without distinction as to age. Thus, the case was made purely and simply one to recover the net value of the child's life—not what his services might have been worth to some one else during his minority, but what his entire life would have been worth to himself, had he lived. In other words, this action was brought just as it would have been had the one killed been of adult age. Now, suppose, says the court, that the child had survived, but as a cripple, condemned to a life of dependence, and perhaps of pain, could he not have recovered damages in a suit by his next friend. If so, could not his personal representative recover them under the statute mentioned? The court holds that he could. It declares that it sees no distinction in the law, nor reason for distinction, between the death of a child and of an adult. The measure of damages is the same, though, it is frankly admitted, the difficulty of its application is greatly increased in the case of an infant. Still, the court continues, the jury must do the best they can; taking into consideration all the circumstances surrounding the life that is lost, and relying upon their common knowledge and common sense to determine the weight and effect of the evidence. Where life is lost by reason of the actionable negligence of another, the measure of damages, it holds, is the present value of the net pecuniary worth of the life of the deceased, to be ascertained by deducting the probable cost of his own living from the probable gross income derived from his own exertions, based upon his life expectancy. The expectancy of an infant of five months, it adds, is a matter of evidence, like other circumstances of health, constitution, and habits. Then, the court says, there is another view of the question which forces itself upon its mind. This, perhaps, it was not called upon to consider; but, unless forced to do so by the overwhelming weight of authority or the inexorable logic of legal conclusion, it insists that it would be reluctant to admit that a human life, however lowly or feeble, had no value, in the contemplation of a common carrier. Even a new-born colt or calf has an actual value, entirely dependent upon its future usefulness or salability. The court also says that it is a matter of common knowledge that during the days of slavery a healthy negro child, even at the breast, was considered as worth at least $100. It then suggests that this contrast be considered. A helpless negro baby, lying upon the floor along which he could not crawl, and born to a state of hopeless bondage, was worth to the owner at least $100 as a chattel; and yet another baby, with generations of inherent qualities behind him, and the magnificent possibilities of American citizenship before him, is not worth to himself, or to the country whose destinies he might one day have shaped, even the penny necessary to carry the costs. This view the court pronounces entirely too incongruous to strike its fancy. Wherefore, it holds that the plaintiff was entitled ,to recover substantial damages, and affirms a judgment in his favor for $1000.

Mortality from Snake-Bites in India.—The *Cornhill* states that during the past ten years there have been 21,000 deaths from snake bites in India. For years past the government has offered a reward upon the heads of different venomous reptiles and large sums have been paid for this purpose.

---

[12] Non-diabetic Glycosuria, Brit. Med. Jour., April 14, 1900.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, SEPTEMBER 22, 1900.

PNEUMATOPATHOLOGY.

Many pathologic conditions in various parts of the body are associated with the production of gas, even where gas is normally absent. There has been much discussion concerning such mysterious conditions by writers of the past, the problem being mostly whether the gas was atmospheric air or of putrefactive origin. With the advent of bacteriology the solution of this question, at least in some of its phases, was to be expected; and the discovery by Welch, in 1891, of the bacillus aërogenes capsulatus has already thrown much light on gaseous affections and processes. In the Shattuck Lecture, 1900, Welch[1] gives an extended review of the morbid conditions caused by this bacillus. There is no question that this organism is the one most frequently at work in cases of abnormal gas-production in the tissues; and its causative rôle is definitely established. The number of morbid conditions produced by it is large and varied, many of them of great clinical importance and heretofore poorly understood. The natural habitat of the bacillus is the intestinal canal and the soil, hence the liability to frequent infection. An important biologic property is its power to form gas from proteid materials.

In the first place it is notable that the organism may produce gas bubbles throughout the blood and the organs—"foamy organs"—within a few hours after death from the most varied causes. Formerly these cases were explained as the result of air embolism, especially in pregnant and puerperal cases. Whether the invasion of the bacilli and the development of gas are antemortem or post-mortem phenomena can not always be determined, but Welch concludes that in most cases of this sort the invasion of the bacilli occurs post-mortem or shortly before death. The bacillus aërogenes capsulatus being anaërobic, it is not likely that it multiplies in the circulating blood, but there is no valid reason against its multiplying during life in internal organs, such as the liver. Examples of the bacillus having been carried from an infected portal of entry to distant parts where necrosis and emphysema were produced have been detailed by various observers. Great care must be taken to distinguish between air embolism and gas bacillus invasion; this would generally require a careful bacteriologic examination.

"It is as a cause of that most dreaded of wound complications, emphysematous gangrene, that B. aërogenes capsulatus especially claims the interest of surgeons." Recent investigations show that most cases of emphysematous gangrene are caused by this bacillus and not by Pasteur's "vibrion septique," also called bacillus of malignant edema—Koch and Gaffky. Cases of gaseous phlegmons occur occasionally, especially in our large hospitals, but also elsewhere, and they merit study by exact bacteriologic methods in order that their etiologic relations may be cleared up fully. Welch has collected 56 cases of emphysematous gangrene associated with B. aërogenes capsulatus; the majority of these cases are American, and naturally all occurred since 1891. In all but 5, these cases followed traumatism or surgical operation, the infection generally occurring from without; in a few cases it undoubtedly came from the intestine. Mixed infection is common in this series, but the disease is really sui generis. Death occurred in 59.5 per cent., being caused probably by a toxemia. There is no proof that gaseous embolism may cause death in cases of this sort. It is of great importance that an early diagnosis be made so that radical measures may be instituted in time.

Important uterine infections may result from B. aërogenes capsulatus. Welch considers separately emphysema of the fetus, puerperal endometritis, physometra, emphysema of the uterine wall, and puerperal gas sepsis. There can be no question that many, if not most, cases reported as death from air embolism following abortion and labor are instances of invasion with Welch's bacillus from the uterus.

The urinary tract may become infected with the gas bacillus, which may then spread into adjacent tissues and into the circulation. Gas may be free in the cavity of the bladder, the ureters or renal pelvis, or contained in submucous blebs.

Another starting-point of invasions of B. aërogenes capsulatus is the gastrointestinal canal, which frequently, if not constantly, harbors the bacillus; hence the intestine is the most frequent source of the bacilli in the gaseous blood and foamy organs found at autopsies. There may also be local gastrointestinal lesions with or without gas cysts. Pneumoperitonitis with or without perforation occurs, and the gas bacillus may invade the bile-ducts and gall-bladder, especially in the case of diseases of and operation on these structures. Gas cysts of the genitourinary, gastrointestinal and biliary tracts, submucous and otherwise, due to the gas bacillus, constitute an interesting series of lesions. Levy has demonstrated B. aërogenes capsulatus as a cause of pneumothorax with perforation, and similar cases are referred to by other writers. Gwynn found Welch's bacillus in the blood during life, and Welch expresses the suspicion that Achalme's anaërobic bacillus found in acute articular rheumatism is identical with the gas bacillus. Howard and others have found the gas bacillus in pure culture in meningeal exudates, thus bringing further evidence of the pyogenic powers of the organism; and the bacillus may also cause cavities in the brain—Reuling and Hering[2], Howard.

---

[1] Boston Med. and Surg. Journal, July 26, 1900; also Johns Hopkins Hospital Bulletin, Sept., 1900.

From this imperfect enumeration of the various lesions considered by Welch and caused by the bacillus aërogenes capsulatus, it is seen that pneumatopathology at present is dominated by this organism, a knowledge of whose characters and properties is essential for a full understanding of many important processes. Although described fully in 1891 and since made the subject of numerous papers in American journals, knowledge of the gas bacillus of Welch has been very slow in reaching workers in other lands; and throughout his lecture Welch repeatedly calls our attention to the erroneous conclusions and incorrect statements made by French and German writers on account of their ignorance of American publications.

THE RELATIONS OF SCIENTISTS TO NEWSPAPERS.

The deep-seated feeling in the medical profession against the newspaper as a purveyor of information concerning medical matters and the doings of medical men in general rests on the knowledge that in the majority of cases the motive underlying such publications is of a largely selfish and commercial nature, subversive of the true interests of medical science. Unfortunately, the newspaper does not consider the question in the same light. Its chief aim is to give publicity to anything that its editor thinks may please the omnivorous public. Knowing that the general run of its readers are incompetent to discriminate between genuine achievements and pure bluff and braggadocio, the inquisitorial reporter—than whom there is no greater heresiographer—is detailed to interview alike the true man of science and the mountebank. Rocky Mountain goat's lymph, wonderful operations, and studies in chemical and other forms of artificial fertilization are heralded in display type and in the same sensational manner, so that it appears as if seekers of cheap notoriety had secured a foothold even in our great universities—"quacks political; quacks scientific; academical."

Notable achievements of whatever nature, be it physical, biologic, or more exclusively medical and surgical, merit full publicity. The citizens of the community are entitled to learn of remarkable and important additions to knowledge made by men at work in their midst, perchance at institutions in which the public is and has a right to be interested. It ought to learn that progress is being made and that scientific pursuits are flourishing. Information of this sort is encouraging and stimulating; it breeds confidence in home institutions and creates a wholesome interest in their welfare. But this information should be made public in a manner and taste befitting its scientific character and the modesty that the scientist is traditionally reputed to manifest in his own work and personality—a tradition not wholly of the past but illustrated well even at the present time and by men that for this very reason not infrequently are greatly misrepresented by the harmful activity of overzealous assistants and local press bureaus.

There is always good occasion for earnest pleas in favor of modification in the editorial management of our newspapers in respect to matters of this kind. The fundamental and far-reaching importance of truth and the wholesome effect of tasteful moderation in statement seem to be sadly neglected in the education of journalists of the present day. Clear, concise recitals of notable work in these various fields of science including medicine, shorn of all irrelevant embellishments and superlatives, carefully edited by competent persons and signed by the authors, would remove many of the serious objections that now hold against the newspaper as a medium of dissemination of scientific knowledge. But how and when are we to expect so much consideration for the right and proper on the part of a press sunk so low in commercialism that it preys on the health of its readers by accepting advertising patronage from the most shameless frauds—patent-medicine makers and quack doctors?

THE MARRIAGE OF CONSUMPTIVES.

A leading daily paper publishes what purports to be the opinions of certain noted European authorities on the question: "Should consumptives marry?" These are, naturally, unfavorable. There are few, if any, physicians who, if asked their general opinion as to the propriety of a consumptive marrying, knowing himself to be such, would care to give a favorable reply. The probabilities of good resulting to the individual, as far as his or her physical welfare is concerned, are practically *nil*, while the perils of the marriage state are very real for the husband and still more so for the wife. When, however, the question is an actual and practical one we fear there are many physicians who would feel embarrassed and would prefer to avoid the responsibility of expressing an opinion in a given case. While on the one hand we have the possibilities of direct aggravation of the disease, the dangers of communication to a healthy partner, the prospects of early bereavement and distress, and lastly the real though remote possibility of direct transmission to offspring, and the probably still greater danger of transmitting a weakened and predisposed constitution, yet we have numerous instances of marriages where none of these consequences ensued, and some where the result was an apparent betterment of conditions in all respects. It may, as Professor von Leyden is quoted as saying, be best not to be too positive and to consider that medical advice on this subject is apt to be disregarded, and if the physician insists too much he may succeed sometimes "only in fashioning a wedding gift that may turn out a cross by and by: the thought of disease lurking in the beloved husband's or wife's every caress," out of which no good can come. The question as to the actual outcome of happiness in a consumptive's marriage is one that no physician can answer positively; it may be that a favorable balance is sometimes struck, with all the apparent conditions to the contrary. This may serve us for consolation when we consider how many such marriages are constantly taking place.

---

[2] THE JOURNAL, Vol. xxxii, p. 1603.

Leaving aside, however, the problems that involve only the contracting parties, there still remains the very serious question of the interests of those that are to be the offspring of such unions. No one "liveth to himself or dieth to himself," and this is especially true of the married consumptive. It is customary nowadays to consider only the bacterial causes of consumption, and a certain class wedded to the idea of a hypothetical germ plasm deny that acquired characters can be transmitted, thus discrediting the possibility of the direct heredity of the disease otherwise than through actual transmission of its germs. All pathologic and clinical experience is against them: there is nothing more certain than that disease of the parent modifies the constitution of the child, often producing an actual homologous morbid heredity, as is particularly observed in insanity and some nervous and other disorders. There is a growing tendency to consider the incidence of consumption as depending more on the soil than the germ, and there is nothing more certain than that it sometimes transmits to offspring a weakness or predisposition to itself and to other constitutional diseases. If the infection were always fatal few would escape, but it is harmless to the most of us in spite of ample exposure. The popular notion of the heredity of the disease, however, is based on actual experience and observation, though it is not the disorder itself but the prepared soil for it that is transmitted. This fact adds very much to the responsibility of those who propose to advise the marriage of consumptives, and while we can have no certainty that the children of such a union will suffer for their parents' disease, we must recognize the fact that as compared with others they often enter life under a serious disadvantage. This alone should be enough to make us use our influence against the possibility of the begetting of future victims.

We have not used the words "tuberculous" or "tuberculosis" here, because they have a much wider significance and by no means so serious an import. Many people suffer or have suffered from tuberculosis in one form or another where it is a comparatively trivial affection, and in some the course of genuine pulmonary infection only shows the strength of their constitution and resisting powers. These remarks apply only to those who are the subjects of true pulmonary phthisis.

THE OCULIST AND THE OPTICIAN.

The relations that exist betwen the physician and the druggist to whom he sends his patients for prescriptions, find a parallel in the ophthalmic surgeon who directs his clients to a particular optician. The same ethical code that regulates, or should govern, the doctor and his patient equally applies to the oculist and his patient. It seems necessary to add, moreover, that the laws of the codex, to be effective, should be based on the experience of years and should stand the application of common sense. It is not enough that the professional man should accept the code of ethics as he might any other authority; it is not sufficient that these rules should be simply organic with him, as the result of their reiteration since he began the study of medicine, because he must often furnish to lay persons good and sufficient reasons; for such action, based upon them, is expected to influence the conduct of himself and others. He must lay bare the foundations of the faith that is in him.

Apart from the canons of the code, why is it that every community, after considerable experience of the various methods of regulating the business relations of physicians and druggists, has concluded that it is not only against the public policy, but inimical to the best interests of the medical profession, to pay a commission on prescriptions sent to him by the physicians? Although we commonly say that the acceptance of such a commission is objectionable because it is contrary to the code of ethics, we do so with the proviso that it is equally opposed to the dictates of the medical conscience and to the experience of everyday life.

When it is asserted by the optician that there is nothing wrong in the payment of commissions to ophthalmic surgeons who send him prescriptions for eyeglasses and spectacle lenses, the answer must be somewhat different from that which would be given to a member of our profession. One might expect the latter would accept the united experience of his confrères in all countries as a reply to such an assertion; if not, he must, in common with the laity, be asked to consider for a moment what an action of this sort implies, and what the patient who pays the bill would think of it and those who have been a party to it. Furthermore, we can not avoid the inquiry as to what effect such a transaction will have on the prescribing surgeon and the profession to which he belongs.

When the patient pays the ophthalmologist for his services and receives from him a prescription for glasses, he has a right to expect, and does expect, that the surgeon will direct him to an optician who will fill the prescription at a fair market rate and that the transaction is then entirely between the optician and himself. When a commission is paid, either the patient gets that much less in the quality of the goods or in the attention that is paid to him, or is charged just so much more than he ought to be, usually under some false pretense or other. The other alternative proposition, that the optician "divides" his profit with the oculist, is probably never true. In the end it will be found that the patient gets less for his money than he ought to, that the optician charges more than he should, and that the dubious difference is stealthily handed over to the ophthalmologist. Surely such an underhand proceeding is unworthy the practitioner of a profession like ours, and it hardly seems possible that for the sake of a few dollars any right-minded man would be willing to countenance it. Beginning with a breach of confidence on the part of the physician himself, it terminates in an undignified performance that reminds one of nothing more than the storekeeper's commission to the false guide who steers the unsuspecting customer into his shop. The above comments are called forth by a "Query" on p. 783.

MEDICAL ORATORY.

We publish this week an article on "Physicians as Speakers," which can be recommended as instructive reading. The medical is the only one of the three learned professions that pays no attention to oratory, and popularly, as well as in the profession itself, the idea prevails that a physician has no need of any accomplishments in that direction. Mr. Whitford shows from a reporter's standpoint how erroneous this notion is; he makes it plain that for the physician who is to take any active part in the progress of medical science a pleasing and effective elocution is in no sense a useless accomplishment. The higher a man rises in the profession, the more essential he finds such ability; he may be eminent as an investigator, a practitioner, and a writer, and yet be seriously handicapped in comparison with men far below him in all these respects by the lack of power, of command of language, and easy and attractive delivery. A great engineer once said, when worsted in argument by those whose opinions on the subject he could not particularly respect: "There is no gift like the gift of gab." This is a rough statement of a very much more serious truth than was sarcastically implied by its utterer. It was the gift of speech that raised man above the brutes, and it is the same, even in these days of printer's ink, that still often raises man above his fellows. The medical profession may not demand, as generally as the others, oratorical accomplishments of its members, but it does call for them to a certain extent. It is not alone, however, for medical meetings, college lecturing, etc., that the physician requires a proper elocutional training; the profession is constantly coming more and more to the front as a public educator and administrator of affairs, and here the value of such training is most manifest. No medical man will be the loser for having such an accomplishment, and the world would be a gainer if more of us had it. It is well, in this regard, to see ourselves as others see us, and for this reason alone the article should be profitable to our readers.

RAILWAY SANITATION.

It is said that at least two railroads in this country propose to remodel, or at least modify, their passenger coaches on sanitary lines. The plush upholstering, elaborate dust-concealing grill and carved work, heavy carpets and curtains are to be replaced by leather, smooth woodwork, linoleum, etc. The public will probably miss some of the splendor of the old régime, but this will, we trust, be more than compensated for by the greater sense of safety they will feel from contagion. There will be more than this needed, however, to bring railway travel up to the constantly widening sanitary ideals of the present day, and these can hardly be met in full without the active co-operation of the traveling public. The common drinking-cup may be replaced, as has been suggested, by the cheap paper substitutes for individual use, and possibly individual soap and paper towels may come into use on the sleepers, but the day cars with their constantly changing inmates are a more puzzling problem. What to do with the expectorators is one question. Judges have decided that the right to spit is inherent, and if it is to be restricted receptacles must be provided. Will the railroad authorities attach a disinfected cuspidor to every seat, or will they require expectorators and smokers to herd together? This question is as important as any one that is to be considered in the sanitation of railway carriages, though there are others generally treated as more important. The spitting habit is the most common of all insanitary nuisances, and it ought to be one of the first taken in hand in the reform. A passenger can protect himself by carrying his own drinking-cup, as well as brush, towel and soap, but he would not like to be compelled to carry a cuspidor for his neighbor's use, and he can rely on it that the average expectorator will never carry one for himself. We expect, however, to see the sanitary reform progress, and it may be that it will meet this evil as well as others.

THE EVILS OF TIGHT LACING.

While it might not be easy to give a succinct definition of the "new woman," she may be described as one who has been emancipated from the bonds of tradition and has been permitted to find the place of usefulness in the world that she is capable of filling; and there is not wanting evidence that she has profited by the new opportunities thus afforded. In one respect, however, she has, as yet, failed to exhibit her independence and her strength, and that is in her continued and almost abject submission to the dictates of fashion, regardless of hygienic considerations. For instance, can anything be more conceivably dangerous than the trailing skirts with which women have so largely of late swept filthy streets, raising clouds of bacteria-laden dust, and carrying into their homes the agents of disease and death? Further, in spite of all the denunciation that has been heaped upon the practice as non-hygienic, and notwithstanding the admonition of competent authorities, the large body of women persist in the use of the corset and of unduly constricting and otherwise irrational forms of clothing. It is true, a strong counter-current has set in, and shorter and properly supported skirts, as well as other reforms in the wearing apparel of women, have been adopted, but they are not nearly so numerous and so universal as they should be. Some experimental observations made by Thiersch[1] illustrate the evils resulting from constricting clothing, and more especially the use of the corset. These consist more particularly in compression of the chest, with interference with respiration and circulation; in enfeeblement of the extensor muscles of the back, with difficulty and discomfort in maintaining the erect posture; in interference with the circulation and the nutrition in the compressed skin, as well as with the circulation in the portal system; in displacement of the intestines downward, and distortion of the liver and stomach, with digestive derangement and dislocation of various abdominal viscera. It is not denied that under certain exceptional conditions the corset may subserve a useful purpose, as in obese and well-built and well-developed women; but under no circumstances should its use be permitted to girls during the developmental period. Reform in this direction has already begun, and it can not be too speedily carried to a successful termination.

---

[1] Deutsche Archiv f. Klin Med., Bd. lxvii, H. 5 u 6, s.

Medical News.

The Journal in the Literary Exhibit at Paris.—We have just received the following announcement from Paris: "I have the honor to inform you that in accordance with the official announcement of awards at the Paris Exposition of 1900, a Grand Prize was bestowed upon the exhibit of United States journals, publications and periodicals, and that you are therefore entitled to use this award of Grand Prize." Signed, A. S. Capehart, Director of Liberal Arts and Chemical Industries.

The Maharaja of Jaipur has given 15 lakhs of rupees, equivalent to $500,000, toward an "Indian People's Famine Trust."

Dr. Rudolf Virchow's golden wedding was celebrated August 24. One son, Dr. Hans Virchow, is professor of anatomy at the University of Berlin; another is Dr. Karl Virchow.

It is stated by the *Medical Press and Circular* that Assistant-Surgeon O'Neill has been murdered by the Boers. He was out with an ambulance in search of wounded. A party of Boers came upon the ambulance, seized it, and ordered the medical officer away. They subsequently recalled and shot him.

Third Pan-American Medical Congress.—The Southeastern Passenger Association has granted a one-fare plus two dollars rate for the round trip to Havana, Cuba, for the December meeting of the Congress. The steamship lines have granted a one-fare rate. The other passenger associations are considering the matter and are expected to grant the same rate.

Dr. John E. Clark, of Detroit, has just returned from Glasgow. He says the city's calamity is great, the schools are closed, and her trade and commerce with the outside world has been closed. Every exertion possible has been made by the health authorities to guard against the spread of the plague. The "contacts" are placed under observation as soon as discovered.

In a Valedictory Address delivered by the late Dr. Jacob M. Da Costa to the graduating class of 1891 at Jefferson Medical College, he said: "A teacher will not simply instruct; he will do more, he will educate. Through his pupils he lives; the man passes away; the teacher remains in his pupils and becomes part of them. When the hour comes that I shall lay down this robe of teaching, when the time arrives that I shall address you no more, there will always remain the thought—I say it in all humility—that I shall live in you. I shall be with you in your struggles, shall share with your successes. At every bedside of distress, at every bedside of hope we meet again. The teacher is inseparably joined to you, to all his pupils. Awful, ever-present responsibility, constant excitant to truthful, arduous effort; and happy is he who has been so guided that he has never forgotten his responsibility nor relaxed his exertion; that he has used God's gift of teaching for God's purpose."

CALIFORNIA.

Dr. Frederick Reynolds, of Los Angeles, late interne at the county hospital, has been appointed assistant-surgeon at the Soldiers' Home.

Dr. Cornelius F. Buckley, one of the pioneer physicians of San Francisco, was badly bruised and cut about the face and body in a runaway accident, September 3.

Dr. Frederick W. Hatch, of Sacramento, now general superintendent of State Hospitals for the Insane, will, it is reported, be made superintendent of the Napa Asylum, to succeed Dr. A. M. Gardner, resigned.

Highland Asylum was found by the State Board of Health to be greatly overcrowded. It was clean and in good sanitary condition. The board recommends that a large wing be erected.

The new Railroad Hospital, which has been remodeled from the old Charles Crocker residence, San Francisco, will be thoroughly equipped and ready to receive patients October 1. The old hospital will be torn down.

The hospital stewards at the Post Hospital, San Francisco, complain that they are obliged to be on duty thirty-three hours out of forty-eight. The watches are divided into stretches of fifteen and eighteen hours. The hospital is crowded and the hospital corps undermanned.

The new operating wing of the Mater Misericordiæ Hospital, at Sacramento, was formally opened on September 8. The suite of rooms comprises, in addition to the operating-rooms, separate rooms for anesthesia, sterilizing, storage of dressings and dressing-rooms for operator and assistants.

The report of the Health Department of Los Angeles for August shows 131 deaths, or a death-rate of 15.26 per 1000. The causes of death were: Specific infectious diseases, 18; respiratory diseases, including 18 from tuberculosis, 32; digestive diseases, 17; nervous diseases, 15; circulatory diseases, 12; genito-urinary diseases, 10; violence, 9. The deaths included 80 males and 51 females. During the month 154 births were reported. The contagious diseases reported numbered 38—diphtheria, 12; scarlet fever, 11, and typhoid fever, 15.

COLORADO.

Gross Medical College, Denver, opened its twelfth annual session, September 12. Addresses were made by Professors Charles B. Van Zant, George E. Tyler and other members of the trustees and faculty.

The August mortality of Denver was 223—128 males and 95 females. Tuberculosis caused 37 deaths; typhoid fever, 9; scarlet fever, 2; diphtheria, 1; pneumonia, 10; cholera infantum, 14, and violence, 13.

CONNECTICUT.

Dr. Joseph E. Root, of Hartford, has returned from a two months' trip to Europe.

Dr. Victor S. Merritt, of Hartford, has bought the practice and property of Dr. Jackson, of Haydenville, Mass.

The State Board of Health report shows that there were 1642 deaths during the month of August. This was 59 more than in July, 260 more than in August of last year and 298 more than the average number of deaths in August for the five years preceding. The death-rate was 31.9 per 1000 for the large towns; for the small towns, 21.1, and for the whole state, 21.7. The deaths reported from infectious diseases were 612, being 37.3 per cent. of the total mortality. The prevalence and mortality of measles, scarlet fever, diphtheria and whooping cough are greatly abated, as compared with the preceding months of the year, but typhoid fever and acute intestinal affections have increased. The typhoid excess is probably due in part to the low elevation of the wells. Other diseases have not varied so conspicuously from their usual prevalence. Typhoid fever is reported as occurring during August in 56 towns in the state, with a mortality of 36, against 21 in August of last year. Several of the patients are reported as taken ill soon after vacations spent away from home. It would be very instructive and profitable if all the reports of typhoid cases indicated whether contracted at home or elsewhere. About a year ago it was stated that a large proportion of the victims of infectious diseases are among those who have been visitors at the different summer resorts in this or neighboring states. The same observation is likely to be realized this autumn, especially in the occurrence of typhoid fever. The unusual high temperature during August has operated with fatal effect on infantile life. Over 43 per cent. of the total deaths were of children under 5 years old. These deaths were, in the majority of instances, caused by diarrheal disorders and induced mostly by food rendered unwholesome by the changes produced in it by heat. Nursing babies and babies well fed on wholesome, unspoiled food do not suffer from hot weather more than adults.

DISTRICT OF COLUMBIA.

Dr. D. Percy Hickling, of Washington, has returned from his European trip.

The following general order was issued by the War Department September 10: The Army Medical School is governed by special regulations, and will have the following organization: The faculty will consist of four or more professors, selected from the senior officers of the Medical Department stationed in or near the city of Washington, and such associate professors as may be required. The senior officer will be president and the junior secretary of the faculty. The student officers will be selected by the Surgeon-General from those medical officers who have been appointed since the last preceding term of the school, and such others as may be authorized to attend.

FLORIDA.

Dr. Martin Kennedy, of Bartow, will locate in Pensacola.

ILLINOIS.

Dr. Josiah C. Taylor, of Hull, has moved to Rich Hill, Mo.

Dr. Paul Dombrowski, of Peoria, has returned from Paris.

Dr. Roy W. Riggs, of Winchester, has moved to Newark, S. D.

Dr. Alva C. Foster has moved from Blue Mound to Columbia, Mo.

Dr. Charles A. Handley's office, at Isabel, Edgar County, was destroyed by fire September 2. He lost his library, instruments, medicines, etc., his loss being more than $1000.

Dr. James O. DeCourcy, assistant city physician of East St. Louis, resigned his position September 11, because, when he protested against the reduction of his bill for $500 for treating smallpox patients to $250, the board of supervisors still further reduced his bill to $100.

Chicago.

Dr. Jacob Frank returned, on September 15, from his summer in Europe.

Dr. William L. Ballinger is lying dangerously ill at the Evanston hospital.

Dr. Robert D. Boyd has returned after a vacation of a month spent on the Great Lakes.

Dr. and Mrs. Julian E. Hequembourg have returned after a summer vacation at the seashore.

Dr. J. M. Washburne was married to Miss Margaret Price, of Buckhart Township, September 2.

Dr. Robert C. Wilson has returned from Lake Harbor, Mich., where he spent July and August.

Dr. and Mrs. George F. Fiske have returned from a two months' stay in Colorado, and sail for Europe to-day.

Dr. Cyrenius A. David, who has been spending several months in Europe, returned to the city on September 5.

Dr. and Mrs. J. Elliott Colburn have returned from their trip to Europe. After visiting the Paris Exposition they took a 500-mile bicycle trip through southern England and Wales.

Dr. Otto H. Pagelson, who has recently completed his interneship at Cook County Hospital, has located in Iowa Falls, Iowa, where he will be associated with Dr. Melvin W. Hill.

Dr. Leo Loeb, of the University of Chicago, has returned from his sojourn at Woods Holl, Mass., where he has been experimenting on the development of life from unfertilized eggs.

Dr. Frank Billings, who has spent the last two months at Mackinac, for rest and recuperation, has returned. He was ill with malarial fever for several weeks, but has entirely recovered.

Dr. Joseph Haven, United States consul at St. Christopher, West Indies, has been spending a few days in Chicago. He has recovered his health and expects to return to his practice in Chicago early in the spring.

In memory of Dr. Ernst Schmidt, the trustees of the Michael Reese Hospital have adopted resolutions, setting forth his service as surgeon to the hospital for twenty years, extending the condolence of the officers and trustees to the family and inscribing his name on the hospital roll of honor.

The College of Physicians and Surgeons will open on October 1 with an estimated total enrollment of 700. In addition to the faculty changes already noted, the following appointments have been made: Dr. Harris E. Santee, professor of anatomy; Dr. John L. Porter, professor of orthopedic surgery; Dr. Joseph M. Patton, professor of physical diagnosis; Dr. Daniel N. Eisendrath, professor of clinical anatomy; Dr. Don L. Shaw, professor of anatomy; Dr. Julius H. Hoelscher, professor of clinical medicine; Dr. Bernard Fantus, adjunct professor of materia medica; Dr. August F. Lemke, adjunct professor of practice of medicine; Dr. Edward H. Lee, adjunct professor of practice of surgery; Dr. James M. Neff, adjunct professor of practice of medicine; Dr. Aristides E. Baldwin, adjunct professor of stomatology; Dr. Eugene R. Whitmore, adjunct professor of chemistry; Dr. Samuel J. Walker, adjunct professor of clinical anatomy and instructor in surgery; Drs. Edward F. Wells, William K. Jaques, and James W. Walker, adjunct professors of practice of medicine; Dr. Leo Loeb, assistant professor of pathology; Dr. William H. Rumpf, instructor of gynecology.

HEALTH DEPARTMENT.

Recent heat and humidity are responsible for the increased mortality from the acute and intestinal diseases. For more than two weeks there has been an almost epidemic prevalence of these ailments, but not until last week did this show an increased number of the diarrheal deaths—116 as against 94 the week previous and 85 during the corresponding week of 1899. Notwithstanding the increase from this cause, the total mortality from all causes numbers only six more than for the first week of the months and the death-rate for the last fortnight is only 13.75 per thousand of the Federal figures of population—1,698,575. The interrupted flow of the drainage channel has had no effect on the sanitary quality of the public water-supply as determined by chemical examination, and the increase of typhoid fever must be due to some other cause—probably the usual seasonal increase. The increase is not great enough to cause alarm, while the comparison with the period before the drainage channel was opened still continues favorable. During the first fortnight of September, 1899, there were 25 typhoid deaths, and during the same period this year there were but 17 deaths from this cause. The mortality for the week ended September 16, was 450, an increase of 59 over that of the corresponding week in 1899, the respective death-rates per thousand being 13.81 and 12.71. Of males 236, and of females 214 died. Under 1 year of age, 120 deaths occurred; between 1 and 5 years, 67; and the same number over 60 years of age. The principal causes of death were: Acute intestinal diseases, 116; consumption, 40; cancer, 35; heart disease, 31; nervous diseases, 28; violence, 21; Bright's disease, 15; pneumonia, 11; apoplexy, 11; typhoid fever, 10; diphtheria, 7, and suicide, 7. During the week 66 cases of contagious disease were reported—scarlet fever, 28; diphtheria, 37; whooping-cough, 1; typhoid fever, 13. At the stockyards 62,202 pounds of meat were condemned. Of the 454 samples of milk and cream analyzed, 9.03 per cent. were found to be below grade.

INDIANA.

Dr. F. Blair Humphreys has moved from Fremont to Angola.

Dr. Minor Morris, of Indianapolis, has moved to Washington, D. C.

Dr. George H. Grant, of Richmond, health officer of Wayne County, is very ill with typhoid fever.

Dr. S. C. Markley, of Richmond, was elected city physician and police surgeon of Richmond, September 4.

Dr. Austin Funk, of New Albany, has been appointed on the staff of the United States Marine-Hospital at Cairo, Ill.

Dr. Charles A. Ross, of Leopold, has been appointed acting assistant-surgeon in the army, and has started for his post of duty in China.

Dr. William D. Schwartz, of Portland, has sailed for Europe. He intends to pursue his studies in the hospitals of London and Paris.

St. Margaret's Hospital, Hammond, has organized its staff as follows: Dr. Cyrus W. Campbell, president; Dr. James T. Clark, vice-president; Dr. H. Edgar Sharrer, secretary. The hospital will be ready to receive patients in a few days.

The Board of Health of Logansport announces that, in view of the existence of smallpox in the city, and of the order for compulsory vaccination recently promulgated by the board, it will vaccinate free of charge all school children whose parents are unable to pay for vaccination.

Marion has a strong anti-vaccination party, which has formed a society whose members have agreed to send their children to school in defiance of the compulsory vaccination orders, and if not allowed to enter the matter will be taken to the courts.

The new state law, which goes into effect this fall, provides that first-year students who do not possess a literary degree, a diploma from a high school, or a teacher's life certificate must pass an entrance examination before a representative of the State Board of Medical Registration, who must not be in any way connected with any medical college.

Dr. Joseph G. Rogers, superintendent of the Northern Insane Hospital, at Logansport, saved the state a large sum by preparing the plans for the two new buildings erected this summer and superintending their construction. The trustees have granted him a vote of thanks for an honorarium, and have increased it by sending a copy of the resolutions to the governor.

INDIAN TERRITORY.

Dr. Franklin M. Duckworth has been appointed pension examining-surgeon at Claramore in the Cherokee nation.

Dr. Charles F. McElraith, formerly of Enid, has been appointed superintendent of the Canadian County Board of Health vice Dr. William J. Muzzy, of El Reno, resigned.

IOWA.

Dr. Albert E. Rector, of Lake Park, has moved to Spirit Lake.

Dr. Caleb P. Soper, of Spirit Lake, has moved to Warrensburg, N. Y.

Dr. J. W. Cokenower, of Des Moines, has returned from his European trip.

Drs. Egerton J. and Nellie M. Unger, of Mount Union, have located permanently in Keokuk.

Dr. Benjamin F. Andrews has given up the practice of medicine in Oskaloosa, and will enter the missionary field.

KANSAS.

Drs. Willis H. and Ida A. Hall, formerly of Topeka, have opened offices at Rock.

Dr. William M. Arnold, of Larnech, has been appointed coroner of Pawnee county.

The Kansas Medical College, Topeka, opened September 11. The attendance promises to exceed that of any previous year.

Dr. A. W. Schockley, acting asst.-surgeon, U. S. A., son of Major W. B. Schockley, of the Soldiers' Home, Leavenworth, has been made superintendent in charge of inspectors of sanitary work at Havana.

KENTUCKY.

Dr. James T. Blackburn has been nominated trustee for the Twelfth ward, Louisville.

Dr. Theodore N. Wise, one of the most highly esteemed physicians and citizens of Covington, is critically ill at his home.

Dr. Abraham S. Stanley, late of the house staff of the Western Kentucky Hospital for the Insane, has decided to remain in Hopkinsville and go into private practice.

LOUISIANA.

Monroe has elected a new board of health, consisting of Drs. Charles W. Hilton, Addley H. Gladden, and M. A. McHenry.

A plan for a proposed isolation hospital, which is urgently needed at New Orleans, has been approved and the city council is to be asked to authorize its construction forthwith. The plan, which was prepared by Dr. Sidney L. Theard, secretary and treasurer of the city board of health, contemplates a hospital on the pavilion plan.

Dr. Quitman Kohnke, president of the New Orleans Board of Health, presented at the September 10 meeting a map showing the location of the 467 dairies which do business in the city. He also commented upon the decreased mortality of the city and stated that the death-rate for August was lower than for any August in the preceding five years.

MAINE.

Dr. L. S. Purrington has opened an office in Gray.

Dr. N. E. Nichols will locate for practice in Jackman.

Dr. Augustus B. Drummond, of Bangor, has gone to Rockland, where he will locate for practice.

Dr. B. F. Peabody has purchased the practice of Dr. Erving A. Libby, of Rangeley, and will locate there.

The contract for the masonry of the new Sisters of Charity Hospital, Lewiston, has been awarded, the bid being $28,490. The wood construction of the building has been contracted for at $39,171.

MARYLAND.

Typhoid fever is unusually prevalent in Carroll County, especially near Westminster.

The death of Mr. Henry C. Hallowell, of Montgomery County, removes probably the foremost sanitarian outside of the profession. For sixteen years he held the position of president of the board of health of Olney district, and by his untiring devotion to its interests, wise foresight and courtesy in carrying out the decisions of the board, he not only assisted materially in keeping alive voluntary sanitary association, but made it respected, appreciated and obeyed, by the general public, without opposition.

Baltimore.

Dr. G. Milton Linthicum is visiting the Paris Exposition.

The will of Mayor A. Nusbaum bequeaths $100 to the Hebrew Hospital.

The Maryland Medical College opened September 17 with an introductory address by Prof. Richard L. McNeer.

For the week ended September 8, there were 75 deaths among children under 5 years of age. There were 23 deaths from cholera infantum, 14 from dysentery, 4 from typhoid fever, and 29 from consumption.

The drinking water used in the school is the subject of much discussion. Owing to the prevalence of typhoid fever, the health commissioner has warned the citizens to boil all drinking water, yet no precautions are taken in the public schools, where the children drink out of open buckets exposed at all times, using a common tin cup.

The surgeon-general of the Marine-Hospital Service has asked the health commissioner to secure the aid of the steamship companies in preventing the introduction of the bubonic plague, as has been done by the authorities of New York. Dr. Wyman desires the ship's surgeon to take the temperature and make examinations of the crew and steerage passengers twenty-four hours before the vessel reaches port, and keep a record of the same for the guidance of quarantine officers.

The health commissioner calls attention to the great prevalence of typhoid fever in Baltimore. In August, 1899, 74 cases were reported, with 25 deaths; in August 1900, 189 cases were reported, with 37 deaths. The increase in cases reported and the lessened death-rate are believed to be due to a more strict compliance by physicians with the law compelling the report of typhoid cases to the department. It is not thought that there was such a large increase of cases as is shown in the figures. Formerly it was considered that the disease was limited chiefly to elderly people; now many children are found to be suffering with it. The following figures show the mortality in Baltimore from typhoid fever in the last ten years. Total deaths, 1928; 1890, 247; 1891, 150; 1892, 193; 1893, 224; 1894, 222; 1895, 173; 1896, 188; 1897, 189; 1898, 189; 1899, 153.

MICHIGAN.

Dr. William M. Harvey, of Detroit, sailed for Europe, September 8. He will study in Berlin.

Petoskey has raised nearly $5000 for a hospital and expects to have the foundations laid before winter.

The state law may be tested in the case of Miss Heideman, of Calumet, who came from Finland four months ago, and claims to have a diploma in medicine from the University of Helsingfors. She has been practicing in Calumet, but has taken no examination on account of her ignorance of English.

The Bay City Board of Health, on September 7, adopted the following resolution: "Resolved, That the board of health does hereby most respectfully ask that the physicians of Bay City shall always inspect a case of contagious disease before asking the health officer to remove the sign or disinfect the house, and that the health officer, before removing the sign, ascertain whether the physician has carried out the import of this resolution." The necessity for this action is that frequently the attending physician in a contagious disease case will order the warning sign removed from the house before the danger period has passed.

MORTALITY FOR AUGUST.

There were 2954 deaths in Michigan reported to the department of state during August. This number corresponds to a death-rate of 14.5 per thousand, as compared with a rate of 12.4 for the preceding month, and a rate of 13.8 for August, 1899. The mortality of the State of Indiana for August was 14.3 per thousand, or practically the same as that of Michigan. The number of deaths returned for August is 455 more than for July. There were 811 deaths of infants under 1 year of age, an increase of 250 over July; 268 deaths of children aged 1 to 4 years inclusive; and 630 deaths of persons aged 65 years and over. Important causes of death were as follows: Pulmonary tuberculosis, 122; other forms of tuberculosis, 51; typhoid fever, 68; diphtheria and croup, 19; measles, 6; whooping cough 17; scarlet fever, 15; pneumonia, 80; diarrheal diseases of infants under five years, 586; cerebrospinal meningitis, 37; cancer, 121; accidents and violence, 187. As compared with the preceding month, a slight increase is noted in the number of deaths from diphtheria and croup, a considerable increase in the fatality of typhoid fever, and a large increase—308 deaths—in the mortality from diarrheal diseases of children. This latter increase is characteristic of the annual "slaughter of the innocents," chiefly from "cholera infantum," a type of disease which is entirely or largely preventable by proper sanitary and hygienic methods.

MINNESOTA.

County Physician Ancker has named Dr. James S. Gilfillan, of St. Paul, as assistant county physician.

Major Thomas C. Clark, M.D., of Stillwater, was married at Decorah, Iowa, to Miss Mary I. Breckenridge, on Sept. 11.

The foundations of Asbury Hospital, Minneapolis, will be completed by October 1, at a cost of $10,000, which is already in hand. The directors already have $25,000 of the $50,000 required to complete the building.

The Hospital Committee of the Board of Charities and Corrections has been notified that $23,000 of the $30,000 required have been raised toward the quarantine station at St. Louis Park, and the cottages for the Minneapolis City Hospital.

Dr. Gustav A. Renz, as president of the Ramsey County Medical Society, has filed charges against four physicians in St. Paul, that they advertise fictitious cures. The accused are cited to appear before the State Board of Medical Examiners, on October 11.

MISSOURI.

Dr. William E. Cass, of St. Louis, acting assistant-surgeon in the army, has been ordered to report for duty to the chief surgeon at San Francisco.

The board of managers of the State Insane Asylum at Nevada has re-elected Dr. Joseph F. Robinson superintendent of the asylum for four years.

Dr. Albert Steinrauf, of St. Charles, has been notified of his appointment as acting assistant-surgeon in the army, and has received orders to report at San Francisco for assignment to duty.

Dr. I. N. Love, of St. Louis, has removed to New York City to engage in the practice of his profession. He has accepted a position in the department of internal medicine and diagnosis in the Post-Graduate Medical School and Hospital. His address is Hotel Iroquois, 49 West Forty-fourth street.

The death-rate of Kansas City is increasing. In 1899 it was 10.9 per thousand, and in 1889, 13.6. During 1899 2662 deaths occurred, 1752 adults and 910 children. Of these 507 were under 1 year of age. Violence was the cause of 128 deaths. The maximum of deaths occurred in April, 313, and the minimum, 157, in November.

MONTANA.

Dr. William H. Campbell, of Livingston, has moved to Kalispell.

Dr. Josiah R. Hammond, of Butte, will return from Europe and resume practice early in October.

Dr. Benjamin C. Brooke, of Helena, was so unfortunate as to step into an open hatchway in Butte on August 30, while in attendance on the meeting of the Interstate Medical Association. He fell eight feet and broke three ribs.

NEBRASKA.

Dr. August F. Jonas, of Omaha, has returned recently from the International Medical Congress.

Dr. Fred W. Lester, who left David City for his old home in Illinois, has returned to David City and resumed practice.

Dr. Jay Ryan, a recent graduate of Creighton Medical College, has been appointed physician for the poor of Douglas County.

Dr. Victor H. Coffman, of Omaha, has been forced to spend some time in the mountains on account of illness. He has returned much improved.

The governor has been formally requested by the Omaha Medical Society to reappoint Dr. Benjamin F. Crummer, of Omaha, on the State Board of Health.

NEW JERSEY.

Dr. Grant Sparks has been elected physician to the Gloucester County Almshouse.

Dr. William S. Jones, of Camden, has been re-elected county physician for a term of three years.

Dr. Rolland Tomlinson, of Plainfield, is now associated in practice with his father, Dr. T. H. Tomlinson.

The budget for Atlantic City has been issued for the coming year, and among other items approved by the council are improvements for hospital, $10,000; sanitary improvements, $24,500.

The sanitary condition of Atlantic City at the present time is said to be bad, and this is especially due to the defective sewerage system and the lack of attention from the board of health.

NEW YORK.

Dr. C. C. Lytle has located for practice in Syracuse.

Dr. Richard Ellis, of Utica, has moved to New York and opened an office at 147 East Twenty-first street.

Dr. Edmund C. Body, city physician of Rochester, was married on September 4, to Miss Jessie Cameron Cogswell, also of Rochester.

Dr. Charles E. White, of Waterville, has moved to Rome, where, with his wife, who is also a physician, he will continue in practice.

Dr. J. D. Shipman, who, after his graduation, studied for a year in Germany, and then served for another year as house physician at St. Joseph's Hospital, Syracuse, has located at Amsterdam.

The health report of Rochester for August shows 220 deaths, 269 births and 111 marriages for the month. The death-rate was 15.94 per thousand, based on the census figures of 162,435. Of the decedents 54 were under 1 year of age; 14 between 1 and 5 years, and 82 over 60 years. The chief causes of death were: Contagious diseases, 25; cholera infantum, 22; apoplexy, 16; dysentery, 13; heart disease, 19; violence, 13. There were 17 more deaths than in August, 1899.

St. Peter's Hospital Staff, at Albany, was reorganized September 3, and the following physicians chosen: Consulting surgeon, Dr. Patrick J. Keegan; consulting physician, Dr. T. Kirkland Perry; attending physicians, Drs. Henry Hun, Howard Van Rensselaer, Andrew MacFarlane; attending surgeons, Drs. Samuel R. Morrow, William Hailes, Jr., John V. Hennessey; ophthalmic surgeons, Drs. George S. Munson, Theodore F. C. Van Allen; abdominal surgeon and gynecologist, Dr. John B. Harvie; nose and throat, Dr. Clement F. Theisen; obstetrician, Dr. John F. Reilly, of Rensselaer; pathologist, Dr. George Blumer; house staff; physician, Dr. Waldron A. Stearns; surgeon, Dr. W. Gansevoort Mack.

Buffalo.

Dr. Lucien Howe is in Europe.

Major Charles K. Winne has been detailed as post-surgeon at Fort Porter.

Dr. Roswell Park has been appointed medical director of the Pan-American Exposition. With the appointment of one so distinguished in his profession, this department of the exposition should respond to all demands made upon it.

The ordinance controlling the grain-drying industry has been passed by the city council. This will afford a great relief to the city because at times the stench arising from the wet, fermenting grain has been almost unendurable. Many cases of disease were caused and aggravated by this nuisance.

The Consumption Hospital, a building erected especially for tuberculous patients, which was recently totally destroyed by fire, is soon to be rebuilt. It will be situated on the outskirts of the city, on high and dry grounds, and being a department of the Erie County Hospital it has the advantage of a fine herd and many acres of good farm land. The hospital did and will do exceedingly good work in this field, because as a rule the patients coming to it are from the lower strata of life, very poor and ignorant. They, therefore, are not only benefited themselves by their hygienic environment and good treatment, but their relatives are protected by their separation from an aggravating source of infection.

Dr. Jacob Otto has been appointed assistant-superintendent of the Exhibit on Sanitation, with the collaboration of the health commission. He has addressed a circular letter to every health board in North and South America asking for its co-operation. The exhibits will be classed under two heads, the first, covering the proceedings pursued by the different boards of health in all matters pertaining to sanitation. This exhibit will be composed of the blank forms used by each board of health and of photographs of their public works devoted to sanitation, and of models of special features in municipal sanitation used in chemical and bacteriological work and disinfection. Models will be presented graphically illustrating the contamination of wells, practical tenement houses in comparison with insanitary rookeries. The second section will show the sanitary appliances used in disinfection, ventilation and heating, and will include models of plants in use by municipalities for supplying water, for the disposal of sewage, garbage, etc.

New York City.

Dr. Lucy M. Hall-Brown, of Brooklyn, has returned after a two-months' trip to Europe.

Dr. Henry E. Hale, Jr., was married September 12, to Miss Frances Hibbard Ward, of Chicago.

Dr. Charles F. Meinhardt, of St. Mark's Hospital, is spending his vacation in Duluth, Minn.

Dr. George F. Shrady has returned after a short trip to Europe. While there he went to Glasgow to look over the plague situation.

One of the New York hospitals has in operation a camera which records minutely, after the manner of a biograph, the actions of patients. These are reproduced on a screen, and physicians and students thereby enabled to study closely the manifestations of such diseases as locomotor ataxia, etc.

Michael C. Murphy, president of the health department, has given out plans for the new bacteriological laboratory to be constructed especially for the study of the bubonic plague germs. It will be erected near the Willard Parker Hospital, on East Sixteenth street, will be built of steel, with asbestos walls, and will have neither chimney nor windows.

The death is announced of Samuel Bradhurst Schieffelin at his home in New York City, aged 89 years. On the retirement of his father from business in 1849, Mr. Schieffelin and his brother managed the extensive drug business of Schieffelin & Co. He remained at the head of the company until 1865, when he was succeeded by his son. Since his retirement, he devoted himself to historical and religious study and writing.

OHIO.

The new pathological laboratory at Charity Hospital, Cleveland, is now completed and ready for opening.

Dr. James E. Murray, of Middletown, has disposed of his practice to Dr. L. S. Krauss, of West Carrollton.

The fall term of the Ohio Medical College, and Starling Medical College, at Columbus, opened September 12.

Dr. Albert F. Shiebley, of Glandorf, who has been studying in Germany for several months, has returned and will locate in Ottawa.

Dr. B. P. Hall, of Richwood, has been awarded the care of the sick and the furnishing of medicines to the poor of Claiborne township.

Dr. George W. Crile, of Cleveland, has been appointed to the chair of clinical surgery in the medical department of Western Reserve University.

The first fine under the Love medical law was imposed in Fulton county, when Dr. Pixley, a physician from Michigan, was arrested and fined $27 and costs.

The first examination under the Love medical law was held at Columbus, by the State Board of Medical Registration and Examination, September 9, 10 and 11. Nine applicants, all medical graduates, took the examination.

PENNSYLVANIA.

The school board of Caernarvon has instituted the use of individual drinking cups for its school children.

Dr. Robert W. Brace, of Blackwood, has been appointed resident physician at the hospital in Westport, Conn.

A mild epidemic of diphtheria now prevails in Carlisle. Fourteen cases have been quarantined by the board of health and four new cases have appeared.

Dr. Thomas S. Anderson and wife, of Carnegie, will soon leave for a six-months' sojourn in Europe. On their return they expect to locate in East End, Pittsburg.

Anthrax has attacked the herd of cattle belonging to William J. Irvin at Centreton, near Woodstown, and 5 out of 10 cattle have died. The state veterinarian now has matters in charge, and is affording protection.

The water board of the city council of Reading, in its recent report, recommends filtration of the water-supply from Antietam dam. On account of vegetable growth this source of water-supply is frequently rendered useless for weeks at a time.

The business men of Erie have demanded of the board of health and city council that a municipal hospital be built forthwith. There are now ten cases of smallpox in the city, and no efforts should be spared to limit and stamp out the disease.

Compulsory Education and Vaccination in Bradford County.—On September 3, Judge Fanning, of the court of quarter sessions of Towanda, Bradford County, filed an opinion in the case of the Commonwealth vs. E. L. Smith, in which the compulsory vaccination and the compulsory education laws were brought into question. The case was one in which Smith, who is a christian scientist, declined to have his son vaccinated and the boy was refused admission to the public schools. He subsequently received instruction at his home from his mother. Smith was fined $2 for non-attendance at school. The judge, in his ruling, stated: "We must conclude from the foregoing that the compulsory education act by its terms did not make it obligatory upon the defendant to obtain a certificate of vaccination. His sole duty prescribed by it was to send his son to school. He did this. The teacher refused the son admission simply because he did not present a certificate. There is nothing in this statute making vaccination mandatory in any case. Neither does it require the child to produce a certificate that it has been successfuly vaccinated or had smallpox. In order to sustain this judgment we must say that the defendant was obliged by the terms of the statute to procure and his son to present a certificate. We can not say this. The defendant made a clear answer to the case of the Commonwealth when he showed that he had sent his son to school until he was denied admission by the teacher. This is a question of the extent of the police powers of the legislature. Perhaps a law making vaccination obligatory in all cases except where the child has had smallpox would be a valid exercise of that power. This is unnecessary to decide. For so far the legislature has not expressly enacted such a law, and we do not feel disposed to hold that it has done so implicitly in order to sustain this judgment."

Philadelphia.

Dr. Andrew J. Downes has returned from Europe.

Dr. W. Barton Hopkins is spending a vacation at Newport.

Dr. E. E. Montgomery has returned from his European trip.

Dr. James M. Anders has returned from his visit to Dr. L. Webster Fox at Kennebunk, Me.

A bequest of $10,000 has been made to the Pennsylvania Hospital by Howard Roberts, who recently died in Paris.

The Home for the Homeless, at 4102 Ogden street, will hereafter be under the management of Dr. Rebecca Moore, assisted by a board of advisers.

Magistrate Kochersperger a few days ago fined a wagon-driver $5 for delaying the ambulance of the German Hospital while it was making a call to receive a patient.

The board of health censured an eclectic physician for not reporting a death from diphtheria promptly, and for allowing the body of the patient to remain near an open window for a day after death.

The Sanatorium Association has completed its twenty-fourth year, and the results show the largest increase over any previous year. The admissions for 73 working days were 180,670 adults and children, comprising 25,655 adults, 20,516 infants, 134,499 children over 2 years of age. Of bathers there were 23,265 boys, 25,591 girls and 4516 infants.

The Jewish Maternity Association has asked an amendment to its charter, and within a short time will make an addition to its equipment by erecting a gynecological ward and operating room. A benefit concert will be given at the Academy of Music, the proceeds of which will be given to the home.

TENNESSEE.

The City Hospital at North Knoxville is nearly completed. It is expected that it will be furnished and equipped to receive patients by January 1.

The new building of the Tennessee Medical College, at Knoxville, will be ready for occupancy before the opening of the college term in October.

Dr. D. M. Saunders, of Woodstock, has been elected superintendent of the Shelby County Emergency Hospital at Memphis.

The Memphis Board of Health has been notified by several southern cities that if the Memphis city council passes the amendment to the health ordinance offered at a recent meeting, which will require that the physicians of Memphis report all of their cases of tuberculosis and typhoid fever, they will follow suit and adopt a similar ordinance.

TEXAS.

Mercy Hospital has been incorporated at Laredo, without capital stock, but with property valued at $6,000.

Dr. E. E. Mansfield, of Wilmer, has been assigned to the Twenty-fifth U. S. Infantry as assistant-surgeon, and has left for San Antonio to join his regiment.

Galveston.

Dr. Hamilton A. West, whose death was announced by the Associated Press as having occurred in the recent tornado, has asked The Journal to state that he and his family are safe and well. Dr. West is actively at work with the Board of Health restoring order from chaos.

Dr. C. P. Wertenbaker, United States Marine-Hospital Service, stationed at New Orleans, has been ordered to Galveston. His instructions are to make an immediate investigation and estimate of the damage done, and the general condition of the inhabitants, and to keep the authorities in Washington in close touch with the situation.

The heroism of Dr. I. M. Cline, United States Weather Observer at Galveston, a member of the Texas State Medical Association, stands out brightly among the many heroic deeds recorded there. At noon he sent out warnings that a disastrous storm was imminent. Three hours later, realizing that an unparalleled storm was approaching, he went through the southern part of the city imploring the people to fly to the center of the island. As the telephone and telegraph systems were then wrecked, he made his way to the telephone station at the bridge west of the city and sent an appeal for aid, just before the cable parted. On his return, after this duty had been performed, he found his house destroyed and his wife and one child dead.

WASHINGTON.

The Deaconess Home at Spokane has let a contract for a $1,000 addition to its main building. This will increase the capacity of the hospital by six beds.

The City Council of Yakima has passed an anti-expectoration ordinance at the instigation of the State Medical Society. A second ordinance prohibits the issuance of burial permits without a certificate of death from a reputable medical practitioner.

WISCONSIN.

Dr. F. W. Watson has succeeded Dr. Timothy L. Harrington in his practice at Antigo.

Dr. Timothy L. Harrington, after five years' practice in Antigo, has moved to Milwaukee.

Dr. Frank Fordyce Newell, of Burlington, was married on September 3 to Miss Marie R. U. Young, at her residence in Chicago.

The supervisors of Milwaukee county have appropriated $100,000 for improvements and additions to the county hospital at Wauwatosa.

The hospital which the Lutheran synod is erecting at La Crosse, will soon be completed. It will cost in the neighborhood of $60,000.

Dr. Ferdinand M. Schulz, health commissioner of Milwaukee, recommends in his annual report the closing of all wells, the medical control of marriage as a means of lessening hereditary diseases, and the examination of school teachers for tuberculosis. The death-rate of the city was 13.48 per thousand, a little higher than that of the previous year. Of the 3843 deaths, 2065 were males and 1778 females. The deaths under 5 years of age numbered 1541 or 40.1 per cent. of the total mortality.

CANADA.

Whooping-Cough is epidemic at Ottawa.

The profession in British Columbia is contemplating the formation of a provincial medical society.

Several deaths among children in Toronto have been traced to eating ice-cream which had been re-frozen.

Dr. Charles O'Reilly, superintendent of the Toronto General Hospital, has just returned from an extended inspection trip of the hospitals of Winnipeg, St. Paul, Minneapolis, Milwaukee, Chicago and Detroit.

Dr. Lang, of Glasgow, the new professor of chemistry at Toronto University, has been busily engaged re-organizing that department. Dr. W. Lash Miller has been promoted to the position of associate professor of physical chemistry.

At the instance of the Toronto medical health officer, Professor Shuttleworth has made an analysis and inspected the reservoir. As a result he has advised that the city reservoir be immediately cleaned and newly cemented.

An arrangement has been made between the British and United States governments whereby a Marine-Hospital physician will henceforth examine all immigrants leaving the port of Liverpool for Canada. His services will be supplemented by the services of a Canadian physician to be appointed by the railway and steamship companies, with headquarters at Liverpool. Last week three emigrants with favus were refused transit from Montreal to New York by the American inspector.

The toast to the American Medical Association, at the banquet of the Canadian Medical Association, was received with gratifying enthusiasm. Dr. Frederick C. Shattuck, of Boston, responded in a clever and witty speech, saying that if the United States did not soon annex Canada, he hoped that Canada would soon annex the United States. The latter met with a happy approval; for, of course, there is no annexation sentiment in Canada in the former direction.

MARINE-HOSPITAL NOTES.

THE STATUS OF BUBONIC PLAGUE.

With the exception of India, where bubonic plague is prevalent in epidemic form, Rio Janeiro, Brazil, is probably the worst infected place in the world at the present time. Weekly reports to the surgeon-general of the Marine-Hospital Service from the acting asst.-surgeon located in that city show that there are under treatment in hospital between ninety and one-hundred cases, and that from three to five new cases occur each week. Persistent scientific disinfection and quarantine have stamped out the disease in all of the principal places where it has appeared within the last year or two, but constant vigilance is necessary to prevent its introduction and spread in all seaport towns. The viability of the plague bacillus is its chief danger. Epidemics are stamped out, but occasional cases continue to appear and are transported from one place to another, as is evidenced by the recent appearance of plague on a ship in the harbor of Hamburg, also a similar instance on board ship in the harbor of London. Plague was also carried from Syros Island to Constantinople within the past month. The present outbreak in Glasgow, while not yet traced, gives force to the argument that constant vigilance is necessary on the part of all seacoast cities, and that the danger is not past because the epidemic in any particular place has been suppressed.

INOCULATION AGAINST TYPHOID.

In a brief report to the surgeon-general, Dr. Geddings, acting director, hygienic laboratory, M.-H. S., summarizes the status of anti-typhoid inoculation as follows: In an infectious disease so widespread as typhoid fever it is perfectly natural that, since the discovery of its specific organism, efforts should have been made by bacteriologists looking to a means of preventing the disease, or of curing it when established, by means of serum therapy, or by affording an efficient protection against it by means of a "vaccination" such as has been practiced with success in the case of plague by the Haffkine prophylactic. Attention was invited to the subject in 1894, when Hughes and Carter reported favorable results in the treatment of two cases of typhoid fever with the blood-serum of a convalescent. These were followed by reports of a similar nature from Girard, Legrain, Sylvestri, Von Jaksch, Klemperer, Pollak, Weisbecker, Chantemesse and others. All of these observers had used either the serum of convalescents or the blister fluid of typhoid patients until the experiments of Chantemesse, who proceeded in the regular way by immunizing a horse by killed cultures of the typhoid bacillus and using its serum as a remedial agent. Lyonnette brought a horse up to a point of immunity where his serum had an agglutinating power of 1:33,000. Naturally the subject attracted attention in the Hygienic Laboratory of the Marine-Hospital Service and a series of experiments was commenced by P. A. Surgeon E. K. Sprague, then in temporary charge of the laboratory. Beginning in 1897, and continuing more or less regularly until December, 1898, a horse was treated, first with increasing doses of killed cultures of the typhoid bacillus, and later with intravenous injections of a suspension of live cultures of the same bacillus. In December, 1898, the serum of this horse had reached an agglutinating power of 1:250,000. In April, 1899, the agglutinating power of the serum on the typhoid bacillus had risen to 1:500,000. There has been no opportunity of using this serum upon actual cases of typhoid fever, but Sprague, experimenting with guinea-pigs, in two series of experiments, succeeded in preserving animals to whom a lethal dose of the typhoid bacillus had been administered by the use of the serum, while the controls in every case died. The above has been summarized from a very full report by P. A. Surgeon E. K. Sprague. The subject of anti-typhoid inoculation, from this time on, while receiving more or less desultory attention, was only prominently brought to the front again by English reports of inoculation of British troops destined for service in the Indian Empire, where favorable results seem to have been reached. The latest statistics on the subject come from South Africa, favorable conditions having arisen during the siege of Ladysmith, in the Transvaal, for observation on the subject. The following, from the *Journal of Tropical Medicine*, July, 1900, has important bearing on the subject: "Important statistics have at last been made public concerning the probable effects of inoculation against typhoid. The figures relating to the results have been communicated by Dr. A. E. Wright, professor of pathology in the Army Medical School, Netley, and they are founded on the experience gained in Ladysmith during the siege. The number of officers and men under observation numbered 12,234; of these 1705 had been inoculated, leaving 10,529 non-inoculated or non-protected. During the siege 1489 cases of typhoid fever occurred among the non-inoculated and 35 among the inoculated. From these figures it is seen that 1 in 7.07 of the non-inoculated contracted typhoid, whilst only 1 in 48.7 of the inoculated were attacked. The lessened mortality also among the inoculated is marked; for of the non-inoculated persons attacked 329, or 1 in 32, died; while among the protected 8 deaths only occurred, or 1 in 213. Professor Wright remarks that in the returns the 'inoculated' are not definitely specified; inoculations being made to include, in all probability, persons treated by either the anti-typhoid serum or the sterilized vaccine culture, *or even vaccination against smallpox*. We await with interest a full investigation and report on this most important and interesting question, and it is to be hoped that Professor Wright's treatment may be proved to be a real protection."

OTTAWA LETTER.

Canadian Medical Association.

The thirty-third annual meeting of the Canadian Medical Association was held in the Academic Hall of the University of Ottawa, Ottawa, on Sept. 12-14, 1900, under the presidency of Dr. R. W. Powell, of Ottawa, Dr. F. N. G. Starr, of Toronto, acting as secretary.

ELIMINATIVE AND ANTISEPTIC TREATMENT OF TYPHOID FEVER.

Dr. W. B. Thistle, of Toronto University, in contributing this paper, stated that it was now seven years since he introduced this plan of treatment of typhoid fever to the profession. He had never held to the opinion that the eliminative and antiseptic plan could rid such organs as the liver and spleen of the bacilli lodged in them. He held to the opinion that the draining of the intestinal walls following on the action of a purgative such as calomel and mag. sulph. would tend to get rid of some of these bacilli and their toxins in the intestinal walls, but did not claim to effect their exit from the liver, etc. In many instances he thought the treatment had been imperfectly applied without a clear conception of the underlying principle. Under this plan, Dr. Thistle has never had a fatal case of hemorrhage, what hemorrhage occurred having been always very slight. He has also had few perforations. In Toronto this plan of treatment is universally adopted. Statistics at the Toronto General Hospital show, that from 1893 until the present time, there have been 823 cases in that institution with 56 deaths—a mortality of 6.5 per cent. under this plan of treatment.

In discussing the paper, Dr. McPhedran stated that he had watched Dr. Thistle's work from the time of the appearance of his first paper on the subject, but could not agree with all his conclusions. He did not think that it lessened diarrhea, tympanites, fever or delirium. He considered that Dr. Thistle was harboring the idea that purgatives in typhoid was a new discovery with him; this was not so. Twenty-five years ago he gave these for the first ten days at least. In addition to this he used to give carbolic acid and iodin, and in a certain class of cases, he thought he had the exact treatment. Another class would then come along, in which that treatment had no effect whatever. He considered that the general toxemia that existed could not be eliminated through the bowel. It had to be done through the kidneys and skin.

SARCOMA OF THE RIGHT NASAL FOSSA WITH ORBITAL CELLULITIS.

This paper and case was presented by Dr. Perry G. Goldsmith, of Belleville, Ont. The patient was a man of 38 years, a farmer, with an unimportant family and personal history. He consulted the Doctor on August 4, with severe frontal headache. Growths and some bone were removed from the nose. After this the swelling and pain in the eye rapidly increased, so that it was seen to project far forward, downward and outward. The growths in the nasal fossa were curetted and sent to Professor Anderson of the Trinity Medical College Pathological Laboratory, who pronounced them of sarcomatous nature, of small round-cell variety, with the walls of the bloodvessels thin and poorly developed. The discharge from the nostril was of an odor similar to that emanating from cancer of the uterus. Up to ten years ago Bosworth had collected forty of these cases.

Dr. R. A. Reeve, Toronto, stated that a number of years ago he had presented a paper before the Association on the same subject. He directed attention to the importance of examining the nasopharynx in diseases of the orbit. He instanced a similar case to Dr. Goldsmith's. In his case there was little pain, but an examination of the nose revealed the tumor.

PRESIDENT'S ADDRESS.

Dr. R. W. Powell delivered the annual presidential address. He recited a few reminiscences when on former occasions the Canadian Medical Association had met in the Capital City in 1871, 1881, 1889 and 1893. Reference was made to the South African war in order to show the unsatisfactory condition of affairs which permitted other colonial surgeons practicing their profession in that land without hindrance, whilst Canadians were debarred from the same privilege. An earnest and united effort on the part of the profession throughout the entire Dominion of Canada in an endeavor to bring about interprovincial registration, would facilitate matters in the direction of securing these privileges for the Canadian profession in other parts of the British Empire. The hackneyed subject of tuberculosis was lightly touched on; whilst a very important matter relating to the profession, that of a Medical Defense Association, was dealt with at considerable length. Dr. Powell favored the formation of such Association, and later on in the proceedings nominated a committee to look into the question and report on the advisability and practicability of forming a Dominion association of this character.

SOME EXPERIENCES IN THE SOUTH AFRICAN WAR.

Dr. G. S. Ryerson dealt first with the experience gained of modern bullets. The very latest returns show that 936 officers and 11,701 non-commissioned officers and men had been wounded, of whom only 732 have died of wounds received in action, which is ascribed to the aseptic character of the bullet and the prompt attention and antiseptic treatment. Dr. Ryerson then dealt with these wounds, which is familiar to all. Referring to poisoned bullets being used, this was not the truth, as the tarnish or verdigris probably accumulated in transit through the barrel. He also doubted the fact of explosive bullets being used. The Boers made use of thousands of the Martini-Henry, a heavy bullet, which caused great destruction of soft parts, necessitating amputation. There were few amputations in this war; and quoted Kendal Franks, who performed 20 amputations in 2000 cases. Whilst abdominal section in wounds of the abdomen was mainly inadvisable, he saw one case where the results were excellent. He spoke highly of the magnificent work of the R. A. M. C.

Dr. Roddick spoke of the sacrifices of Dr. Ryerson in proceeding to South Africa at his own expense to carry out the work of the Red Cross Association. While in England recently, he stated, he made it his special business to inquire of returning Canadian soldiers as to the hospital management in South Africa, and although he had spoken to many of these, he had failed completely to find a single Canadian who had anything but praise for the hospital arrangements in that country.

OUR RACE AND CONSUMPTION.

Sir James Grant, Ottawa, read a paper on "Our Race and Consumption," which will appear soon in The Journal.

RECOGNITION AND MANAGEMENT OF TABES DORSALIS.

Dr. Allen McLane Hamilton presented a paper on this subject. As an etiological factor, syphilis was not referred to by the early writers on this disease. While some would attempt to divide the symptoms of the disease into the leg and eye types, the writer would consider that to be unwarranted. He considered there was a close resemblance or rather relationship between the different forms of cerebrospinal sclerosis. There was no disease of the nervous system which had drawn forth so many plans of treatment; and little or no good had resulted from any one thing. Most tabetics are favorable subjects for expectant attention; and many derive temporary benefit from some new drug. Looking back over a number of years, he finds that most good has been done where little or no medicine had been given. He has found rest by suspension and persistent cauterization of the back good treatment. In the opinion of the writer, syphilis can not be traced in more than 50 per cent. of the cases. For the arthropathies of the great joints there is little to be done. Perforating ulcer is a rare feature of locomotor ataxia, and most obstinately resists treatment. He has seen three cases of this unusual condition in ataxics; and the ulcer rarely exceeds two to three centimeters in diameter. One authority quotes five cases cured by nerve stretching.

THE PHYSICIAN'S "VASTER EMPIRE."

Dr. John Hunter, of Toronto, dealt with the questions of sanitary science, education, social purity and medical missions. As regards sanitary science the purport of the paper was a plea for the broader and freer attainment of principles of sanitary science and their application in the building and construction of our homes, schools, churches, etc. No dwelling-house should be constructed except under the supervision of an architect and a physician versed in sanitary science. Architects have improved wonderfully in the past ten years. Another important question is our educational system—the mental and physical health and development of our school children. The best way to secure physical vigor and high mentality is surely within the province of the physician to grapple with and study. In all forms of social purity and impurity, physicians should speak *ex cathedra* against every form of vice and immorality. The boys and girls of the family should be enlightened as to their sexual proclivities at proper periods, by the fathers and mothers, respectively. In medical missions he referred to the vast field for medical missionary work in foreign countries.

ADDRESS IN SURGERY.

Mr. Edmund Owen took for his subject, "Tuberculous Lesions From a Clinical Point of View." He stated that he would deal with tuberculous lesions as the surgeon meets them day by day in the hospital ward, in private practice and in the operating theater. He considered the pathologist's thought to be only of the dead tissue. The surgeon sees the human tree during its life, but rarely follows it after death. The student does clinical and pathological work at different times, and he is enabled to follow the case straight from the ward to the laboratory. Study of the fresh specimen is best; for the specimen taken from formalin is no more like the condition than canned salmon is like fresh-run fish. He would not hinder experimental research work; it is absolutely essential. The life of a man is of more value than a sparrow or many guinea-pigs. It would be almost impossible to overestimate the direct value of experimental laboratory work. Strumous and scrofulous are terms devoid of meaning, and we now call tubercle by its proper name. There are three great factors in connection with tuberculosis with which the public must be made acquainted: 1. The disease is communicable, but they must be allowed a little time before they accept this statement and fact. 2. The disease is preventable; this follows almost as a corollary to the first statement. 3. The disease is curable. Years ago the subject of tuberculosis was regarded as well nigh hopeless. Tuberculosis is not necessarily of the intractable nature that it was formerly considered to be. Tuberculous lesions are exactly what they used to be; and Mr. Owen has worked at the largest children's hospital in London, England, for over a quarter of a century. We now take a much more hopeful view of these lesions. One rarely hears now of *vis medicatrix naturæ;* surgery has rendered it superfluous. All have noticed old cases of long-standing hip-joint disease where, in time, the boy actually grows out of his trouble. This is a popular superstition, but like most erratic beliefs, it is founded on a stratum of truth. In children these chronic diseases are always tuberculous. Where chronic abscesses occur it will not do to open and drain, but they must be scraped out, the unhealthy lining destroyed. In the treatment of these diseases the learned surgeon stated that he had failed to find any value whatever in iodoform. It is an irritant and a poison; and it is apt to be septic, as germs can grow on it. Mr. Owen condemned the forcible correction of spinal deformities, and considers that this deformity does not lend itself to operative treatment. There may, perhaps, be a small class of cases where it may eventually be found applicable, as where bone or organized inflammatory deposits press on the cord so that the patient has lost movement of the lower extremities. He considers that the plaster-of-paris jacket must be held responsible for much of the deformity of Pott's disease. He considers that the proper treatment of these cases is rest in the horizontal position, with plenty of good fresh air and sunlight. At the conclusion of his address he was accorded the hearty thanks of the association, on motion by Professor Shepherd, of McGill, seconded by Professor Cameron, of Toronto University.

Dr. A. Primrose, of Toronto, described Kocher's method of dealing with tuberculous knee-joint, and recited the histories of a few cases, in which he had obtained excellent results.

RECENT PATHOLOGIC STUDIES OF THE BLOOD.

Dr. L. H. Warner, Brooklyn, premises his statements by asserting that there is a necessity for experiments for the progress of pathology. His experimental researches were directed along three lines of inquiry, viz., experiments, observation and individual observation at clinics in hospitals. The examination of the blood in most case is of more importance than the examination of the urine. Dr. Warner gave the formula of a new staining solution which he had found very practicable: The blood specimen should be prepared in the regular manner. The slides are heated in a hot oven to 98 degrees. Immerse it for one minute in a 1 per cent. aqueous solution of methylene blue, washing in water, then in 1 per cent. alcoholic solution of eosin, washing again with water, and then in a 1 per cent. solution of bismarck brown.

SOME EXPERIENCES IN THE TREATMENT OF HERNIA.

Dr. F. J. Shepherd, Montreal, said that it is now some twenty years since surgeons began to do these operations by the open method. Older methods in vogue before that date were touched upon and described. He spoke of a large hernia where the man could not put on his trousers. The methods of operation are almost as numerous as surgeons, but there are certain general principles underlying all operations: 1. the necessity for excision or obliteration of the sac; 2. closure of canal, and 3, union by first intention. Some also hold that alteration in the direction of the canal is necessary. Bassini's is the operation performed by Dr. Shepherd, although not always successful. He has used all kinds of sutures. Absorbable sutures are the best and, if antiseptic, are to be preferred. A suture that will last for three weeks is all that is wanted. He has used chromicized catgut; he has used it now for some time. He never washes out the wound, and thinks it better to dissect out the sac with the knife than to tear it with the fingers. He never uses a drain. For the last two years he has used rubber gloves in all his surgical work on the abdomen, and he considers his results have been better since he used them. In these operations the mortality is practically nil. Operations on children are now our most successful cases. Formerly they were not advised except in strangulated cases.

In discussing this paper and the cases recited, Dr. A. Lapthorn Smith stated that his experience lay mostly in ventral and umbilical herniæ, some of them being so large as to require twenty stitches. During the past two years he has abandoned silk and resorted to chromicized catgut, which he always prepares himself. . . .

Dr. Shepherd, in replying, said if there was a little oozing in the wound he introduces between the edges of the wound a probe, and lets out the accumulated serum, and he finds that this is quite efficacious, as by this method he minimizes the chance of any germs entering.

SYPHILITIC GUMMATA OF THE SPINAL CORD SUCCESSFULLY TREATED BY ENORMOUS DOSES OF IODID OF POTASH.

Dr. F. W. Campbell, of Montreal, said the patient was a highly neurotic individual, and some time before had suffered from insomnia of an aggravated character. Retention of urine and loss of power in the lower limbs were noted. The patellar reflex was about normal. The loss of power in the lower limbs was absolute. The pulse varied from 80 to 96; the temperature never above 99. The stomach remained in fairly good condition all the time. A consultant from New York was brought in and a diagnosis was established of tumor of the spinal cord, situated about the first lumbar vertebra, which might be sarcomatous or syphilitic. The advice of the consultant was to give 500 grains of iodid of potash per day, at first commencing with a dram three times a day. Dr. Campbell recited the daily history of the patient while getting under the large dose and its gradual withdrawal. The patient is alive to-day and in good health, having recovered complete control of his lower extremities.

ADDRESS IN GYNECOLOGY.

DR. WILLIAM GARDNER delivered an address on "The Mistakes in Diagnosis and Treatment in Midwifery and Gynecology." We often learn more from our mistakes than from our successes. Correct and accurate diagnosis depends mainly on the sense of touch—only to be obtained by long and patient practice. The advantages of examining on a firm table, instead of on a couch or bed, were emphasized. The patient's rectum should always have been emptied before presenting for examination. It is best to empty the bladder by catheter when the patient is in position, as it is in this way that you will notice any discharges, etc. The physician will have to do this, because there are many women who are not able to do it through nervousness. And, again, we get an uncontaminated specimen for examination. Where tension is present in the muscles of the abdomen, if you make a series of circular movements over the lower abdomen, gradually narrowing your circle, you will be able to overcome whatever rigidity may be present. In physical examination Professor Gardner urged caution in the use of the sound. He rather considers it a dangerous instrument: that its use ought to be extremely limited, and is of the opinion that many women have lost their lives through this instrument. There is the danger of infection and injury of the uterine canal. The sound is a great deal too much used by the general practitioner. Mistakes in diagnosing displacements he considers the most common. The uterus is a very movable organ and a distended rectum or bladder may cause it to be diagnosed as a retroversion. It may be also moved out of place through vomiting, coughing, etc. In pelvic examinations Dr. Gardner has made it a point to examine the position of the kidneys as well. Referring to examination by Sims' method, it is necessary to have the patient in proper position. In the diagnosis of pregnancy mistakes are often made. The patients are few in which the diagnosis can not be made by careful examination of history, signs, etc. Many women are probably inaccurate as to date. Dr. Gardner illustrated all his points by reciting cases to the point. He instanced one in particular where he once found a woman in his office on her hands and knees in the throes of a twin pregnancy, which a fellow practitioner had failed to recognize, and had tapped the gravid uterus and drawn off a considerable quantity of liquor amnii. The paper closed with an interesting account of mistakes in extrauterine pregnancy.

AN UNNOTICED FACTOR IN THE PRODUCTION OF ABDOMINAL AND PELVIC DISTURBANCES IN WOMEN.

DR. CLARENCE WEBSTER first spoke of symptomatology in women often overlooked by the general practitioner. He then took up the normal relationship of the abdominal and pelvic contents and proceeded to account for interabdominal pressure, the pelvic organs being to a large extent maintained in their respective positions by reason of the pressure of the abdominal and pelvic walls. The average specific gravity of the viscera was very little more than that of water: the liver was 1.5 sp. gr. There is no proof that the mesenteries act as constant supports or were ever meant to be such; and the main factor in sustaining the viscera is the strength of the abdominal wall and pelvic floor. Local weakness of the abdominal wall has been fairly well described under hernia, while general weakness of the abdominal wall has been described as pendulous belly, and general weakness, in his experience, is an exceedingly rare condition. As to the question of etiology, the condition is found in women who have borne children; and that, on examination of the great majority of women, there is some degree of separation of the recti muscles in the region of the navel. All evidence later on may disappear, but permanent widening remains. The result of all this is unavoidable enteroptosis, and it is generally to be found in women who have worn corsets. A common displacement is that of the right kidney. Dr. Webster dwelt on the diagnostic symptoms of these conditions, and then proceeded to describe the operation he performs for their relief. This consists in bringing the edges of the two recti into apposition. He first performed an operation for the relief of the condition in November, 1898, and since that time 41 cases have been operated on, and the results have been most satisfactory.

DR. F. C. SHATTUCK, of Boston, delivered the "Address in Medicine." It is given in full in this issue.

GASTRIC HEMORRHAGES.

DR. GEORGE E. ARMSTRONG, of Montreal, stated there was a fairly well-determined field in which surgical interference may be of use in hemorrhage of the stomach. Hemorrhage occurs in 50 per cent. of gastric ulcers and is fatal in 8 per cent. These cases are arranged in two groups—the acute and the chronic. Rodman has reported thirty-one operations for frequently occurring or chronic hemorrhages, with six deaths. Dr. Armstrong has operated five times for gastric hemorrhage, one being a chronic case. In one of these cases the patient was getting along nicely after the operation, when the patient expired suddenly, and on post-mortem examination thrombi were found in the branches of the pulmonary artery.

TWO GASTROSTOMIES, TWO GASTROENTEROSTOMIES; PYLORECTOMY.

DR. A. E. GARROW, Montreal, reported these cases. One patient operated on was fed before he left the operating table. On another, a woman of 50 years, who had a persistent hacking cough, gastrostomy was performed and the patient discharged, able to feed herself through a tube. A man, aged 33 years, who had vomiting and blood in the stools, developed acute pain with a pale face. Duodenal perforation was present, and when the abdomen was opened gas escaped from the incision. When discharged, on July 24, last, he was feeling well. Six of these cases were reported.

THE MODERN TREATMENT OF RETROVERSION AND PROLAPSE OF THE UTERUS.

DR. A. LAPTHORN SMITH referred to the proper and most successful management of procidentia uteri in elderly women, between 70 and 75 years of age—a most pitiable condition. They may be otherwise in excellent condition; the perineum is so relaxed that no pessary will remain in place. Then the majority of these cases have an ulcerated cervix. After confinement the uterus remained enlarged and the pernicious habit of keeping women too long on their backs has a tendency to produce backward displacement. Dr. Smith feels certain that women who have been cured of this distressing condition will have little difficulty in persuading others to avail themselves of the treatment. He removed a woman's uterus a few months ago which had been out of her body for over twenty years, and the patient now assures him that she feels like a young woman. In correcting this deformity Dr. Smith makes a small incision in the abdomen and performs ventrofixation. After that the vaginal canal is narrowed by a large anterior and posterior colporrhaphy. In selected cases he also amputates the lower half of the organ and stitches the vagina to the upper half. He considers ventrofixation, if properly performed, a most reliable means of fastening up the uterus. The operation has given him the most complete satisfaction of any operation he has ever performed, especially when combined with amputation of the cervix and posterior colporrhaphy.

GASOLIN AS A SURGICAL DETERGENT.

DR. BRUCE RIORDAN, Toronto, contributed something highly original, that is the use of gasolin for cleansing dirty, greasy hands before stitching, etc., and also advocates its employment for preparing the field of operation before surgical procedures. It is away ahead of soap and water and brushes, and he now constantly carries a small bottle of the substance in his surgical bag. A report from Dr. William Goldie, Toronto, showed its effects on germs and germ life. As it is a highly inflammable substance, it should not be used in any quantity near an exposed light; and then it is painful in the eyes or ears. It is useful in cleansing sutures of accumulated blood and dressing powder, as it enables one to locate the stitches better.

DR. J. C. MITCHELL, Enniskillen, Ont., stated that he had tried gasolin recently as a detergent in two very severe threshing-machine accidents, where the parts were all smeared over with oil and grease and dirt, and it was very satisfactory, as he was able to get perfect cleanliness, and both wounds healed by first intention.

DILATATION AND PROLAPSE OF THE STOMACH.

Professor McPhedran, of Toronto University, dealt principally with prolapse. This condition rarely occurs alone, but is associated with prolapse of other abdominal organs. There is generally present as well some degree of dilatation; and the abdomen may be prominent or flat, or even retracted. He recited the case of a man aged 51 years, a manufacturer, who had been ailing for two or three years. The stomach was below the umbilicus. He was directed to massage the abdomen very thoroughly and to practice abdominal gymnastics. Through this treatment, combined with dietetics, he has been restored to health and is able to resume business. Another case was of a woman, aged 35 years, who had been the subject of recurrent attacks of vomiting for two years; massage and abdominal gymnastics ordered with satisfactory results. In concluding, Dr. McPhedran spoke of the benefits of a change of scene in treating these cases.

Dr. B. E. McKenzie read a paper on "Physical Training; Its Range and Usefulness in Therapeutics." It embraced the results of his observations for thirteen years past, and was ample justification of the benefits derived from gymnastics in the correction of lateral curvature, clubfoot, etc. He had found physical training also especially valuable in hysteria and chorea.

INTERPROVINCIAL REGISTRATION.

Dr. T. G. Roddick read a report of the committee having this matter in hand. A new feature was that allowing of representation on the proposed Dominion Council of homeopaths, as, according to the law of Ontario, these had their vested rights, and so must have similar interest in any Dominion Council. The homeopaths then will be allowed three representatives, which will be equivalent to the representation from any one province of the Dominion. Their term of office will be four years. This will not, however, be inserted in the bill as such, but will appear under "any other school of medicine having legal recognition throughout Canada," as the British Medical Council would not recognize any such body. Dr. Roddick stated that the bill would be introduced at the next session of parliament, and that the respective members of the committee must bestir themselves before their respective provincial parliaments, as these must sanction the measure before it could be finally acted upon by the Dominion parliament.

CEREBRAL ABSCESS.

Dr. James Stewart reported two interesting cases of abscess of the brain, situated in the temporosphenoidal lobe, and referred to the unusual existing aphasia, which was present in both of these cases, viz., simple inability to name objects. The first case occurred in a young man of 22 years, who had otitis media following an attack of influenza. Some six weeks afterward an abscess formed. The abscess was diagnosed as confined to this area simply on account of the peculiar aphasia, the simple inability to give the name of a pen when that object was presented to him. The patient was operated on by Professor Bell, who secured two ounces of pus. Meningitis, however, set in and the patient succumbed. The second case was a girl of 21 or 22 years. She had had ear trouble for a great many years, with very severe pain at times. She, too, had difficulty in naming objects, and she could not name any object whatever finally. She died suddenly a few hours before the operation was to be performed. On post-mortem two abscesses were found, one skirting the upper border of the lobe and the other about the center of its substance.

GANGRENE OF THE LEG FOLLOWING TYPHOID FEVER.

Dr. H. H. Chown, Winnipeg, reported two cases of gangrene following an attack of typhoid fever, which had recently come under his observation. In the first case the patient had the classical symptoms of typhoid. Great pain set in in the calf of the leg, with collapse, while the limb was cold and bloodless. Cutaneous sensibility was lost over the leg. The third day after the complication set in the part involved included the lower third of the leg on inner side and lower half on outer. Operation was performed at upper and middle third of femur. Patient stood the operation well. The temperature before the operation was 102.6; pulse, 120. On the following day the temperature was normal and the pulse 110. On the tenth day the flaps were united. There was a rise of temperature a few days later—a relapse, with hypostatic congestion of the lungs. On the fifth day hemorrhage of the bowels. The patient is now a picture of health, weighing 200 pounds. The second was a somewhat similar case, in which the blood reacted early and promptly to the Widal test. The gangrene began in the first case on the eleventh day of the disease; in the second, on the ninth. Keen reports gangrene on the fourteenth day. The gangrene in the second case extended to the upper and middle third of leg. The leg was amputated and prompt union took place throughout.

Dr. R. B. Nevitt, Toronto, mentioned a similar case coming under his observation during the past summer. Here gangrene occurred about the third week of the fever; patient was seen about a week or ten days afterward. Amputation was performed through the middle third of the femur. He also referred to a case of gangrene of the arm following an attack of pneumonia, recently observed by him.

NOTES ON ATROPIN.

Dr. R. D. Rudolf, Toronto, read a paper with the above title, illustrating by means of a chart the action of the drug on animals and inferences drawn therefrom of its therapeutic uses. He finds that the drug directly stimulates the heart, and thus the blood-pressure is markedly raised. He considered that the maximum single dose, as laid down by Witherstine, of 1/20 of a grain is too large, unless used as an antidote; we ought never to give more than 1/100 of a grain of atropin sulphate at one time, except in emergencies. He also referred to its action in catarrhal pneumonias of children, and its employment before anesthesia to ward off danger.

Dr. A. D. Blackader considered, however, that strychnin, and not atropin, was the most powerful heart tonic we possessed. He thought that late experiments would throw doubt upon atropin being a direct stimulant to the heart muscle; and he thought it questionable to administer a drug, when we wanted to stimulate the heart's action, that would paralyze nerve endings.

LANTERN SLIDE DEMONSTRATION OF SKIN DISEASES.

Dr. George H. Fox, New York, conducted this demonstration, which the members of the association appreciated most highly. The great majority of the skin lesions shown were of syphilitic origin and, as they appeared on the canvas, Dr. Fox described the histories of the cases. One in particular attracted attention, from the disfigurement of the nose and face—a huge mass of excrescences, which Dr. Fox was able to get rid of in the course of two or three months, leaving only a slight superficial scar. He laid down a timely word of caution in treating these conditions: that when the patient was run down and emaciated through large doses of mercury or iodid of potash, not to keep on pushing these drugs, but desist for a period and endeavor to build up the patient's general condition. Then return to the specific treatment, and the results would be found to be more material.

Dr. F. J. Shepherd showed a case, a boy of 16, who, at the age of 6, sustained a severe cutting of the nerves of the brachial plexus, below the cords of the plexus. At that time, ten years ago, Dr. Shepherd dissected out each nerve and united their respective ends by suture. All did well, with the exception of the musculospiral, and as a consequence the lad has very little control over the extensors of the fore-arm.

Dr. George H. Burnham's method of treating syphilitic and other diseases of the eye is described in the title of his paper, "The Successful Treatment of Two Important Cases of Disease of the Eyes by the Combined Methods of Mercury and Iodid of Potash Internally and Pilocarpin Hypodermically." No such result follows in other plans of treatment, and with this a permanent curative result is obtained. The treatment has a wide application.

MENTAL SANITATION.

Dr. R. W. Bruce Smith, physician to the Brockville Asylum for the Insane, contributed a paper with the above title. It was a plea for prophylaxis in insanity, and he thinks that much would be accomplished in this direction in the twentieth century. He stated that insanity was on the increase in Canada, and thinks it can be duly ascribed to the fact that there have been no preventive measures employed. In order to accomplish good in this direction we must seek either to lessen the demands on, or to strengthen the resisting power of, the brain. He condemns intermarriages in families and also among those of a deranged mentality, and as 50 per cent. of the cases of insanity were hereditary, the descendants of these should be careful in contracting marriage ties. He referred to a portion of one county in Ontario alone where indiscriminate marriage and intermarriage has become most fruitful, and he has seen several members of one family from that locality inmates of the same institution at the same time. He considers that the day may yet dawn when we will give the same attention to the rearing of children as we now give to the breeding of horses. Speaking of farm life and the tendency it has to melancholy, he thought this class of the community should receive education in participating more in the enjoyments of life, and not continue to rot in domesticity. An upheaval in the sentiment and surroundings of the rural homes would work wonders in prophylactic principles.

The following officers were elected: President, H. H. Chown, Winnipeg; treasurer, H. B. Small, Ottawa; general secretary, F. N. G. Starr, Toronto. Place of meeting in 1901, Winnipeg.

Book Notices.

Annual and Analytical Cyclopedia of Practical Medicine. By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents, illustrated with Chromo-Lithographs, Engravings and Maps. Vol. V. Philadelphia, New York, Chicago: The F. A. Davis Company, Publishers. 1900.

Vol. V. of Sajous' Annual covers all subjects between "Methyl-Blue" and "Rabies." When it is said that this one is up to the high standard of excellence of the former volumes little further need be said. It is the most important and most valuable in the series, including as it does the specialties Laryngology, Ophthalmology, Otology, Neurology, Obstetrics, Pediatrics, and Orthopedic Surgery. It would be invidious to select any of the articles for special criticism or praise, for all are good. Excellent judgment has been exhibited on the part of the editor in assigning space for the various subjects, the amount allotted for the important ones being liberal, and the less important ones do not take more than their value calls for. The contributors are all specialists in the subjects on which they write and consequently all the articles are scientific and reliable, and bring their subject-matter up to date.

A Manual of Chemistry. Inorganic and Organic. With an Introduction to the Study of Chemistry. By Arthur P. Luff, M.D., B.Sc.; F.R.C.P.; F.I.C., Physician to the Out-Patients in St. Mary's Hospital; and Frederick James M. Page, B.Sc., F.I.C., Assistant to the Royal School of Mines. Illustrated with 40 Engravings. Cloth, pp. 541. Price, $1.50. London, Paris, New York and Melbourne: Cassel & Co. 1900.

This is one of the standard manuals in Great Britain, and is the work recommended by the *Lancet* as the best text-book on the subject for the student. This revised edition is thoroughly up-to-date, the subject-matter is presented in a very convenient form and does not terrify the student by its compass. While we do not say that it excels some American works, it certainly has merits and advantages, and probably is one of the very best works of its size.

A Manual of Clinical Diagnosis by Means of Microscopic and Chemical Methods, for Students, Hospital Physicians, and Practitioners. By Charles E. Simon, M. D., late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore. Third Edition, Thoroughly Revised. Illustrated with 136 Engravings and 18 Plates in Colors. Cloth. Pp. 558. Price, $3.50 net. Philadelphia and New York: Lea Brothers & Co. 1900.

Amongst the various works on the clinical diagnosis the present holds a creditable place. The author in this edition has revised the subjects throughout and added much new matter. It is a work well suited to the needs of general practitioners, and it has certainly met with favor among them. About one-half of the book is given to urinary examination; it therefore forms a very respectable treatise on the subject by itself. The illustrations are good and we see few things in the author's statements to which we could even suggest a criticism or take exception. He accepts in full apparently the bacilli of Sanarelli as a cause of yellow fever, a point on which many competent authorities are not fully prepared to agree. One or two other minor matters of this kind may possibly be found on reading the book, but it is in many ways fully deserving the favor it has received.

A Manual of Personal Hygiene. Edited by Walter L. Pyle, A.M., M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia. Contributors, J. W. Courtney, M.D.; George Howard Fox, M.D.; E. Fletcher Ingals, M.D.; Walter L. Pyle, M.D.; B. Alexander Randall, M. D.; G. N. Stewart, M.D.; and Charles G. Stockton, M.D. Illustrated. Cloth. Pp. 343. Price, $1.50. Philadelphia: W. B. Saunders & Co. 1900.

There are plenty of health manuals in popular literature and books devoted to telling the layman what he must do to care for himself hygienically; many of these are simply embellishments of fads which their authors aim to introduce, others have more or less merit; but there are not very many that the physician can unequivocally recommend. The present volume is evidently intended to make up for deficiency in the literature of this kind, and Dr. Pyle and his collaborators have certainly produced a work that gives the facts in such a form as to be readily appreciated even by the non-medical reader and states these without any admixture of fiction and misdirection. In looking over the work we find very little in it to criticize and very much to commend. It does not exaggerate, and can be referred to as fairly conservative in its statements and, as far as we have been able to see, well up with the data of modern scientific medicine. The illustrations are fairly numerous and certainly a help to the text. The work is one that the physician can recommend to his patients, as it does not overstep the limits in giving information that the layman ought to know.

Deaths and Obituaries.

J. Langdon Sullivan, M.D., of Malden, Mass, died suddenly of heart disease at his summer home in Ashfield, September 5, aged 73 years. He was a native of New Hampshire, a graduate of Harvard Medical School in 1849, a member of the Massachusetts Medical Society and The American Medical Association and had practiced continuously in Malden for fifty-one years.

Benjamin Harrison, M.D., died September 11, near Millwood, Clarke County, Virginia, aged 41 years, of typhoid fever. He was graduated from the University of Virginia, medical department, at Charlottesville, in 1883. After practicing in Clarke County he went to Richmond, where he enjoyed a large practice and was physician to the state penitentiary.

Frederick A. Meyer, M.D., died from apoplexy, August 31, at his home in Portland, Ore., aged 61 years. He was born in Breman, and received his degree from the University of Heidelberg in 1860. He had lived for many years in Portland, was for a time city physician, and for eighteen years has been the editor of the *Staats Zeitung*.

Anthony B. Hannum, M.D., died September 1, at Hines, Ala., aged 89 years. He was a native of Kentucky, graduated in 1860 at the University of Nashville, medical department, went to Western Texas and then moved to Alabama, where he practiced for many years.

Dr. Hunter McGuire, of Richmond, Va., died September 19. A more extended notice will be given in our next issue.

Samuel F. Gilbert, M.D., died from dysentery at his home in Elysburg, Pa., August 30, aged 55 years. He was graduated from the department of medicine of the University of Pennsylvania in 1872, and had practiced in Elysburg for nearly twenty-five years.

Dennis Dowling Mulcahy, M.D., died in Newark, N. J., September 11, aged 53 years. He was a Fenian agitator imprisoned in England in the latter part of the 60s and in 1872 he was graduated from the College of Physicians and Surgeons, New York. He had been in failing health for some time.

A. Clarke Emmett, M.D., of Bluff City, Tenn., died at that place, August 30, as the result of a recent stroke of paralysis, aged 57 years. He was a graduate of the College of Physicians and Surgeons, Baltimore, in 1875.

James F. McElroy, M.D., died suddenly September 2, at Bowling Green, Ky. He was graduated from Jefferson Medical College, Philadelphia, in 1866, and had practiced for many years in Warren County.

Walter H. Zink, M.D., died at Branford, Conn., August 27, after a long illness from cancer of the stomach, at the age of 59 years. He was a graduate from the University of Würzburg, in 1862.

John B. Sawyer, M.D., was one of the victims of the storm at Galveston, Tex., last week. He was a graduate of the University of Nashville, medical department, in the class of 1873.

Percy L. Hoover, M.D., died at his home in Mahaffey, Pa., August 25, from Bright's disease, aged 29 years. He was a graduate of Jefferson Medical College, Philadelphia, in 1895.

John L. Barrett, M.D., died suddenly at his residence in Binghamton, N. Y., August 27, at the age of 55 years. He was a graduate of Toledo Medical College, in the class of 1887.

Hubbard K. Burrows, M.D., a graduate of the Kentucky School of Medicine, Louisville, in 1888, died at his home, Box Elder, Tex., September 6.

John F. Ryan, M.D., died suddenly at his home in Roxbury, Mass., September 2. He was a graduate of Tufts College Medical School in 1896.

DEATHS ABROAD.

Pierce Adolphus Simpson, M.A., M.D., died at Auchengrange, Lochwinnoch, Scotland, aged 63 years. He was for many years lecturer on medical jurisprudence at Anderson's College, Glasgow, and later professor of forensic medicine in the University of Glasgow. He was also editor of the *Glasgow Medical Journal.*

Gustav Fraenkel, M.D., died at Breslau, Germany, July 29, aged 68 years.

Miscellany.

Inoculation Against Typhoid.—The government of India, considering the good results obtained from the protective inoculation against typhoid in the British Army, has issued orders to resume measures toward the inoculation of the soldiers entering the army of that country.

The Hospital-Ship "Maine."—This hospital-ship, equipped and maintained by Americans and in charge of American physicians and nurses has made two trips to South Africa. At Cape Town and Durban it received both British and Boer wounded to the number of 354.

Increase in Cancers.—C. Maeder calls attention to the constant increase in cancer shown by the statistics in Prussia, Saxony and Baden. The increase is out of proportion to the natural, apparent increase that would follow the lower death-rate from other diseases. Evidently, he adds in his article in the *Zeitschr. f. Hyg.*, xxxiii, 2, the causal agent is becoming more widely diffused or people are becoming less resistant.

Inoculation Against Enteric Fever.—The late Sir William Stokes, in a letter dated August 2, to the *British Medical Journal* from South Africa, stated that in bad cases of hemorrhage, transfusion of a saline solution at 100 F. either into subcutaneous tissue over the abdomen or into the cephalic veins was employed with good results. Careful records were being kept of cases inoculated and not inoculated against enteric fever. He said that it was yet impossible to give a decided opinion on the adequacy of its protection. Where inoculated cases contracted the disease, the type was as a rule milder. "Unfortunately those who had been inoculated had unbounded confidence in its efficacy, and consequently did not take as many precautions against contracting the disease as they should."

Societies.

Coming Meetings.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Golden Belt Medical Society, Enterprise, Kan., Oct. 4.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.

Vermont State Medical Society, Rutland, Oct. 11-12.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The Jackson County (Ohio) Medical Society held its first fall meeting, September 11, at Jackson, President Dr. Benjamin F. Kitchen, of Wellston, in the chair.

The Jasper County (Mo.) Medical Society met at Carthage, September 4, for its regular monthly session. Dr. Robert S. Kelso, of Joplin presented a paper.

The Glens Falls (N. Y.) Medical and Surgical Society held its regular monthly meeting September 6, at which an interesting surgical case was reported by Dr. William J. Hunt.

The Hawkeye Medical Society met at Perry, Iowa, and listened to papers by Drs. Oscar W. Lowery, of Grand Junction; John B. Conly, of Woodward, and Frances L. Rogers, of Perry.

The Butler County (Ohio) Medical Society met at Hamilton, September 5. Dr. Frank J. George read a paper on "Scarlet Fever," and Dr. Mark Millikin, of Hamilton, made a practical demonstration of "Intestinal Anastomoses."

The St. Joseph (Mo.) Medical Society held its third annual session, September 11. A paper was read by Dr. Charles H. Wallace, on "Hernia," and Dr. John M. Bell opened the discussion on "Arteriosclerosis."

The College of Physicians and Surgeons, Indianapolis, opened its term on September 20. The changes in the faculty are as follows: Dr. A. J. Banker, of Columbus, professor of obstetrics; Dr. Conrad W. Marxer, lecturer on obstetrics; Dr. John T. Scott, professor of histology; Dr. John F. Benham, professor of chemistry and toxicology; Dr. Harvey Moore, clinical lecturer on genito-urinary diseases, and Prof. R. H. Richards, lecturer on histology.

The Physicians' Protective Association assembled at the Hotel Cadillac, Detroit, Mich., Sept. 4, for its annual meeting and elected the following officers: Dr. Guy L. Keifer, president; Dr. David L. Walmsley, vice-president; and Dr. Augustus W. Ives, secretary.

The Detroit (Mich.) Medical Society and Library Association resumed its weekly meetings, September 10. Dr. Fred. Grover, of Fraser, read the paper of the evening on "The Antiseptic and Antipyretic Treatment of Typhoid Fever."

The Fresno County (Cal.) Medical Society held a meeting September 4. Dr. Thomas M. Hayden read a paper on "Tuberculosis," and a committee was appointed to arrange for the meeting of the Valley Medical Society in Visalia, October 12.

The Chattanooga (Tenn.) Medical Society held a meeting, August 31, at which the physicians and trustees of Erlanger Hospital were present by invitation, to discuss ways and means for carrying on the work of the hospital.

The Denton County (Tex.) Medical Society met in the county court-room, Denton, September 4. The untoward results of quinin were discussed. It was decided that hereafter the society meetings should be held every two months.

The La Crosse County (Wis.) Medical Society held a meeting in La Crosse, September 5. Dr. John A. L. Bradfield presented the paper of the evening on "Diseases and Injuries of the Cornea and Iris," and the discussion was opened by Dr. Mulford.

The Hartford (Conn.) Medical Society held an informal meeting September 3, at which Dr. Joseph E. Root presented a report of his trip abroad, with especial reference to the courtesies extended to him at the meeting of the British Medical Association.

The Kankakee Valley District Medical Society, at its session at Hammond, Ind., September 11, elected Dr. Thompson, of Winamac, president; Dr. James T. Clark, of Hammond, vice-president; Dr. Nelson W. Cady, of Logansport, secretary, and Dr. William Kelsey, of Monterey, treasurer.

The Augusta (Ga.) Medical Society met on August 28, Dr. W. Clifton Lyle, read a paper on "Typhoid Fever," and Theodore E. Oertel exhibited several pathological specimens. The society began its library by subscribing to a number of medical journals.

The Summit County (Ohio) Medical Society held its regular meeting at Akron, September 4. After a discussion of the paper on "Hysteria" presented at the last meeting, Dr. James G. Grant reported a case of internal-ear disease, and Dr. Herman C. Theiss, an especially interesting case of spinal irritation.

The Madison County (Ala.) Medical Society held its regular meeting on September 3, at Huntsville. The subject of the fever so prevalent in the city and county was generally discussed, after which Dr. Julius T. W. Haney, of Madison Station, read a paper on "The Origin of Medical Ethics and Business Relations," and Dr. William C. Wheeler, of Huntsville, presented an essay on "Smallpox."

The Ringgold County (Iowa) Medical Society met at Mount Ayr, September 13, at which the following papers were read: Dr. William Horne, of Mount Ayr, "Gastric Neuroses"; Dr. Albert C. Armitage, of Ellston, "Typhoid Fever"; Dr. Benjamin B. Waring, of Maloy, "Summer Diseases of Children"; Dr. Samuel Bailey, of Mount Ayr, "Hydrotherapeusis"; Dr. M. F. Hannelly, of Tingley, "Puerperal Infection"; Dr. Cassius T. Lesan, of Mount Ayr, "Bacteriology from a County Physician's Standpoint," and William W. Syp, of Knowlton, "Appendicitis."

The Kalamazoo (Mich.) Academy of Medicine met on September 4. Dr. Edward P. Wilbur presented a case of albinism in a young man; Dr. J. M. Elliott read a paper on "Eclampsia in Children," and Dr. Henry B. Baker, of Detroit, secretary of the State Board of Health, read a paper on the "Restriction of Tuberculosis." In the discussion, some members took exception to the regulation of the State Board of Health requiring reports of all tubercular cases, but the consensus of opinion was that the regulation was wise, and that the efforts of the board and its secretary were most praiseworthy.

The Douglas County (Wis.) Medical Society held its annual meeting and banquet at West Superior, September 5. Dr. Joseph A. Rene, president, delivered the annual address. Dr. Charles M. Gould spoke on "The Health Commissionership of Superior." The following officers were elected: Dr. George Saunders, president; Dr. H. Jefferson O'Brien, vice-president; Dr. Patrick G. McGill, treasurer; Dr. John J. Quinn, secretary, and Drs. John Specht, Herbert J. Orchard, all of West Superior, and Dr. Edward T. Gauvreau, of Superior, censors.

The New Hampshire Surgical Club held its annual meeting at the Farragut House, Rye Beach, September 6. President Dr. George D. Towne, of Manchester, delivered the annual address; Dr. George A. Tolman reported an operation for "Strangulated Dermoid Cyst"; Dr. John M. Gile, of Hanover, read a paper on "Surgical Treatment of Gall-Stones," and Dr. John C. Irish, of Lowell, Mass., a paper on "Diagnosis and Treatment of Diseases of the Gall-Bladder and Bile-Ducts." The election of officers resulted as follows: Dr. Ira J. Prouty, of Keene, president; Dr. John M. Gile, of Hanover, vice-president, Dr. Nelson W. McMurphy, of Concord, secretary and treasurer, and Drs. George D. Towne, of Manchester, Nelson W. McMurphy, of Concord, Frank Blaisdell, of Goffstown, Henry L. Stickney, of Newport, and Arthur C. Heffenger, of Portsmouth, executive committee.

The County Practitioners' Club, composed of physicians of Floyd, Clark, Harrison and Washington counties, Indiana, held its quarterly meeting in Borden, September 7. Drs. Benjamin F. and J. Bodine Stalker were the hosts of the occasion. Clinical cases were presented by by Dr. J. Bodine Stalker and Dr. Charles H. Boston, of Bradford; and Dr. Robert S. Rutherford, of Galena made a case report. At the afternoon session Dr. F. Warren Samuel, of Louisville, Ky., read a paper on "Gall-stones in the Common Duct, Their Diagnosis and Treatment." The following officers were then elected: Dr. Benjamin F. Stalker, of Borden, president; Dr. William J. Purkhiser, of Salem, vice-president; Dr. J. Bodine Stalker, of Borden, treasurer, and Dr. Edwin L. Sigmond, of New Albany, secretary.

Spanish-American War Nurses' Association.—During the past week about sixty nurses who served in the Spanish-American war met at New York Hospital and effected the organization of the Association. Only those nurses who were in actual service for at least one month are eligible to membership, but with this restriction it is said that the membership may reach 500. Dr. Anita Newcomb McGee, Washington, D. C., acting asst.-surgeon, U. S. A., is the president, and Mrs. George Lounsbury, Charleston, S. C., corresponding secretary and treasurer. The association will meet next year in Washington, D. C.

Therapeutics.

Ulcers Exposed to Friction.

R. Orthoformi—sat. sol. in collodion .... ℥i 32|

M. Sig. Apply locally after anesthetizing the ulcer with a 4 per cent. solution of cocain, or with pure orthoform powder.

—Sajous.

Contusion of Eyelids.

R. Acidi borici .... ʒii 8|
Spts. vini .... ℥ii 64|
, Aquæ, q. s. ad .... Oi 512|

M. Sig. Locally applied to the wound.

R. Tinct. arnicæ .... ℥ii 64|
Aquæ, q. s. ad .... Oi 512|

M. Sig. Apply cold and change frequently, followed by hot-water compresses when swelling has subsided.

—*Sajous' Annual.*

Cystitis.

E. C. Dudley recommends the following prescription:

R.	Ext. hyoscyami	gr. i		06
	Camphoræ monobrom.	gr. ii		12
	Morphinæ sulphatis	gr. ss		03
	Cocoa butter, q. s.			

M. Ft. suppository No. i. Sig. To be used as a suppository.

FOR IRRIGATING.

R.	Acidi borici	ʒi	4	
	Sodii boratis	gr. xxx	2	
	Sodii choridi	gr. xv	1	
	Aquæ destil.	Oi	512	

M. Sig. Irrigate the bladder with a double current catheter.

—Lobingier: *Sajous' Monthly.*

Freckles—Lentigo.

R.	Hydrargyri chloridi corros.	gr. vi		36
	Acidi acetici diluti	ʒii	8	
	Sodii boratis	gr. xl	2	66
	Aquæ rosæ	℥iv	128	

M. Sig. Apply night and morning, at first gently: later, vigorously.

R.	Hydrargyri chloridi	gr. iii to viii		20 to .5
	Zinci sulphatis			
	Plumbi acetatis, āā	ʒss	2	
	Aquæ destil.	℥iv	128	

M. Sig. Apply two or three times daily. Discontinue for two days when irritation is produced.

—Bulkley: *Cycloped. of Med.*

Chordee.

R.	Camphoræ	gr. xx	1	33
	Pulv. opii	gr. v		33

M. Ft. pilulæ No. x. Sig. One or two at bedtime.

Chronic Cervical Metritis.

R.	Potassii iodidi			
	Potassii bromidi, āā	gr. xx	1	33
	Tinct. iodi	ʒss	2	
	Aquæ	ʒii	8	

M. Sig. Inject into the hyperplastic tissue by means of a long syringe. —Monell.

Migraine.

R.	Sulphonal	gr. xx		
	Phenacetini	gr. viiss		

M. Ft. wafer No. i. Sig. One wafer as needed.

M. Lilgois, in *N. Y. Med. Jour.*, recommends the above as being very efficient in the treatment of migraine.

Impetigo of Face and Scalp in Nursing Infants.

R.	Acidi salicylici	gr. xv	1	
	Bismuthi subnitratis	ʒv	20	
	Pulv. amyli	ʒii	8	
	Unguenti rosæ	℥iss	48	

M. Sig. Externally applied. —*Med. News.*

Balanitis.

R.	Potassii chloratis	ʒi	4	
	Aquæ destil.	ʒiiiss	14	

M. Sig. Bathe the gland well in this solution and apply the following dusting powder:

R.	Acidi tannici			
	Amyli, āā	ʒii	8	

M. Sig. Apply locally. —F. Toledo.

Pemphigus in Infants.

R.	Zinci oxidi			
	Acidi salicylici, āā	gr. xii		8
	Lanolini	℥i	32	

M. Sig. Apply locally. —*Riforma Medica.*

Lumbago.

R.	Sodii salicylatis	gr. x		66
	Potassii iodidi	gr. v		33
	Ext. sarsaparillæ fluidi	ʒii	8	
	Aquæ destil., q. s. ad	℥ss	16	

M. Sig. At one dose: to be taken in water after meals three times a day. —Nestor Tirard.

Acute Rheumatism.

R.	Sodii salicylatis	gr. xx	1	33
	Spts. ammoniæ arom.	m. xx	1	33
	Aquæ camphoræ	℥i	32	

M. Sig. At one dose. To be taken every two hours until six doses have been taken, or until temperature has fallen and pain has ceased, subsequently to be taken every six or eight hours.

Sansom recommends the above prescription. He finds that sodium salicylate is not incompatible with free ammonia or aromatic spirits of ammonia, and that the above shows no decomposition. —Stevens: *Phila. Med. Jour.*

Hypertrophied Tonsils.

R.	Resorcini	gr. lxxx	5	33
	Betanaphthol	gr. v.		33
	Aquæ destil.	Oi	512	

M. Sig. Irrigate the tonsils and pharynx twice daily.

Castex, in the *Med. News*, very strongly advocates the use of the above combination.

Coryza.

R.	Pulv. naphthalini			
	Pulv. acidi borici, āā	ʒvi	24	
	Pulv. camphoræ			
	Ext. violets, āā	gr. xv	1	
	Essentiæ rosæ	gtt x		66

M. Sig. Use as a snuff three or four times a day.

—Exchange.

Superfluous Hairs—Hypertrichosis.

Superfluous hairs can be temporarily removed by the following:

R.	Barii sulphidi	ʒii	8	
	Pulv. zinci oxidi			
	Pulv. amyli, āā	ʒiii	12	

M. Sig. Make into a paste with water and spread over the part. —Gould.

Impotence.

R.	Ext. damianæ flu.	℥iiss	80	
	Tinct. nucis vomicæ	ʒvi	24	
	Tinct. cinchonæ comp., q. s. ad	℥iv	128	

M. Sig. One teaspoonful three times a day in water.

R.	Zinci phosphidi	gr. iii		2
	Ext. nucis vomicæ	gr. xii		8
	Ext. damianæ	ʒi	4	

M. Ft. pilulæ No. xxx. Sig. One pill four times a day.

Purulent Ophthalmia of Newborn.

R.	Protargol—2 to 5 per cent.	℥i	32	

Sig. Apply locally three or four times a day, and permit it to remain five or ten minutes.

To prepare protargol the powder is mixed well with water into a paste and then diluted the required amount by the addition of luke-warm water.

Prostatic Pain Following Gonorrhea.

R.	Tinct. aconiti	ʒi	4	
	Tinct. gelsemii			
	Antipyrini, āā	ʒii	8	
	Ext. ergotæ fluidi	℥i	32	
	Aquæ, q. s. ad	℥vi	192	

M. Sig. A dessertspoonful every two or three hours in a wineglassful of water.

E. R. Corson recommends a combination similar to the above in treatment of prostatitis.

As a Gargle.

R.	Tinct. myrrhæ	℥ss	16	
	Potassii chloratis	ʒi	4	
	Aquæ destil.	℥iv	128	

M. Sig. Use as a gargle four or five times a day.

Alopecia Syphilitica.

R.	Hydrarg. chloridi corros.	gr iii		18
	Chloralis hydratis	ʒi	4	
	Resorcin	gr. iii		18
	Ol. ricini	m. xv	1	
	Spts. vini—90 per cent.—ad	℥vi	192	

M. Sig. Keep the hair short and rub into the scalp daily.

—Riforma Medica—in *Clev. Med. Gazette.*

Heart Failure in Typhoid Fever.

R.	Spts. ammoniæ arom.	ʒiv	16
	Tinct. digitalis	ʒii	8
	Elixiris simplicis	ʒiv	16
	Aquæ destil., q. s. ad	℥iii	96

M. Sig. Shake. One teaspoonful every three hours.

Crusts of Varicella—Chicken Pox.

R.	Acidi carbolici	m. xv	1
	Acidi borici	ʒiss	6
	Glycerini	ʒiii	12
	Aquæ rosæ	℥i	32
	Aquæ destil., q. s. ad	℥iv	128

M. Sig. Apply locally.

R.	Acidi carbolici	m. v	.33
	Icthyolici	ʒiss	6
	Vaselini	℥i	32

M. Sig. Apply with a soft cloth.

Ingrowing Nail.

R.	Liq. potassæ	ʒi	4
	Cocainæ solutionis—4 per cent	ʒiii	12

M. Pack the side of the nail with cotton soaked in the above.

Apply plaster strips to draw the soft tissue away from the nail margin. Never cut the side of the nail. —*Med. Times.*

Dr. Kinsman, in *Columbus Med. Journal,* outlines the following:

1. Remove all pressure from the nail by cutting away a piece of the shoe.

2. Disinfect with hydrogen dioxid until no more "foam" appears.

3. Apply a strong solution of cocain in the base of the ulcer.

4. Apply a drop of Monsell's solution in the ulcer, then cover loosely with gauze. Repeat this process every second day until the edge of the nail is released by retraction of the hypertrophied tissue. The patient suffers no pain from the application, and all pain has disappeared the second day. The cure is effected in a week or two without inconvenience or interference with business. —*Texas Med. News.*

Exophthalmic Goiter in Childhood.

R.	Strontii bromidi	ʒiss	6
	Strontii iodidi	ʒiii	12
	Aquæ destil	ʒx	40
	Aquæ menthæ pip	ʒv	20
	Syr. menthae pip	ʒv	20

M. Sig. One teaspoonful three times a day.

—*Med. Record.*

Hepatic Colic.

R.	Etheris sulph.	ʒi	4
	Syrupi acaciæ	℥iv	128

M. Sig. One tablespoonful every fifteen or twenty minutes until the pain is relieved.

Or.

R.	Chloroformi		
	Tinct. myrrhæ āā	m. xv	1
	Etheris sulph.	ʒi	4
	Mucilag, acaciæ	ʒii	8
	Syr. simplicis	℥iiiss	112

M. Sig. One tablespoonful every fifteen minutes.

If vomiting is persistent, give small pieces of ice and sedative drinks, and apply turpentin stupes to the abdomen. Liniments are without effect.

—*Lemoine: Internat. Med. An.*

As suppositories in the above:

R.	Ext. belladonnæ		
	Ext. opii, āā	gr. 1/3	.02
	Olei theobromæ	ʒiss	6

M. Ft. suppos. No. 1.

Formaldehyde in Catarrh.

R.	Formaldehyde	ʒi	4
	Glycerini	ʒiv	16
	Aquæ destil	℥v	160

M. Use as a spray four or five times a day.

—*Merck's Archives.*

Medicolegal.

Dying Declarations Impeachable.—To render a dying declaration admissible in evidence, the Supreme Court of Indiana recognizes, in the case of Green vs. State, that it must be shown that the declarant was under the sense of certain and speedy death. But proof of that, the court says, may be afforded by circumstances, even in the absence of any express statement to that effect by the declarant. Moreover, the evidence on this point, it states, is first for the trial court to hear in determining the admissibility of the declaration. And, after the trial court has decided that the declaration is admissible, the court says, the jurors are entitled to know all of the circumstances surrounding the declarant, in order to determine what credit should be given to the declaration. Then, the court holds that a person accused of crime in a dying declaration is entitled to have contradictory statements made by the declarant introduced in evidence, as an impeachment of the dying declaration introduced by the state, although such statements are neither part of the res gestæ, or essential circumstances of the case, nor dying declarations. It says that, inasmuch as a defendant has no opportunity at the trial to have a cross-examination as to the subject-matter of the dying declaration, it would be most unjust to deprive him of the right of impeachment by contradictory statements, and the right would be lost to him if he were required to lay the usual foundation for that kind of impeachment.

Prohibiting Street Association With Prostitutes.—In Hechinger vs. the City of Maysville, the Court of Appeals of Kentucky holds unconstitutional a city ordinance making it unlawful for any person or persons other than the husband, father, brother or male relative, to associate, escort, converse or loiter with any female known as a common prostitute, either by day or by night, on any of the streets or alleys of the city. The penalty imposed for a violation of the ordinance was a fine of not less than $5 nor more than $20. Manifestly, says the court, the ordinance was intended to accomplish a proper and laudable object. But it does not think that it was properly guarded. It says that there can be no good reason in exempting any male relative from the operation of the ordinance except a husband, father or brother. On the other hand, a mother or sister should be allowed the same privilege as allowed to the father or brother. Moreover, any person should be allowed to converse with such a female long enough to transact any necessary and legitimate business, and no one should be punished for a violation of an ordinance such as the one under consideration unless the party so offending had knowledge or information of the disreputable character of such female. But an ordinance conforming to the views thus indicated, it says, would be clearly within the police power of the city council, and would be a proper and commendable exercise of the police power.

Suggests Case of Fetichism.—The Court of Criminal Appeals of Texas has reversed a conviction of an attempt to commit rape, in Draper vs. State. The prosecutrix, who was the main witness for the state, testified substantially, among other things, that she was 13 years of age; that her aunt had given her to the accused, Draper, when she was about 4 years old, and that she had lived with him ever since; that he was an unmarried man; that for four years he had had sexual relations with her, and that she knew he penetrated her because it hurt her. On the other hand, three physicians examined her, and found her hymen intact, and no evidence of her being penetrated by the male organ, or otherwise. The only variation in their evidence was that one of them thought the parts looked a little flabbier than naturally, which might have resulted from other causes than copulation, and another of them thought there was more elasticity about the hymen and adjacent parts than usual, though he did not know that he would have noticed it if he had not been examining the prosecutrix with reference to this case. Now, the testimony of the physicians, the court thinks, showed her testimony false as to the penetration at least. True, it says, rape could be committed without rupture of the hymen by merely introducing the male organ between the labia, but this was not the testimony. And it declares it unreasonable to believe that the accused had been endeavoring during four years to penetrate her parts, without success, and without leaving any manifestations of his attempts. Not to discredit the story of the prosecutrix entirely, it adds, by way of suggestion, that he may have been afflicted with that form of sexual disease known as fetichism, where the victim, laboring under venereal excitement, simply desires to gratify his lust by contact of his genital organs with any part of the body of a woman.

Aggravated Sufferings from Miscarriage Provable.—The case before the second appellate division of the Supreme Court of New York, of Witrak vs. the Nassau Electric Railroad Company, was one brought by a married woman to recover damages for personal injuries which she sustained in consequence of being struck and knocked down by an electric car. She was pregnant at the time of the accident, and was delivered of a stillborn child about six weeks afterward, the indications being that the child had died but a short time before delivery. The medical evidence showed that the confinement was about ten days late, and the physician who attended her expressed the opinion that the injury was at least one factor in producing the destruction of the fetus. Now, in a husband's suit for damages arising out of a personal injury to his wife, as a result of which she suffered a miscarriage, it has been expressly held, says the court, that nothing can be recovered by the husband on account of the loss of offspring. The inquiry is too remote and speculative. And the reasoning which denies a right of recovery to the husband, the court thinks, is equally applicable to a similar claim on behalf of the wife herself. But where the loss of offspring, as in the case of a miscarriage, is accompanied by bodily injury to the mother, or the infliction of pain upon her, such injury or pain, the court holds, is a proper subject of consideration in the assessment of damages. So in actions of the character of this case, proof to the effect that the plaintiff's sufferings have been aggravated by reason of a miscarriage caused by the accident, the court holds, is clearly admissible in evidence. The plaintiff is entitled to recover for the physical injury which she has sustained, and for the pain and suffering which she has endured and will endure, as a result of the defendant's negligence. Consequently, so far as a miscarriage or the delayed delivery of a stillborn child augments the mother's physical injury, pain, or suffering, so far, the court holds, is it proper to be considered on the question of damages; but its effect in depriving the mother of offspring can not be taken into account as an element of damage at all. Furthermore, the evidence in this case showed that the plaintiff was badly bruised upon the left leg, knee, thigh, and hip, so that she had suffered a good deal of pain in the year and a half from the time of the accident to the time of the trial. The extensor muscle had been injured, a portion of it being torn from the kneepan, which a medical expert characterized as a permanent injury, causing a lameness that would be lasting. For it all, or rather for all the actionable damages stated, the court thinks an award of $3500 not excessive.

Liability for Delay of Operation.—In the appealed case of the Galveston, Harrisburg & San Antonio Railway Company vs. Hanway, the Court of Civil Appeals of Texas has reversed a judgment for $9000 against both the railway company and a physician who was sued with it for damages on account of negligence alleged to have been committed in delaying the amputation of an employee's foot for twenty-four hours, which negligence was alleged to have caused his death. The operation, when performed by the physician, was properly and skilfully done. This was not disputed. Consequently, the case against the company and the physician depended, first of all, on the question of whether or not he was negligent in postponing the operation a day, and, in order to find the company and him liable in any event, it was essential, the court says, that the jury should find, from testimony reasonably sufficient to enable them to so find, that, if the operation had been performed on the first morning in question, the patient would not have died. Now, not one of the medical witnesses testified that the patient would have lived, had the amputation taken place a day earlier, nor gave it as his opinion that he would have lived. They were unanimous in protesting their inability to say whether or not he would have lived. A number of them said that the chances were less the longer the delay after the conditions once became favorable for the operation. Continuing, the court states that it might have been that, if there had been testimony in the case, such as was claimed, but the court thinks erroneously, as having been given by one witness, that the percentage of deaths in amputations was less than 1 per cent., a finding of the jury that the patient would have recovered would have been sustained, on account of the extreme probability that such would have been the result; for the death-rate in such instances would then have appeared to be practically nothing. But there was no such evidence, as has been shown. The evidence showed that a substantial percentage of the cases of this kind, performed under favorable conditions, result in death. And, if no physician would go so far as to give it as his opinion that an operation a day earlier would have saved the patient's life, the court declares that it fails to see how a jury could have been able to so find. Wherefore, it holds that the company could not be held liable, in this case, for another reason. It appeared that, while it maintained a hospital department in connection with its road, under the control of its manager, and for this it employed a chief surgeon and others, still it was not conducting this department as a business; it derived no profit, but, instead, sustained a loss, therefrom, and that, in fact, the department was not designed for profit. Under these circumstances, the court declares that the company could not be held liable for the negligence of the physicians it furnished, except on the ground of want of proper care in selecting or retaining them. It thinks it different from a case where a large profit had been derived, which went to the company's credit in the bank, with its other moneys. Here, it thinks that the company's obligation was simply to furnish proper attention and treatment, and that this duty was performed when it appeared that the physician in question was competent.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, September 8.

1 *A Plea for Early Naked-Eye Diagnosis and Removal of the Entire Organ, With the Neighboring Area of Possible Lymphatic Infection in Cancer of the Larynx. John Noland MacKenzie.
2 *Report of a Case of Nephrectomy for Ascending Tuberculosis, with Some Remarks on Cystoscopy and Catheterization of the Ureters in Women. (Concluded.) Hiram N. Vineberg.
3 *The First-Aid Packet in Civil Practice, and the Organization of First-Aid Societies. M. J. Shields.
4 *Feeding the Infants of the Poor with Unsterilized Cow's Milk. George Thomas Palmer.
5 *Severe Hemorrhage after Operations on the Throat and Nose. Report of Five Cases. Arthur Ames Bliss.
6 The Surgical Treatment of Laryngeal Cancer. J. Solis-Cohen.

Philadelphia Medical Journal, September 8.

7 *The Etiology and Pathology of Empyema. Joseph McFarland.
8 *Prostatic Calculus. John C. Spencer.
9 *Heroin in the Treatment of Phthisical Cough and Whooping-Cough. M. Loewenthal.
10 *Note on the Frequency of Renal Casts Without Albuminuria. C. F. Martin and F. B. Jones.
11 A New Forceps for Holding Slides in Staining. Thomas S. Kirkbride, Jr.
12 Legal and Judicial Disagreement and the Shortcomings of Medical Witnesses. Irving C. Rosse.
13 *Rheumatic Fever. J. Newton Hunsberger.

Medical Record (N. Y.), September 8.

14 *Dilatation of the Cervix by Means of a Modified Champetier De Ribes Balloon. James D. Voorhees.
15 *Observations on the Gastric Functions Before and After Gastroenterostomy. Charles S. Fisher.
16 *A New Physical Sign in Dislocation of the Heart: Gastrectatic Dyspnea and Pseudo-Angina. Albert Abrams.
17 *Two Cases of Intestinal Obstruction Following Vaginal Hysterectomy, and one After Pelvic Abscess, with a Secondary Operation in Each Case. A. Goldspohn.

Boston Medical and Surgical Journal, September 6.

18 The Scope and Aim of the Section's Work. Kenneth MacLeod.
19 *Notes on Dermatitis Venenata. George F. Harding.

20 *Notes on the Treatment of Ataxic Patients by Co-ordination Exercises, with the Demonstration of Two Patients. James J. Putnam.
21 Two Cases of Abnormal Sexual Development. George G. Sears.

Medical News (N. Y.), September 8.

22 *Trophic Changes in Consumption: A Contribution to the Symptomatology of this Disease. Henry Herbert.
23 *The Effect of Flashes of Electric Light on the Eye. Dunbar Roy.
24 Graves' Thyroid Disease. O. T. Osborne.
25 *The Status of General Anesthesia in 1900. M. L. Maduro.
26 *The Physiology of Sleep. H. H. Stoner.
27 An Attack of Urticaria Occurring in the Tropics Simulating Angioneurotic Edema. Jacob S. Green.

Cincinnati Lancet-Clinic, September 8.

28 *Penetrating Wounds of Chest. C. M. Paul.
29 Infant Feeding. James W. Rowe.

St. Louis Medical Review, September 1.

30 Local Diagnosis of Diseases of the Spinal Cord. Philip Zenner.

September 8.

31 *Observations in Genito-Urinary Technics. J. Rilus Eastman.
32 Treatment of Apparent Death in the New-Born. B. S. Schultze.
33 Treatment of Biliary Lithiasis. A. Gilbert and L. Fourier.

The Medical Age (Detroit), August 25.

34 Common Sense versus so-called "Christian Science." C. C. Mapes.
35 *Simple Goiter. F. W. Powers.
36 Conservative Treatment of Acute Suppurative Inflammation of the Drum Cavity and Attic. William Cheatham.

American Practitioner and News (Louisville, Ky.), August 1.

37 *Hay Fever. R. Alexander Bate.
38 *The Drug Habit and Its Treatment. H. T. Rivers and P. H. Stewart.
39 Discursive Notes as to the Management of the Insane. Barton W. Stone.
40 Antitoxins. G. P. Hachenberg.
41 *Inflammation of the Middle Ear in Infants and Children. Adolph O. Pfingst.

American Journal of the Medical Sciences (Philadelphia), September.

42 *A Case of Ligature of the Abdominal Aorta Just Below the Diaphragm, the Patient Surviving for Forty-eight Days; With a Proposed Instrument for the Treatment of Aneurisms of the Abdominal Aorta by Temporary Compression. W. W. Keen.
43 *Granular Degeneration of the Erythrocytes, and Its Significance in Clinical Pathology. Ernst Grawitz.
44 Idiopathic Dilatation of the Esophagus. Max Einhorn.
45 *Myositis Ossificans. Lydia M. DeWitt.
46 Sarcoma of the Small Intestine. E. Libman.

Maryland Medical Journal, September.

47 Remarks on Intestinal Obstruction. Randolph Winslow.
48 Traumatic Rupture of the Popliteal Artery with Gangrene of the Leg—Amputation—Recovery. James C. Bloodgood.
49 A Case of Cancer of the Esophagus with Perforation into the Left Pleural Cavity; Death from Pyopneumothorax. Julius Friedenwald.
50 Report of a Rare Case of Monstrosity. H. G. Beck.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), September.

51 Case of Xanthoma Diabeticorum. Samuel Sherwell and James C. Johnston.
52 *On the Pathology of Gonorrheal Pyelonephritis—Presentation of a Gonorrheal Kidney. Bransford Lewis.
53 Case of Epidermolysis Bullosa. Chas. P. Russell.

Oklahoma Medical Journal, September.

54 Refraction of School Children's Eyes. E. E. Hamilton.
55 *A Case of Double Vagina and Double Uterus—Four Pregnancies. Herman E. Pearse.
56 A Case of Osteo-Sarcoma of Inferior Maxilla—Operation. A. L. Blesh.

Archives of Otology (N. Y.), April-June.

57 *Re-examination of the Hearing of Deaf-Mutes Originally Tested in 1893. F. Bezold.
58 Fourth Report on the Patients Treated During the Year 1898 in the Hospital and Outdoor Department for Aural Diseases at the University of Strassburg. F. Alexander.
59 A Case of Bezold's Mastoiditis Secondary to Facial Erysipelas: Operation: Recurrence of the Erysipelas within Twenty-four Hours; Cure. John Dunn.
60 *Nasal Empyema as an Etiologic Factor in the Establishment and Continuation of Post-Nasal Catarrh and Catarrhal Inflammation of the Middle Ear, with an Especial Consideration of the Enlargement of the Posterior End of the Middle Turbinate as a Predisposing Cause. Carolus M. Cobb.
61 Three Cases of Diabetic Mastoiditis. E. P. Friedrich.
62 Sharply Circumscribed Sound-Defects in the Hearing-Fields of Certain Deaf-Mutes. A. Schwendt.
63 Multiple Rarefaction (Sponglosirung) of the Labyrinth—Capsule found at the Autopsy of a Case of Progressive Deafness. F. Siebenmann.
64 Contributions to the Knowledge of Intracranial Complications of Ear Disease. Geo. Lehr.
65 Examination of the Pupils of the Municipal Deaf-Mute School at Danzig, Germany. G. Kickhefel.

The Stylus (St. Louis), September.

66 The Preparation of the Lying-in Patient and the Management of Normal Labor. J. H. Alexander.
67 Something Needed for the Worthy Doctor to be Appreciated. R. H. Simpson.
68 Stricture of the Urethra. (To be continued.) C. M. Nicholson.
69 A Few Words About the Veins. R. W. Baker.
70 A Case of Hyperchlorhydria. (Continued.) M. D. Schmalhorst.

Medicine (Detroit), September.

71 Bone Food. B. T. Whitmore.
72 *Normal Salt Solution in the Treatment of Hemorrhage in Typhoid Fever. C. H. Andersen.
73 Pregnancy Complicated by Suppuration of Fibroids. Charles G. Cumston.
74 *Treatment of Tuberculosis of the Lungs. C. J. Whalen.
75 *Suggestion without Hypnotism as a Therapeutic Agent. Harold N. Moyer.

Southern Practitioner (Nashville, Tenn.), September.

76 Thyroid Gland in Medicine. W. H. Witt.
77 Cancer. W. B. Young.

Indiana Medical Journal, September.

78 Some Hoosier Doctors of My Acquaintance. Miles F. Porter.
79 Rectal Alimentation. J. N. Jerome.
80 Simultaneous Occurrence of Typhoid Fever and Malarial Fever. Jas. W. Bevans.
81 *Obstruction of the Upper Air-Passages with Illustrative Cases. Fletcher M. Gardner.
82 *Head-Last Presentation—Left Side Position of Mother. S. Hunt.
83 Case of Strangulated Hernia in an Infant, with Operation and Recovery. W. D. Schwartz.

St. Paul Medical Journal. September.

84 *The Lymph Node as a Factor in Diagnosis. C. A. Wheaton.
85 Varicose Veins of the Lower Extremity. C. H. Mayo.
86 *The Treatment of Penetrating Wounds of the Chest. James H. Dunn.
87 *The Value of the Newer Signs and Procedures as Aids in Diagnosis. George D. Head.
88 *Cardiac Dilatation. A. W. Stinchfield.
89 *Early Diagnosis of Pulmonary Tuberculosis. J. W. Bell.
90 *Constant or Sustained Cold as a Therapeutic Agent. Soren P. Rees.

Journal of Medicine and Science (Portland, Me.), August.

91 Lacerations of the Cervix Uteri. Importance of Repair. John B. Shober.
92 Views of Scientists and Sciolists on Abortion. E. D. O'Neill.

Railway Surgeon (Chicago), August 21.

93 *Traumatic Laceration of the Male Urethra. H. A. Leipziger.

Medical Standard (Chicago) September.

94 Methods in the Diagnosis of Diseases of the Stomach. Charles D. Aaron.
95 Diseases of the Arteries. Albert Abrams.
96 Cervical Polyp; Gonorrheal Infection; Carcinoma Uteri. Henry P. Newman.
97 Concerning Truss-Fitting. H. H. DePew.
98 Secondary Syphilis. William S. Gottheil.
99 Pelvic Surgery Without Ligatures and Retention Clamps. Valdemar Pleth.
100 Varicella, Variola and Vaccination. Marcus P. Hatfield.

International Journal of Surgery (N. Y.), September.

101 *Diaphragmatic Hernia, with Report of a Case. E. W. Walker.
102 *Hysterectomy. W. H. Haughey.
103 Regional Minor Surgery. (Continued.) George G. Van Schaick.
104 Treatment of Fractures. (Continued.) W. L. Estes.
105 Severe Crushing Injury of the Hand. H. L. Stickney.
106 Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
107 Chronic Cystitis in Women. Diagnosis and Treatment. Matthew D. Mann.
108 Report of Case of Recurring Multiple Sarcoma cured by Contracting Erysipelas. P. O'Keef.
109 Fracture of the Ribs. George S. von Wedelstaedt.
110 Report of a Case of Fractured Patella Treated by Massage. Chas. B. Chidester.

Carolina Medical Journal (Charlotte, N. C.), August.

111 Brief Report of Some Recent Surgical Cases. Stuart McGuire.
112 La Grippe—Otitis Media Purulenta—Mastoiditis—Recurrent Facial Paralysis—Operation—Recovery. John Dunn.
113 Surgery for the Prevention and Cure of Crime and Criminals. A. J. Wakefield.
114 Unusual Case of Laudanum Poisoning—Recovery. J. E. Kerr.
115 A New Pedicle Needle. L. B. Owens.
116 A Few Words to the Editor and Readers. W. Peyre Porcher.

Hot Springs Medical Journal, July.

117 *Gunshot Wounds. E. B. Osborn.

New Orleans Medical and Surgical Journal, September.

118 Variola—Its Symptomatology, Complications, Diagnosis and Treatment, as Learned from the Study of 100 Cases Seen

at the Shreveport Pest-house in January and February, 1900. S. C. Barrow.
119 Successful Treatment of Variola. V. Lehmann.
120 *Improved Method of Vaccination—Vaccinoid. V. Lehmann.
121 Suggestions for the Treatment of Gastrointestinal Ailments of Children. B. A. Colomb.
122 Acute Rheumatism in Childhood, with Report of Two Cases. E. D. Fenner.
123 Pneumonia After Surgical Injury. Arthur V. Meigs.
124 Case of Peripheral Neuritis—Methods of Examination. Chas. Wells.

New England Medical Monthly (Danbury, Conn.), September.

125 *Address. A. Jacobi.
126 Latent Form of Endometritis. James A. Hopkins.
127 Chloroform in the Sitting Posture. D. E. Keefe.
128 The Treatment of Dyspepsia. Eugene C. Underwood.
129 Some Cases of Obstinate Headache, the Woman's Burden. S. Green.
130 The Diagnosis and Treatment of Genital Dislocations. Byron Robinson.
131 The Use of Caroid in Mal-Digestion. Geo. A. Gilbert.

Northwestern Lancet (St. Paul, Minn.), August 1.

132 *Prophylactic Douche. O. S. Chapman.
133 Some Obstetric Notes and Reminiscences. F. W. Dimmitt.
134 Conservative Intranasal Surgery. O. Wellington Archibald.
135 Urinary Excretion—Normal and Abnormal, with Treatment of the Latter. M. H. Cremer.
136 Catarrhal Colitis. J. C. Adams.

Medical Times (N. Y.), September.

137 The Treatment of Asthma; Methyl Blue in Vesical Irritation. Thomas Hunt Stucky.
138 Some Observations on the Prognosis and Treatment in the So-called Catarrhal Deafness. Dunbar Roy.
139 Gall-Stones Followed by Spontaneous Rupture of the Gall-Bladder; Operation; Recovery. A. Morgan. Vance.
140 Treatment of Gastroenteric Infection of Children. M. E. Fitch.

Mississippi Medical Record, September.

141 *The Use of Hypnotism in General Practice. E. H. Martin.
142 Acute Suppurative Osteomyelitis. W. R. McKinley.
143 Be Ready. L. A. Murdock.

AMERICAN.

1. **Cancer of the Larynx.**—MacKenzie makes a plea for more thorough work in case of cancer of the larynx. He insists on the importance of thorough investigation and removal of all diseased tissue, also the removal of the lymphatic glands of the neck if they are visibly involved. The partial removal of any diseased infectious condition like cancer only stimulates its extension, the operation must be thorough if it is to be effective. He says the time will surely come, if it has not already, when the surgeon will consider it his duty in cancer of the larynx to remove not only the entire organ, but all the neighboring hypertrophied area.

2. **Catheterization of the Ureters in Women.**—Vineberg states that he has used ureteral catheterization over 100 times in fully fifty patients and has never seen any bad effects result, excepting some pain in the twenty-four hours following the operation. He has also carried out the procedure without any anesthetic in the knee-chest posture and the patient has been able to go home from the office shortly afterward. It requires, of course, strict asepsis, and one should wait until he has the ureteral orifice fully in view, then, with a small pledget of cotton soaked in some antiseptic solution, the inside of the cystoscope can be mopped clean and the mouth of the ureter may be cleansed with a second pledget. Then the sterilized catheter is passed directly into the orifice without coming in contact with the vesical mucosa. He reviews the diagnostic and therapeutic indications of the procedure and reports a case in which the introduction of the catheter seemed to be at once curative. He does not explain how this happens to be so, though he offers one or two theories to which he shows the objections.

3. **First Aid Packet.**—The object of Shields' article is to call attention of physicians, especially those who have to do with communities where accidents are frequent, to the organization of first-aid societies. They are organized by selecting men who are efficient, willing to give some attention to the subject, temperate in their habits, intelligent and conscientious, who will be faithful in attending the meetings of the society and recognize that they are doing it for charity's sake, do not get disconcerted easily, and have no aversion to the sight of blood. He has organized such a society and finds the men zealous and willing and he recommends that they wear a distinctive badge so that it will be known who can be relied upon for help in time of need. The financial part of the work is easily managed, the total of his expenses having been only $50, voluntarily contributed. He has not had to call on any companies, but has no doubt that they would be willing to contribute.

4. **Infant Feeding.**—Palmer reports experience with feeding of infants with modified unsterilized cow's milk in Chicago. The principal effort has been to obtain good, clean certified milk, which was obtained from the dairy of H. B. Gurler, of DeKalb, Ill., and their modifications were not pushed extensively for this milk, which shows no greater variation than mother's milk under normal conditions. Their midsummer mortality with this milk taken into the unhygienic homes of the poor of Chicago was 3/7 of 1 per cent. He thinks that it may be a better argument than any other he can offer to inquire into the mortality statistics of those institutions that use the pasteurized or sterilized milk reduced in its dietetic value.

5. **Hemorrhages After Nose and Throat Operations.**—The chief point of Bliss' article, with a report of five cases of severe hemorrhage, is the importance in looking into all the conditions of the case when operating on the nose and throat. The question of hemophilia would be enough to necessitate this and the tendency to conceal this infirmity renders careful inquiry all the more necessary.

7.—See abstract in The Journal, xxxiv, p. 1196.

8.—Ibid., p. 1130.

9. **Heroin.**—Loewenthal has used this in 13 cases, 3 of tuberculosis and 10 of whooping-cough. While sceptical at first as to its value, he has concluded that it is superior to anything we have for the treatment of whooping-cough. "If you have a case of pertussis," he says, "and desire results, use heroin."

10. **Renal Casts.**—Martin and Jones have studied the urine in the Royal Victoria Hospital, Montreal, and found that in a very large number of cases without albuminuria casts have been present. They say that it can not but be believed that their actual cause is devoid of the gravity in prognosis usually associated with their presence, that is, without other significant symptoms. This applies to the hyaline and granular varieties, the epithelial casts being less common and probably of more serious import. From their observations, they conclude that they are generally caused by irritating conditions.

13. **Rheumatic Fever.**—The indications in the treatment of rheumatism are: 1. To prevent fresh chilling of the parts. 2. To keep the affected parts at rest. 3. To modify the condition of the blood and neutralize the irritant action. 4. To prevent, if possible, inflammation of the endocardium and pericardium. The author anoints the joints with olive or some other bland oil, and wraps well with two or three layers of absorbent cotton—retained by a lightly-applied bandage. The patient should always be between woolen blankets in a ventilated room with a temperature of 70 or 80. He relies chiefly on potassium carbonate in 10 to 15 gr. doses every two hours to modify the condition of the blood. He thinks that it has a sedative action on the heart, and cardiac complications rarely occur with its use. He is especially opposed to the use of the salicylates, which he thinks are useless and contraindicated.

14. **Dilatation of the Cervix.**—The various methods of dilating the cervix are noticed by Voorhees, who describes the technique and apparatus of the Champetier balloon, its indications and contraindications. His conclusions are: 1. Dilatation of the cervix is readily accomplished by a hydrostatic bag. 2. The best balloon for it is the modified Champetier de Ribes—it being inexpansible, impermeable, strong and inexpensive. 3. The Barnes bag is unsatisfactory. 4. The operation is easy and not dangerous. 5. The dilatation is rapid.

6. The uterine contractions always start after its introduction into the uterus. 7. Labor is hastened, and almost always terminates spontaneously after expulsion of the balloon, or the easy extraction of the child is possible. 8. The balloons control hemorrhage in placenta previa, and diminish fetal mortality. 9. The balloons meet all the indications before mentioned.

15.—See abstract in The Journal, xxxiv, p. 1260.

16. **Dislocation of the Heart.**—Abrams describes certain conditions of the heart and stomach which are not always fully recognized and gives the name of gastrectatic dyspnea to the difficulty of breathing experienced sequential to gastric dilatation. He thinks this condition of dilatation of the stomach has not been sufficiently noticed in the literature as an etiologic factor in pseudo angina pectoris, though he has met with cases that were immediately relieved by the treatment of the stomach or a neurasthenic condition which was primarily a factor in the distention of the stomach by gases. The sign of Ferber—that is, the phenomenon of the circulatory tympanitic stomach-lung region disappearing behind the axillary line if the stomach is normal, but if it is dilated, extending to the vertical column—has been very unsatisfactory. The examination after dilating the stomach with air frequently fails to confirm the existence of this sign. He calls attention to a new sign, viz., a patch of dulness or flatness in the interscapular region on the left side, midway between the spinal column and the interior border of the scapula, varying in size from a silver dollar to the entire space between the scapula and the spine. It disappears to be replaced by the normal lung resonance when the patient leans forward and reappears again with the erect position, and is greatly increased by leaning backward. The cause of the dulness is the compression of the lung by dislocation of the heart upward, and the sign is constantly present. He has convinced himself as to the cause of this by introducing a stomach-tube into the stomach and distending it with air, by which he can invariably reproduce the clinical phenomena. The sign may be confounded with the atelectatic zones sometimes present in this region, but these disappear after repeated forced voluntary inspiration, and are not influenced by the position of the patient. In pericardial effusion the sign of Bamberger is important, which is due to exudate compression of the lung. In the erect position there is a space about the size of a silver dollar at the angle of the scapula, over which increased fremitus and bronchial breathing may be elicited. If the patient bends forward the sign disappears, to reappear when he sits upright.

17. **Intestinal Obstruction After Vaginal Hysterectomy.**—Goldspohn reports several cases from which he deduces the conclusion that it is important to avoid adhesions after vaginal hysterectomy, especially by engaging any portion of the small intestine in the closure of the wound. It is necessarily done in cases where extensive abraded surfaces or septic features are present, but where no peritoneal drain is needed it is a just requirement that the cavity be sealed by coaptation of the edges of the peritoneum. The use of the forceps or clamps, so far as it interferes with such closure, is to be avoided. Secondary operations for the relief of post-operative ileus must be performed early, before infection and perforation of the bowels occur. He gives the symptoms and signs pointing to ileus, abdominal distention without marked tenderness to touch, rhythmical colicky pains, slow pulse that is not wiry, fecal vomiting, vermicular motion of the small intestine seen or felt through the abdominal wall, and increased proportion of indican in the urine.

19. **Dermatitis Venenata.**—This condition, which is most commonly observed as a result of contact with poison ivy or poison dog-wood or poison sumach, may be due to many other causes. The author here enumerates, among others, a case of poison from Japanese lacquer, from buttercups, field daisies, golden rod, wood anemone, nasturtiums, tincture of arnica, kerosene oil, the Seven Sutherland Sisters hair-grower, various liniments, etc., etc. This total of causes has a certain interest, as it affords a number of facts which will help, perhaps, to account for some peculiar eruptions, the cause of which is obscure.

20. **The Exercise Treatment of Ataxia.**—The following points should be strictly borne in mind in using the Frenkel treatment: That it is skill, not strength, that is sought to be developed, and it is necessary to begin with elementary motions, as some of the others that would be prescribed for healthy persons are too complex for the ataxic. However simple the movements, the patient must respond with promptness and accuracy to what is demanded. To inculcate these habits from the outset and reduce the difficulties at each step so that the attention and effort will make success possible and will ensure skill and confidence are, says Putnam, the requisites for good results. Dulness, monotony and fatigue on the one hand and superficiality on the other are to be avoided. He mentions certain methods, such as the use of simple tunes played on glasses or bells, calling numbers with varying rates of speed of the notes the patient must touch that are in this line. He thinks it is not sufficient to let the patient carry out the treatment himself by prescribed rules, and there are some cases which are not adapted to this method, such as those that are mentioned by Collins as being weak, anemic, and in those suffering with pain or frequent crises. Two cases, however, he reports do not quite bear out this statement, as improvement occurred in spite of some of the conditions enumerated by Collins.

22. **Trophic Changes in Consumption.**—These changes enumerated are: Idiomuscular contraction, smallness of the heart, pathologic changes in the pharynx, paresis of the soft palate on the infected side, ear troubles, pityriasis tabescentium, pigmentation of the iris and mamilla, changes in the skin, loss of hair, disturbances of sensibility, fatty degeneration of the liver, gastric disturbances, intellectual impairment, increased sexual desire, and amyloid degeneration. Herbert thinks these due to the action of the bacteria and the nerve terminals being affected. He reports several cases of unilateral trophic symptoms corresponding to those of the lesions of tuberculosis on the same side.

23. **Effect of Electric Light on the Eye.**—Roy calls attention to the various retinal changes due to electric flashes, which he finds are always traumatic, the irritation being produced almost exclusively by ultra-violet rays. According to his own observation, the Welsbach gas light is more satisfactory than any other, but he thinks there should be with it an undershade, preferably white, to mitigate the intensity of the light.

25. **General Anesthesia.**—After noticing the different methods of anesthesia and remarking that the Schleich mixture has lost favor to some extent because of lack of experience, prejudice, and the idea that petroleum ether might be dangerous, while he has found it satisfactory, Maduro calls attention to the relation of the boiling-point to the anesthetic action as pointed out by Schleich and believes that if we could adopt the principle of the relation of the boiling-point to the temperature of the body with the anesthetics we employ we should see far less alarming results. Ethyl bromid possesses the relative boiling-point of 38 C., and he thinks it is the quickest in action and the most rapidly recovered from of all. He will, in the future, publish the results of his experience with this anesthetic. In conclusion he insists on the importance of professional anesthetizers, to avoid mistakes that have occurred in the past.

26. **Physiology of Sleep.**—The theory of sleep here manifested is not a new one, it being that of retraction of the processes of the neurone.

28. **Penetrating Wounds of the Chest.**—Two points are especially noticed: diagnosis and treatment. The free entrance and exit of air indicates perforation of the wall, free bleeding means nothing. Probing should be shunned. The significance of pneumothorax, hemothorax, hemoptysis, are all noted. As regards treatment, Paul finds in the majority of cases that the mortality of penetrating wounds is chiefly due to hemorrhage; in a few cases it may be due to shock. The

expectant treatment, which is largely in favor with physicians is, he thinks, not the best. He believes that the mortality will drop quickly and permanently when men have overcome the present fear of the chest and lungs and will resort to bolder measures. In simple perforation, with or without pneumothorax, and with evidence of but slight injury to the lung, and with moderate and stationary hemothorax, the expectant plan may be followed with the probability of good results. The chief worry is the chance of infection, but increasing hemothorax means great danger. Thus, when an external wound is once sealed or padded you limit retraction of the lung by preventing the exit of the air and give place for a larger effusion of blood. Where free entrance of air does not control the bleeding he would advocate free opening of the chest and packing the entire cavity with gauze and using transfusion with normal salt solution in all bad cases.

31. **Genito-Urinary Technics.**—The special points Eastman mentions are the importance of refraining from immediate withdrawal of the steel sound introduced, as is too commonly done, the advantages of cocainization to relieve the patient in case of marked hypersensitiveness, in irrigating the bladder with the Valentine apparatus or large piston syringe, the importance of bearing in mind that a blunt-ended instrument of larger caliber will sometimes pass where the small end of a small sound fails, protection to the clothes, the use of a weak fresh solution of potassium permanganate from a strong solution of known strength, instead of from crystals, which always produce pain, and the open method of ligation in varicocele instead of the subcutaneous one which is out of date, and the disuse of the clamp in cases of circumcision. The clamp devitalizes the tissues and sometimes prevents early healing by first intention. It is, moreover, useless, since the operation can be made easily and sufficiently without it by using the Pean forceps and cutting off behind the forceps jaws, the compressed tissue in this case being part of that which is thrown away.

35. **Goiter.**—The principal point of Powers' article is the treatment, which is the old method of iodoform injections, using these with true antiseptic precaution. He begins with from 5 to 8 drops of a saturated solution of iodoform in Squibbs' ether injected into the gland, and seldom applied it on both sides at the same sitting. In some cases pain is produced, which lasts, however, only a short time. Sometimes, after withdrawal of the needle, he hears a gurgling sound in the gland, but it seems to cause no inconvenience. As the size of the gland is diminished, it seems to harden, and we have to insert the needle deeper to reach the soft glandular structure. His views are based on an experience with twenty cases, of which sixteen were completely cured and four greatly improved.

37. **Hay-Fever.**—Bate considers hay-fever as a form of arthritism, which he thinks is generally admitted. Among the exciting causes, as well as local irritations, he includes sudden emotion and mental impressions. The treatment should embrace both the attack and diathesis. The treatment of the attack consists in establishing the equilibrium of the circulation, freeing the blood from uric acid, relieving hyperesthesia and removing the exciting cause: for the disturbed circulation such medication as raises the acidity of the blood and renders it incapable of absorbing uric acid. He mentions as also of use internal medication by suprarenal extract for its tonic action on the vasomotor system.

38. **The Drug Habit.**—The theory of the drug habit advanced by Rivers is that there is produced in the cells an accustomization to the drug which, when the supply fails, excites the inclination and that the vasomotor stimulants of sufficient power without serious depressing effects, and elimination of the insomerized drug before the effects of the stimulant disappears are a rational method of cure. He believes that of the drugs hyoscin is the safest and best handled, and he would give it in .01-gr. doses at intervals of one hour until intoxication is produced and then keep up the administration sufficiently to keep the patient in a delirious condition. At the end of twenty-four hours the second step, that of eliminating the drug by pilocarpin, is commenced—⅛-gr. dose every hour until there is full physiologic effect, and then continue its use at intervals of from two to three hours until all the hyoscin symptoms have disappeared. Watch the heart in the meantime and meet any glandular symptoms with atropin or morphin. If, at the end of this time, the patient expresses absolutely no desire for the drug the work is done, if, however, he still feels the need of his accustomed stimulant the treatment should be begun again. There is apt to be a bilious diarrhea following this method, which is usually easily controlled by bismuth or, if necessary, resorcin. He does not include alcoholic cases in this method of treatment, as the indications vary somewhat. He begins in such cases with a mercurial purge, and then proceeds as before, though using less hyoscin and pilocarpin. He has used this treatment in twenty-three cases, of which fifteen were alcoholic. They were all relieved with but one exception. He has had two bad results, both alcoholic, neither of them, he thinks, due to the treatment.

41.—See abstract in The Journal, xxxiv, p. 1487.

42. **Ligation of the Abdominal Aorta.**—Keen reports a case of ligation of the abdominal aorta for aneurysm in which the patient lived forty-eight days, collateral circulation having been established. The death was due, as in other cases, to cutting through the vessel by the ligature. To prevent this accident, which seems almost universal, he has devised an instrument for the compression of the aorta, which he illustrates, and which avoids the danger of pressure on the thoracic duct and requires only the opening of the abdomen and its application to the vessel. This instrument has been experimentally tried on dogs and the following are the conclusions deduced: 1. That in dogs paralysis of the hind legs follows complete obliteration of the aortic stream. 2. That the paralyzed parts may regain their entire health even after forty-eight hours' compression. 3. That three and one-half hours of compression will not interfere with the complete restoration of the paralysis. 4. That at least, after twenty-four hours, and possibly less, the collateral circulation may re-establish the continuity of the circulation. 5. That the aorta may be clamped in the dog for one hundred and ten hours, and yet the collateral circulation be established sufficiently to nourish the posterior extremities. 6. That the clamp can be placed on the aorta, at least in the dog, either in separate parts or as a whole. 7. That it can be readily removed without injury to the aorta.

43. **Granular Degeneration of the Erythrocytes.**—The granular changes in the red corpuscles that carry any certain disease, such as chronic lead poisoning, malaria, anemia, carcinoma and septic disorders, are observed and discussed by Grawitz, who concludes that their presence or absence is sometimes of considerable importance, as it permits us to decide on the etiology in certain anemic conditions and enables us to determine whether true blood-poisoning exists or whether the anemia is to be considered as but one symptom of a general cachexia. Granular degeneration is only a symptom which must be taken with other symptoms of the disease. The recurrence of these granulations is of no significance, but in certain cases of lead poisoning which are hard to recognize, also in those cases where the existing anemia is to be referred to malignant neoplasm, chronic nephritis or similar diseases, they are of value. In many cases granular degeneration appears as the first definite sign of anemia, where it is of special importance. In other cases, like tuberculosis, the anemia is not attended with this symptom and, therefore, we must not here look at it as depending on the destruction of the blood-cells, but on the involvement of the blood in the general tissues, that is there is a true oligemia, a reduction of the general amount of the blood. He thinks that a high temperature is sometimes its cause, and in this respect it is similar to that of many cases of tropical anemia.

45. See last week's Journal, p. 692.

52. **Gonorrheal Pyelonephritis.**—The report of a case, with careful autopsy and bactericidal examination, in which

only the gonococcus was found, has led Lewis to question the reported rarity of the condition from this exclusive cause. He argues against this, showing that it is practically possible to have ascending infection by continuity, as in the case he reports, or through the lymphatics, or by general infection or metastasis. He refers briefly to a case of gonorrheal rheumatism in which cultures of the blood produced abundant colonies of gonococci responding to the tests, and succeeding generations of germs were cultivated from these.

55.—This article has appeared elsewhere. See The Journal of September 1, title 31, p. 583.

57. **Hearing of Deaf Mutes.**—Bezold reports the results of testing, with an improved apparatus, a number of deaf mutes that had been formerly examined, and he finds the number of totally deaf less than before, though two of the cases had lost considerable hearing in the interval. The details of the test are given and the results indicate that special care assured to the partly hearing and partly vocal deafmutes will increase not only what speech and hearing they may have, but also that this fraction of normal hearing power can be utilized in teaching sound language.

60. **Nasal Empyema.**—The conclusions of Cobb's article are given as follows: 1. That the whole chain of catarrhal symptoms of the nose, the nasopharynx and of ears is due to empyema of the nasal accessory sinuses. 2. That this empyema is the result of an infective inflammation of the accessory sinuses in which the drainage is insufficient. 3. That the malformation of the posterior end of the middle turbinate, which he has described in this paper, plays an important part in the establishing of the nasal empyema which causes postnasal catarrh. 4. That chronic catarrhal inflammation of the middle ear may result from the catarrhal condition of the nasopharynx, either by extension of the disease, by continuity of tissue, by the forcible blowing of the irritating secretion into the middle-ear cavity, or by closure of the Eustachian tube from involvement of the mucous membrane in or around its entrance. 5. That there is no evidence of chronic catarrhal inflammation of the middle ear is caused by obstruction to nasal respiration, unless the obstruction is associated with empyema of the accessory sinuses. 6. That those cases of chronic catarrhal inflammation of the middle ear which are caused or made worse by nasopharyngitis can not be cured until the nasal empyema which causes the nasopharyngitis is first cured, and that mechanical treatment directed to the ears is only palliative and does not free the patient from the danger of an acute exacerbation of the disease. 7. That many cases of nasal empyema may heal spontaneously under favorable conditions, and the more recent the case the more probable it is that this will occur. 8. That the accessory sinuses have a tendency to free themselves of inflammation, and that treatment should be directed to assist nature to this end. 9. That it is possible to cure practically every case of nasal empyema, and therefore every case of nasopharyngitis depending on it.

72. **Normal Salt Solution in Typhoid.**—Andersen reports in detail a case of typhoid with severe hemorrhages, causing collapse, in which relief was obtained by the use of transfusions of normal salt solution. Several other cases were treated similarly with benefit, but none so bad as the one reported. He does not find reports of similar treatment for hemorrhage of the bowels in typhoid. In his case the operation was done in a tent without antiseptic appliances, and some abscesses followed, which he attributes to the fact of the saline solution not being filtered.

74. **Pulmonary Tuberculosis.**—In the treatment of pulmonary tuberculosis, Whalen considers guaiacol first among the drug preparations. He has been in the habit of giving it, 5 minims in capsule after each meal, with benefit. Next to this, he would use oil of cloves similarly administered. His experience with this has also been favorable. Iodin is of some use in certain cases, but inferior to the drugs mentioned, and is of most value when used by inhalation. Tonics such as strychnin, arsenic, phosphorus or cod liver oil are useful and should not be overlooked. Of late he has been using Armour's red bone-marrow in place of the malt and cod-liver oil, and finds it a valuable remedy. Alcohol in the early stages is not advisable, later it may be of benefit, and should be chiefly prescribed in the form of malt liquors. The diet should be as nutritious as possible, and special attention given to the digestion and assimilation. Internal medication can be aided by inhalation of various drugs, among which he places formalin first, though the essential oils of cinnamon, cloves and thymol are of value, as well as iodin, cod-liver oil, etc. Moderate exercise, together with lung gymnastics, is also spoken of with favor, as are cold applications to the chest followed by vigorous friction. The diarrhea which occurs he has been able to control with bismuth, and night sweats with atropin. Hemoptysis, as a rule, requires no treatment, though if necessary morphin is valuable, and he sometimes gives aconite to reduce the blood-pressure, also nitroglycerin. He has faith in the use of serum treatment, or tuberculin, and his experience with the compressing method of Murphy has not led him to have great hopes of its curative effects. Other subjects mentioned are the climate and altitude of various health resorts, and their respective merits are discussed.

75. **Suggestion Without Hypnotism.**—Moyer considers suggestion, well directed, patiently and systematically applied, a very important element in many diseased states. Hypnotism, on the contrary, has many objectionable features, and he thinks there is little use in inducing the hypnotic state. He does not say it is always useless, but it should not be practiced in a routine way, and when employed it should be only by medical men.

81. **Obstruction of the Upper Air-Passages.**—The general subject of obstruction of the nasal passages, etc., is gone over by Gardner, who finds it, regardless of cause, a distinct pathologic entity, producing certain well-defined disturbances of nutrition, alterations of the bones and contour of the face and palate and disturbances to sleep, predisposition to infection and chest deformities, as well as deafness, either from pressure or Eustachian involvement. With the attainment of maturity these conditions may become inoperable and results permanent. He holds there is hardly any class of cases where prompt treatment is as beneficial or procrastination more damaging.

82. **Head-Last Presentation.**—In this communication Hunt refers to a method of rapid birth of the head by placing the patient on the left side and producing pressure from over the fundus toward the buttocks. He claims that this method will result in saving the lives of many children. The pressure is toward the inlet of the pelvis and the possibility of injury is comparatively slight.

84.—See abstract in The Journal of July 14, p. 116.

86.—Ibid.

87.—Ibid., p. 115.

88.—Ibid., p. 116.

89.—Ibid., p. 115.

90. **Cold in Pneumonia.**—The use of cold for therapeutic purposes in pneumonia forms the subject of Rees' article, in which he reviews the opinions of various authors on the subject. He finds that it is valuable for pain in this disease, as its anodyne action has no effect on checking elimination, disturbing digestion, impairing the appetite or depressing the nervous system. It is also useful for the relief of general restlessness and delirium for the same reasons. The ice-bag slows and strengthens the heart-beat, and the pain being relieved, the patient unconsciously takes deeper breaths. The major argument for its use, however, is the effect on the circulation. It limits the congestion and consequent exudate and prevents the involvement of large areas of tissue. Sustained cold applied to the skin relieves the tendency to exudate and excessive diapedesis of leucocytes: 1, by constricting the cutaneous arterioles, and, 2, by setting up compensatory dilatation in the pulmonary and bronchial arterioles by the means of which the flushing out of the local stasis is favored. It has also a valuable, and by no means a slight, action on the gen-

eral temperature and acts as a safe and natural diuretic. The number of ice-bags used should depend on the size of the inflamed area and the stage of the disease; enough to cover the inflamed lobe should be used. It is not, however, applicable to every case, and should not be employed in young children and in the aged where the system is already depressed or weakened from causes prior to or complicating pneumonia. In very young children or in the old or feeble, where the strength is rapidly diminishing and cardiac and respiratory failure threatened, a cold sheet wrapped closely around the trunk and left there for a few minutes and reapplied at intervals of one or two hours is a powerful stimulant. Cases have been under his observation where this seemed to save life.

93. **Laceration of Urethra.**—The motive of this study, as stated by the author, is to ascertain the accepted management of the catheter after laceration of the male urethra and what is the prevailing opinion as regards suturing the laceration. He reviews the different authorities and their different views and reports a case. From his experience and reading he deduces that there is not sufficient positive information regarding the time the catheter should be retained. In Leipziger's case, if he had retained it for fourteen or twenty-one days at the first, instead of removing it at the seventh and then returning it for thirteen days more, the results would, he thinks, have been better. Leakage through the perineal wound need not cause any anxiety, as fresh urine does not harm the wound if it can be cleansed, and it makes no material difference whether the wound heals around the catheter by suture or granulation.

101. **Diaphragmatic Hernia.**—On the basis of a case successfully treated, and a study of others reported, Walker comes to the following conclusions: 1. In all cases of so-called internal strangulation one should always think of the possibility of a diaphragmatic hernia. 2. When the physical examination reveals the diaphragmatic hernia as probable, an operation is imperative when the symptoms of obstruction are present. 3. In recent cases, if the diagnosis has been made early, laparotomy is probably the better operation. 4. In old cases, on account of the difficulty of reducing the gut, ligating the sac and stitching the rent in the diaphragm, the transpleural route is preferable. 5. If, after making a laparotomy, the gut can not be reduced, a thoracotomy is justifiable.

102. **Hysterectomy.**—The chief point of Haughey's article is the plea for the complete operation of hysterectomy, instead of removing the ovaries in cases of chronic disease of the appendages. He does not see the use of the removal of the appendages and not the uterus. He believes the results of the combined operation are in every way more satisfactory than that of the single one which may require subsequent removal of the uterus afterwards.

117. **Gunshot Wounds.**—Osborn pleads for the operative interference in gunshot wounds of the abdomen. He thinks that the mortality would be greatly reduced if this were done, and reports cases where he has seen the "do nothing" treatment result in rapid death from perforation of the arteries, which might have been readily relieved by abdominal section. The anesthetic will also be the best treatment for shock.

120. **Vaccination.**—Lehmann's improved method of vaccination consists in gently stroking the surface of the skin, after making it tense, with the vaccin point, steadily increasing the pressure until the skin is rendered anesthetic, or is hypnotized, so to speak, by this local pressure and gradually increasing friction. Then, when it is sufficiently scarified, the two sides of the vaccin point are moistened with rainwater and passed over the denuded area, and a bit of tissue paper held over the spot until it is dry. Lehmann claims that this method minimizes irritation and is altogether in various ways better than those commonly used.

125.—This article has appeared elsewhere. See The Journal of July 14, title 95, p. 118.

132. **The Prophylactic Douche.**—The writer contends, after giving a brief review of the literature upon the subject, that the weight of testimony is in favor of discarding the douche as a routine measure, although some observers still adhere to their former contention as to its benefits. Even the preliminary douche is of doubtful utility, as the vaginal secretions possess bactericidal properties, they are useful and protective, and the various species of micro-organisms will meet with more timely neutralization without the douche than with it. The secretions may contain a great number and variety of bacteria, but usually they are non-pathogenic or produce but a moderate rise in temperature. Severe puerperal fever and death is generally due to infection from without, but it may have a cystogenic origin. Recent investigations go to show that the blood, the lymph and the tissues generally are not always sterile. In the puerperal state there is a greater liability of an accumulation of bacteria within the tissues than at other times, and nature has provided an extra channel of elimination for just this condition, and one of the chief provinces of the physician is to aid nature in this elimination.

141. **Hypnotism.**—Martin defines hypnotism as the effect of suggestion made during sleep. Simple suggestion is an impression made either when awake or during sleep. He divides all classes of cases in which suggestion or hypnotism can be used into those in which nothing does so well and those in which it will be of great assistance to other treatment. Among the first of these he includes persistent insomnia, nausea of pregnancy, pressure pain of pregnancy and wrenched back. Those where it may help are multiple. He insists on the importance of using hypnotism only rarely, and then when the case demands it. He advises the physician to read Moll's work first, then Bernheim, and then he will probably be well enough placed on the subject to read more extravagant authors without believing all they say.

FOREIGN.

British Medical Journal, September .

Treatment of Malaria by Quinin.—In this discussion, in which a number of prominent English and Anglo-Indian physicians took part, the question of the prophylactic action of quinin was taken up. Dr. Duncan reviewed the statements of others chiefly, but found as a general conclusion that there is little doubt that quinin does exert a prophylactic action and its curative action is undeniable. It acts probably by destroying the organism, though there are several theories as to how it is done; whether it works on the spores or on the large intracorpuscular forms or stimulates the phagocytes is as yet not absolutely decided.

Dr. Buchanan, superintendent of the central gaol, Bhagalpur, Bengal, had submitted a series of questions to the medical men in India and received replies. Nearly all were in favor of the prophylactic issue of quinin; some of them have been criticised; hence several special papers were published by the medical officers reporting experiments made with special reference to meeting the criticisms. The results are strongly in favor of the prophylactic issue of the drug. If the statement of Capt. Fearnside, in the *Indian Medical Gazette* of September, 1899, can be substantiated that it prevents the formation of crescents, a very important argument in its favor will be established.

Buchanan has been giving for five years daily a dose of quinin or cinchonidin to, on an average, over 16,000 persons for the four months of the rainy season, and has never seen a single bad result.

Dr. Robert Fielding-Ould disagrees entirely with the idea of giving a regular dose of quinin to prevent malaria. He finds that it disturbs the peptic digestion and is apt to lead to congestion and torpidity of the liver. There are exceptions, he admits, where men can take the drug in quantities for years, but these objections, he thinks, are sufficient to condemn its general use. In conclusion he mentions quinin hemiglobinuria, of which he claims a number of cases are on record.

Other partakers in the discussion expressed varying views. Dr. Manson considered the prophylactic action only a phase of its curative effect and recommended the use of the microscope in future experiments with quinin as a prophylactic. Dr. Rees, superintendent of the London School of Tropical Medicine, found that its prophylactic action, while it did not prevent, markedly reduced the number of attacks and lessened their severity and mortality. He would use it himself if he should return to a malarial country. The majority of the authorities seemed to be in favor of its prophylactic value.

On the Metamorphosis of the Filaria Sanguinis Hominis in Mosquitoes. S. P. James.—The writer reports his own observations and experiments on the metamorphosis of filaria. He thinks that the statement of Dr. Manson that he was able to observe complete metamorphosis in seven days was probably due to the fact that there are a number of species of mosquitoes, some of them much more favorable hosts than others, and that Dr. Manson's experiments were made with one of the latter. He reports his own experiments, showing how he has found the filaria in the proboscis and apparently favoring the view that the filaria pass directly from mosquito to man without having first existed for some time in water. He believes that the genus Anopheles are capable of acting as efficient hosts as well as the species of the Culex.

Notes on the Etiology of Filariasis.—Maitland disagrees with the view that the common origin of filariasis in the human subject is due to mosquitoes, and holds rather that it is a water-borne disease. He adduces in favor of this the fact that the white race in the tropics is comparatively immune, while the native population suffer, that certain communities having a common supply of drinking water suffer severely from the disease while others taking their supply from different sources are not affected. The immunity of the Europeans is due to their habit of drinking only boiled or filtered water. As an example of water transmission he reports the case of four Eurasian boys who took to bathing in and drinking the water from a certain pond and became simultaneously affected with filariasis. He asks: If the theory of inoculation is correct how is it that persons affected with filariasis can live in intimate association with others and not infect them?

A Discussion on Ankylostomiasis.—The anemic affection attributed to ankylostomiasis is discussed by Giles, who has investigated the subject in Assam; there, the mortality is very high alike amongst the indigenous inhabitants and the imported laborers that come to work in the tea plantations. The question whether this increased mortality is due to malaria plus ankylostomiasis advanced by some authors, he does not discuss; his aim was to study the life history of the worm. The recent view as to its absolute harmlessness, he thinks, is erroneous. Of course, where a large portion of the population suffer from the disease many healthy individuals will also have the parasite without necessarily becoming its victim. His own impression is that it is responsible for a formidable mortality and a still greater amount of sickness wherever it exists.

Fearnside has investigated the subject among convicts and finds that about 72 per cent. of the persons in the district investigated harbor the parasite and remain in good health. He thinks that the figures show that the effects of ankylostomiasis are for the most part secondary and not primary. They seldom occur in such numbers as to cause true ankylostomiasis and the bad effects are mainly the results of such disorders as malaria, dysentery, etc., complicated by ankylostomiasis.

Rogers recognized the anemia produced by long-continued small loss of blood through the gastrointestinal mucosa caused by the presence of several hundred ankylostoma acting for several months, or by a still larger number acting for a short time. This is ankylostomiasis, and it is characterized by the reduction of hemoglobin to nearly twice the extent of that of the red corpuscles; while in the disease called kala-azar and in malaria the red corpuscles and hemoglobin are reduced in a parallel manner. This makes a difference in the treatment of the two forms of anemia; in the one the hemoglobin is being drained away and can be replaced only with great difficulty, especially in vegetable-eating people, and in the other hemoglobin is not lost to the system but is stored up in organic combination in the liver and spleen, whence it can be reabsorbed to restock the red corpuscles as they are turned out. Hence, in ankylostomiasis iron is urgently indicated, while arsenic is of less importance; but in the other form arsenic and bone-marrow are specially indicated, while iron is not urgently required.

Baker notices the prevalence of the condition in Burmah, which he attributes to the habits of the population and absence of night-soil sanitation, thus producing infection. Ross holds that the idea that a certain large number of parasites are required to produce the mischief in this condition is erroneous; 50 ankylostoma might destroy a patient already debilitated by other disease or starvation, and he mentions the possibility of the parasites having also toxic effects.

Tropical Liver Abscess. Kenneth Macleod. Sporadic evacuation of abscesses of the liver most commonly occurs along the pulmonary route, the principle of progress in the direction of less resistance coming into play. Whether the abscess bursts into the pleural cavity or erupts into or erodes the lungs or produces a secondary abscess must depend on the extent and strength of protective pleuritis to which the progress of pointing has given rise. When the discharge into the pleura is primary the physical signs are characteristic and exploration can make certain the diagnosis. There is then but one line of treatment, that is, to make a free opening and drain under antisepsis. When it finds its way into the substance of the lung, symptoms of diaphragmatic pleurisy and lung consolidation are superimposed on the liver symptoms and if the latter are well marked exploration through the liver and direct drainage by incision is the proper treatment, but frequently the expectoration of a large quantity of pus is the first sign. In favorable cases it may diminish and the patient may make a complete recovery, but in other cases the pus refills and death with hectic symptoms occurs. The question arises, What should be done in these aggravated cases? He criticises the text-book instruction to always incise and drain through the liver, and urges that in these cases it should be treated as one of lung cavity and exploration and incision made through the chest. He bases his opinion on two grounds:

1. While the lung is undergoing destruction, in the liver repairing changes are taking place. 2. He has frequently seen that method followed without success. His objection is, to sum up the matter in a few words, that in the old-standing cases of lung lesion consequent on hepatic abscess the pathologic burden has been transferred from the abdomen to the chest and the relief measures must be applied accordingly, the lung lesion treated according to special indications of the case, and the liver is left to take care of itself.

Subphrenic Abscess. James Cantlie.—In this article on subphrenic abscess Cantlie describes the symptoms and diagnosis, which may be confused with gall-bladder inflammation, and when the history is not obtainable the surgeon must be prepared to meet either of the conditions. The prognosis is generally good. The treatment consists in simply tapping with a large trocar and drainage by a large tube, but incision when adhesions are known to have formed is free from danger, and in one case in his observations it was eminently satisfactory. He demonstrates in his article the position of the inferior vena cava and states that by a study of frozen sections it is possible to ascertain how deeply the needle of the aspirator or trocar can be carried into the liver without causing untoward consequences from hemorrhage. He finds in a body with a circumference over the hepatic area of 32 inches that the center of the inferior vena cava is from 4¼ to 5 inches off the surface, in a line drawn horizontally from the neighborhood of the xiphosternal articulation to the angles of the ribs behind. Before commencing an exploratory puncture of the liver, therefore, Mr. Cantlie recommends that the circumference of the body be taken, and, starting with the above measurement as a basis, a fairly accurate idea of how deep the puncture may be carried is ascertainable. In a body measuring 32 inches in circumference, it is not safe to penetrate deeper than 3¾ inches in a horizontal direction from anywhere in the line mentioned. For every inch of circumferential measurement above or below the 32 inches, ¼ inch may be added to or subtracted from the depth it is safe to penetrate. Abstraction of blood in inflammatory hepatic derangements Mr. Cantlie regards as most salutary. When the needle enters a large vessel in the liver substance, as judged by the free flow of blood in the bottle, he allows the needle to remain until 6 to 10 ounces of blood are withdrawn. No ill effects follow tapping a vein in this position; it is only when the inferior vena cava, or the trunk of the portal vein before it breaks up in the liver, is wounded that a dangerous hemorrhage is likely to follow. Every puncture of the liver by a needle causes a slight or even considerable flow of blood subsequently into the peritoneal cavity, as he had been able to prove clinically; but in all probability it was this very flow of blood which contributed to the marked benefits usually following liver puncture. The dangers of hepatic hemorrhage are confined to puncturing the inferior vena cava, the extrahepatic portion of the portal vein, or penetrating a mass of malignant tissue occupying the liver.

The Diagnosis and Surgical Treatment of Tropical Liver Abscess. W. Johnson Smith.—The writer holds that exploratory puncture is preferable to laparotomy in case of tropical abscess. He sees no good grounds for opening the abdomen unless the repeated use of the needle and syringe has failed. If the characteristic fluid of a liver abscess be drawn up, an operation for allowing it a free discharge should be immediate. Thoracotomy almost always implies a transpleural incision, and while he has found that in an abscess in front requiring an operation adhesions usually exist, yet in the more frequent form of posterior abscess the lung and liver are usually found quite free, and their respective serous cavities quite open. Consequently in this operation we expose two large serous cavities and that doubles the risk of infection. There is also a risk of permitting ingress of air into the pleural sac, causing lung collapse. Notwithstanding these risks, drainage in suitable and favorable cases has on the whole been satisfactory. The surgeon must guard against the risk of infecting the pleura and peritoneum. He has followed the plan of making a thorough incision in both diaphragm and liver so as to allow a full and uninterrupted discharge of the fluid contained in the abscess. He thinks it would be well to apply our tests for both general and local leucocytosis in every case of liver abscess to see if leucocytosis is present.

Annales de la Soc. Med.-Chir. de Liege, June.

Foreign Bodies in the Lungs. E. Gulikers.—A young man supposed that he had swallowed the metal tip of a pencil, about an inch long, but the total absence of pharyngeal reflexes suggested that it might have passed into the air-passages, and a skiagraph showed it horizontally lodged near the eighth rib. The patient coughed and expectorated in the morning, but was not otherwise disturbed by its presence. He was advised to lie on an inclined plane, head downward, which he did for eight days. At the end of this time he felt the foreign body slip down into his throat and, as instructed, he supported himself on his arms, made slowly a deep inspiration, and then, uttering a bass sound—to open his vocal chords—expelled the foreign body without coughing. In the second case a child had inhaled a toy arrow from a blow-gun—a metal pin 1.75 inches in length, with a tuft at the head. It was expelled six months afterward with a vomica, after an interval of recurring pleurisy, hemoptysis and an almost constant cough.

Bulletin de l' Academie de Medicine (Paris), August 21.

Neuropathic Hematuria. E. Lancereaux.—Hemorrhage may occur in the urinary organs of men and women and in the genital organs of the latter, independent of any material disorder, and due solely to a disturbance in innervation. They are more frequent in neuropathic patients and are generally preceded by fatigue, exposure or violent emotion. The treatment should be addressed to the nervous system, after controlling the hemorrhage, and quinin will be found extremely useful, combined with hydrotherapy. He cites several personal cases in which .8 to 1.5 gm. of quinin sulphate arrested the hematuria in a few days. His patients were mostly rheumatic or hemorrhoidal subjects, and he has noticed that the suppression of hemorrhoidal hemorrhages is a frequent preliminary to hematuria. Zambaco has also noted this latter fact, and mentions that injecting the veins of the rectum in a post-mortem preparation from a hemorrhoidal subject is liable to distend simultaneously the veins in the bladder, which, in one instance, were dilated to actual varices. He concludes by stating that the prognosis of neuropathic hematuria is not grave. Its recurrence may lead to anemia, but symptoms of debility are rare and less pronounced in hematuria from vasomotor disturbances than in hemorrhage of any other origin.

Echo Medical (Lille), August 26.

Traumatic Valvular Lesions of the Heart. Castiaux and Laugier.—Both of these authors are prominent in legal medicine and presented this communication at the International Medical Congress. The main points are as follows: Violent contusions of the thorax, whether from a fall or blow, or compression between two resisting bodies, are capable of producing a valvular lesion even in a healthy heart, and still more easily if the organ be diseased. These valvular lesions are almost always immediate—rupture or laceration—but they may also occur later, and only appear subsequent to a myoendocarditis resulting from the traumatism. When they are immediate they produce insufficiency of the injured orifice from the start, liable to be complicated later with pathologic processes from lesions of the endocardium, of some other orifice or of the large vessels of the heart. The aortic is the valve most frequently injured from this cause—25 out of the 36 cases known to date; next the mitral, with 8, and exceptionally the semilunar with 2 and tricuspid with 1. The physical signs are about the same as those of a spontaneous valvular lesion, but the murmurs are more intense and prolonged and the flaps of the valve or torn chordæ floating in the blood current impart a peculiar tone and vibration to the morbid sounds. The prognosis of traumatic insufficiency is more serious than that of spontaneous lesions and the course of the affection is more rapid. The organ is overwhelmed suddenly. Long survival is, however, possible and even recovery, although extremely rare. When a cardiac affection is the result of external traumatism the responsibility of the author of the injury is singularly aggravated. An unpublished case is described in detail. Besides intense signs of aortic insufficiency, there was a holodiastolic, musical, slightly piping "steam tug" murmur.

Branchial Fistula of the Neck. O. Lambert.—The fistula in question was undoubtedly congenital, but remained latent for fifty-six years, when some infection produced a small abscess in it, with perforation outward, thus disclosing its existence for the first time.

Nord Medical (Lille), August 15.

Connection Between Pure Mitral Stenosis and Heredo-Syphilis. Duvivier.—The etiologic influence of inherited syphilis in the production of pure mitral stenosis was unmistakable in thirty cases which Duvivier has collected in the literature. It was likewise probable in two cases he had occasion to observe in Combemale's service. He agrees with Lancereaux that teratology of the heart is merely the pathology of this organ during intrauterine life, and with Huchard that pure mitral stenosis is always congenital.

Pneumonia in the Aged. Lemoine.—Pneumonia in a fresh and well-preserved elderly person runs the same course as in a young adult, but in senile conditions, or when excesses have ruined the constitution, the course of the pneumonia is quite different. The temperature is less by a degree or more than that of typical pneumonia in the adult. The expectoration is less, the sputa greenish and dirty, and the lesions localized at the apex. Sometimes auscultation is entirely negative; the focus is deep and covered with emphysematous portions of the lung. There are seldom crepitant râles; the large subcrepitant râle is ordinarily the only one to be heard, and this may not make its appearance until the close of the disease. Some cases progress to the fourth or fifth day with no manifestations except dry tongue, red at the edges, and temperature not over 38.5 C. The first indication is to diminish the afflux of blood and relieve the distress in breathing. The only revulsive that can be used on these feeble subjects is extensive dry cupping, daily repeated. Puncture is hazardous and respiratory stimulants are preferable. For this Lemoine administers 2 to 6 gm. of ammonium acetate in syrup during the twenty-four hours. It acts directly on the respiratory centers and increases the diuresis. He sustains the heart and general system with digitalis and alcohol. In case of persons habituated to the use of alcohol, musk will be found a powerful substitute tonic. He prescribes .5 gm. musk mixed with one yolk of egg and 150 gm. water, given by the mouth. Or it can be taken in two cachets, .25 gm. each. Give liquid food if possible, preferably milk. It is important to facilitate expectoration, but the usual measures can not be used in these cases, and the best results are attained by administering a stimulant, such as strychnin.

Presse Medicale (Paris), August 22 and 29.

False Cures of Pleurisy. E. Sergent.—A young woman with metapneumonic interlobar pleurisy was apparently cured in consequence of the spontaneous discharge from a vomica auscultated in the middle, posterior axillary region. Pure cultures of pneumococci were obtained from the pus. Two weeks later her right arm was temporarily paralyzed. Although otherwise healthy, the persistence of a vesicular murmur at the point of the vomica suggested that it had not completely healed. During the following year this opinion was confirmed by a rebellious cough, occasional spitting of blood and pus, fever and other symptoms indicating possible tuberculous infection, although the apices were normal. Seventeen months after the primary vomica the patient coughed up a bunch of "membranes and skin and something that looked like strips of tripe." From this moment all symptoms ceased, and the cure has been radical and permanent.

Diffuse Symmetrical Lipomatosis. C. Pestemazoglu.—Two cases are described, and one illustrated, showing the large symmetrical lipomatous masses above the nipples, front and back, and on the median line above, also on the neck. One of the patients had been operated on a few years before and had had a large interscapular lipoma removed. They begged to be relieved of their encumbrances, and five of the masses were removed from one patient. They were not encapsulated, and it was impossible to make the operation complete, as the fat extended behind the muscles, etc. The presternal mass had already commenced to grow again two months after the operation.

Progres Medical (Paris), August 25.

Graft of Severed Terminal Phalanx of Thumb. Salomon.—In a number of cases in which the end of a thumb or finger had been totally severed, Salomon failed to obtain complete restoration of the severed portion until he commenced to use asepsis instead of antisepsis. Since then he has had invariable success, even when a large portion of the finger had been lost. He first keeps the hand for three-quarters of an hour immersed in very hot sterilized water, occasionally renewed, to which a little alcohol has been added. Four catgut stitches then hold the severed portion in place and the finger is packed in cotton.

Semaine Medicale (Paris), August 29.

Overlapping of Auricular and Ventricular Systoles. Potain.—The propulsion produced at the apex during the moment preceding the closing of the auriculo-ventricular valves, and the first bruit is attributed by Potain to the distension of the ventricle by the systole of the auricle. Others ascribe it to the systole of the ventricle itself, and Bard has recently announced that it is due to the overlapping of the systoles, the ventricular systole anticipating the end of the auricular systole, causing what he calls the *"chevauchement des systoles."* It is due, he believes, to the resistance to the closing of the mitral valve on the part of the hypertrophied auricle. He states that palpation reveals a characteristic hardness at the precordial region just before the closing of the valves, which indicates a contraction of the ventricle—an active and not a passive phenomenon. It does seem as if this "dome shock" were too considerable to be attributed to the contraction of the "despised" auricle alone, as Potain admits. He observes that if he trusted to his impressions alone he would be dubious, but that the Marey instruments positively establish that the true début of the ventricular systole and the true first bruit are synchronous; that the presystolic thrill is a direct result and a sign of mitral stenosis, and that—in spite of appearances to the contrary and his personal impressions—he is convinced that the "choc en dome" is a phenomenon of auricular origin.

Centralbatt f. Chirurgie (Leipsic), August 25 and September 1.

Thermorphor With Ether Mask. Longard.—The ether mask described by this author in the Centralblatt, No. 48, 1898, was found to have the disadvantage that the air condensed inside and ice crystals were liable to form from the evaporation of the ether. This is obviated by a ring-shaped thermophor made to fit around the edge between the netting and the cover, which keeps the temperature considerably above the freezing-point.

Rattan Splints. H. Sarfert.—Wicker-work splints have been found desirable from every point of view by Sarfert, who recommends them on account of their lightness, durability, inexpensiveness, elasticity and porosity for military, general hospital and emergency use.

September 1.

Plastic Restoration of Lower Jaw. W. Sykoff.—A chin was restored after an extensive defect consecutive to noma, by cutting a rectangular piece out of the largest side of the lower maxillary bone and slipping it along to bridge the defect, the farther end resting in a groove hollowed out for it in the other half of the bone. The results were highly satisfactory. A fragment of rib, with the periosteum, would probably have done equally well.

Deutsche Medicinische Wochenschrift (Leipsic), August 30.

Queirolo's Method of Outlining the Stomach. P. Edel.—Comparison of the findings with Queirolo's method and with the other methods in vogue shows that they are identical in the results attained. The former may prove useful at times as a supplementary measure, but in general, inflating the stomach with CO_2 generated by tartaric acid and sodium bicarbonate is sufficient and reliable. Queirolo introduces a sound into the stomach, the lower end of which is inserted in a small bladder. The sound communicates above with a two-branched rubber tube. One branch connects with a Marey drum, the other with the outer air, and through it the bladder is inflated. Percussion over the abdomen does not stir the index, but the moment the limits of the stomach are reached the drum records it at once. The organ can thus be outlined with comparatively little trouble. In one case of stenosis of the pylorus it was impossible to locate the stomach limits by any other method. Percussion is not reliable with an entirely empty stomach. Air or fluid is necessary for the test.

Differentiation of Aneurysms With Radiography. E. Gebauer.—A patient in Grawitz's service, with evidences of an intrathoracic tumor or aneurysm of the aorta, showed on the fluorescent screen a distinctly pulsating tumor just above the heart. The diagnosis of aneurysm of the aorta was made, but the autopsy disclosed a carcinoma of the esophagus, with perforation into the lung, and metastases above. The left bronchus had become adherent to the arch of the aorta, inducing Oliver's sign. The simulated pulsation must have been caused by the rising of the metastatic tumor with the systole of the aorta, and the sidewise movement of the primary tumor with the systole of the descending aorta, to which it was adherent.

Diphtheritic Vulvo-Vaginitis. L. Silberstein.—A case was reported in 1898 of gangrenous vulvo-vaginitis cured with diphtheria antitoxin. It proved equally effectual in the case described in this communication. Two injections of 1000 units were made, it being known that the patient, a child of 4½ years, had been exposed to diphtheria.

Muenchener Medicinische Wochenschrift, August 28.

Significance of the Diazo-Reaction in Tuberculosis. P. F. Becker.—A positive reaction to the diazo test is not necessarily of serious import. It sometimes occurs in tuberculous subjects in connection with some slight intercurrent complication such as diarrhea, and consequently an isolated positive reaction should not be accepted as evidence of a grave prognosis under all circumstances. When it occurs in a disease not usually accompanied by it a complication of an infectious character may be assumed. Certain cases respond with a dubious reaction to the test. The green color is most intense in these dubious cases when positive, but there is a slight greenish tint even with a negative reaction.

Acute Osteomyelitis of the Atlas. Eichel.—Two cases are described in detail, the diagnosis based on the pains, increased by jolting in a wagon or car, the attitude of the head and the neuralgic pains, in one case in the region of the supraorbital nerve. Temperature 38.4 C. Eichel observes that with these symptoms and swelling of the back of the neck, he would operate without waiting for fluctuation, in order to forestall perforation of the pus into the spinal canal. In case tuberculous alterations are discovered he suspends the operation at once and resorts to immobilization and extension as usual, but would not allow the possibility of this contingency to deter him from operating.

Joint and Cutaneous Metastases With Blenorrhea Neonatorum. J. Paulsen.—Pure gonococcus metastases occurred in the joints of a 2-months babe, consecutive to gonorrheal ophthalmia. The skin around the affected joints became edematous, and finally exanthemata appeared, evidently due to invasion from the deeper tissues. One knee required operation and the gonococcus was found pure in the pus and in the surrounding exanthem. Complete restitution was obtained.

Tetanus and Intestinal Occlusion. Krey.—No serum was given in the severe case of traumatic tetanus reported. The case was complicated by acute occlusion from intussusception of the small intestine, requiring laparotomy. The tetanus continued its course for two weeks longer, and then gradually subsided.

Virchow's Archiv f. Path. Anat. (Berlin), July 7.

Criticism of Koch's Malarial Research. J. H. F. Kohlbrugge.—The author of this communication is privat docent of climatology and tropical diseases at Utrecht, and practiced medicine for many years in Java. He claims that Koch's assertions in regard to the immunity against malaria probably acquired in time by natives and foreigners contradict the experience of all practitioners in tropical countries. The longer the residence the more severe the attacks, as a rule. The weak die off and those who survive—of either native children or imported foreigners—are the congenitally more resistant, the êlite of more or less naturally immune individuals. He also objects to Koch's deductions that because apes—"the animals closest to man"—proved refractory to malarial inoculations, it is scarcely probable that other animals will prove susceptible. Anthropoids, he points out, are far less close to man, toxicologically at least, than a number of other animals, especially dogs. He asks why Koch did not go to some true malaria-infested district in Java, such as the Djoewana coast, with its 222,000 inhabitants. The report from this district for 1899 stated that 22,000 persons were "down with malaria and the people are dying like rats." Practically the same report is received each year. The population scarcely changes, and it is evident that no immunity has been acquired. The *Deutsche Med. Wochenschrift*, which has published Koch's reports to the Imperial Health Bureau, has refused to insert this or Nuttall's critical articles in Koch's absence.

Wiener Klinische Rundschau, August 26.

Death After Resection of Jugular Vein. C. Ewald.—While a patient in Albert's clinic was having the pharynx and tongue resected, it was found necessary to resect the internal jugular vein on both sides. There was an anastomosis between the internal and anterior jugular veins on one side. The patient had been operated on in a half-sitting posture, and the operation lasted from thirty to forty-five minutes longer. When raised erect to apply the bandages he became cyanotic, but soon recovered. Placed in bed on an inclined plane—head downward—to prevent aspiration of the secretions, the pulse and respiration were normal, but in half an hour he became blue, and raising him erect had no effect. The color gradually returned to normal, but the heart action became weaker and, in spite of artificial respiration and other measures, death ensued in an hour. The face and trunk had become so pale that an internal hemorrhage was surmised, but none was discovered. The dura mater was found pale and the longitudinal sinus empty. The vena cava, portal vein and the viscera were gorged with blood, the heart in fatty degeneration. The brain was edematous and anemic. Ewald attributes the fatal termination to vasomotor disturbances. The cyanosis occasionally noted after resection of both internal jugular veins usually passes away spontaneously in a few days.

Transplantation of Flaps for Atresia Vaginae. S. G. Schalita.—The disadvantages of the usual methods of making a new vagina or curing defects are obviated by the method described by Schalita. He hollows out the passage and dilates it with a speculum for a day or so. Then he inserts a speculum with large fenestræ and applies flaps of mucous membrane taken from the labia or elsewhere to the exposed portions of the vaginal wall. A second plain speculum, a size smaller than the other, is introduced inside the first, to prevent the protrusion of the walls through the opening. Both are left undisturbed for a time and then replaced with a simple speculum. In a case described, the epithelium proliferated in all directions from the flaps, which, with scarcely an exception, healed perfectly in place.

Phosphorus Necrosis. J. Levai.—The arguments presented by Levai demonstrate that the necrosis of the bones in consequence of chronic intoxication with phosphorus is caused primarily by pathologic alterations in the vessels. The direct occasion of the necrosis is some external cause, usually an infection.

Wiener Klinische Wochenschrift, August 30.

Pathogenesis of Icterus. Browicz.—This communication summarizes the results of extensive clinical and experimental research, and was read at the Polish Medical Congress which met at Cracow, July 23. It attributes icterus to an increased functional activity of the normal liver cells, which, under the stimulus of various influences, take up immoderate quantities of food and function-material, especially hemoglobin, and work it over into an excessive output of bile, and of bile-pigment in particular. This excess of bile can be produced only by a normally active, healthy liver cell. The surplus secretion of bile passes into the intercellular biliary passages and is thence absorbed through the walls of the blood capillaries in the acini into the circulation. There is much less proportional absorption through the lymph vessels in the larger biliary passages. This conception of the increased function of normal liver cells and immoderate production of bile explains all varieties of icterus, even the most apparently diverse.

St. Petersburger Medicinische Wochenschrift, August 23.

Acute Polyarthritis Consecutive to Angina Lacunaris. Woloshintsky.—The parents, six children and the cook in a family in Riga passed through a house epidemic of angina lacunaris, and in three of the members acute or subacute articular rheumatism developed in three to six days. The author also had occasion to treat four cases of abortive acute articular rheumatism last year, occurring two to six days after the commencement of a typical angina lacunaris. He ranks the latter as an essential, morbid entity, with general and local symptoms, entirely distinct from the angina of scarlet fever, etc. Pyogenic cocci are always found in it. The joints may be the seat of suppurative processes in genuine articular rheumatism and the clinical picture of pyemia be superposed. In the same way, on the other hand, pure pyemic processes may appear simulating polyarthritis, and it is difficult, even at the autopsy, to determine the primary affection. The frequent complication of erysipelas with polyarthritis supports the assumption of the pyogenic etiology of articular rheumatism.

Anales de Oftalmologia (Mexico), August.

Experimental Study of the Minimum Visual Angle. P. De Obarrio.—In an attempt to repeat and control Wuelfing's experiments and determine the influence of colors on the appreciation of the minimum angle, Obarrio has learned that the minimum visual angle is much smaller than we have been accustomed to assume hitherto, also that the use of colors has no influence on the appreciation of this angle.

Change of Address.

L. C. Bacon, 556 Selby Ave., to 737 Fairmount St., St. Paul, Minn.

R. G. Barnsdale, 420 Main St., Stevens Point, to West Superior, Wis.

E. W. Baum, 3200 Wallace St., to 1129 Lill Ave., Chicago.

C. M. Beall, 1469, to 1259 Kenesaw Ave., Washington, D. C.

Maxwell Benjamin, 196 Alex. Ave., to 30 W. 126th St., New York City.

C. Bock, Petoskey, Mich., to Ft. Wayne, Ind.

Carl Booth, Barnes Medical College, to 3202 Pine St., St. Louis, Mo.

B. J. Callahan, Humboldt, to 521 Locust St., Des Moines, Iowa.

Julia W. Carpenter, Rock Ridge, Watch Hill, R. I., to 908 E. McMillan St., Cincinnati, Ohio.

G. W. Drake, Monteagle, Tenn., to Hollins, Va.

C. M. Dumm, 540 Shaw Ave., McKeesport, to Allegheny County Home, Woodville, Pa.

J. W. Duncan, Gay and Vine Sts., Knoxville, Tenn., to 101½ Whitehall St., Atlanta, Ga.

J. M. Eisenbise, Lawrence, to Fairview, Kan.

W. W. Fugitt, Denton, to Burtonville, Ky.

M. D. Gibbs, Altman, to Touraine, Col.

H. K. Gorsuch, 808 N. Carrollton Ave., to N. W. Cor. Biddle and McCulloch, Sts., Baltimore, Md.

S. P. Hart, Auburn, to Waverly, Ill.

D. M. Harvey, 419 Third St., to 195 S. Park St., San Francisco, Cal.

Edwin C. Hixon, Nonquitt, to 1174 Massachusetts Ave., Cambridge, Mass.

W. B. Holden, 42 Hanover, to 210 Kalamazoo St., Battle Creek, Mich.

H. P. Howard, Alexandria, to Lexington, Va.

T. V. Hubbard, Fitten Bldg., to Austell Bldg., Atlanta, Ga.

P. H. Irish, Brainerd, to Akely, Minn.

D. J. Jones, Lisbon, to Girard, Ohio.

H. H. Kleinpell, 213 S. Hoyne Ave., to 35 Rush St., Chicago.

I. N. Love, 4661 Maryland Ave., St. Louis, Mo., to Hotel Iroquois, New York City.

C. F. McGahan, Bethlehem, N. H., to Aiken, S. C.

J. B. Mears, Keller, to University of Virginia, Charlottesville, Va.

C. B. Miller, Scranton, to Vinland, Kan.

E. L. Mitchell, Roseville, to Monmouth, Ill.

Thor. Moeller, Hillsboro, to St. John, N. D.

J. H. Oakley, M. H. S., Queenstown, Ireland, to U. S. Marine-Hospital Service, Evansville, Ind.

W. J. Pinkerton, Ludlow, to 3912 Cottage Grove Ave., Chicago.

E. D. Piper, 2141 Jackson Boul., to 3521 S. Hermitage Ave., Chicago.

J. P. Prestley, 1273 VanBuren, to 1361 Harvard St., Chicago.

W. M. Reitzel, Bremen, to Waterville, Kan.

E. B. Rhodes, Vassar, to 36 Mt. Union St., E., Cleveland, Ohio.

G. F. Seaman, 209 19th St., to 315 Goldsmith Bldg., Milwaukee, Wis.

F. E. Sellers, Mauzy, to University of Virginia, Charlottesville, Va.

J. N. Shaff, 856 Polk St., to 766 N. Park Ave., Chicago.

E. A. Sherrer, San Carlos, to Ft. Grant, Ariz.

J. G. Spenzer, 341½ Prospect St., to 716 Rose Bldg., Cleveland, Ohio.

A. M. Underwood, Grove Beach, Conn., to Lancaster, Pa.

W. S. Wells, Ney, Ohio, to Adamsville, R. I.

Elizabeth White, St. Luke's Hospital, New York City, to Romney, W. Va.

L. D. Wilson, 12th St., to 1132 Chapline St., Wheeling, W. Va.

C. W. Womack, Tullahoma, Tenn., to S. A. F., College, San Antonio, Tex.

H. A. Wright, Linkville, Ore., to Wilbur, Wash.

Queries and Minor Notes.

ANXIOUS TO BE A QUACK.

The following is clipped from a Chicago newspaper; the last qualification, certainly, ought to get the position desired:

Situation Wanted—By physician with an advertising specialist; competent to conduct correspondence, hold the chair, and good fee-taker.

COMMISSION TO OPHTHALMIC SURGEONS.

Atlanta, Ga., Sept. 14, 1900.

To the Editor:—Six years ago, when I began the practice of ophthalmology in this city, the leading optical house approached me with the proposition that if I would send to them all of my prescription work they would allow me one-third of the amount paid them by the patient on each prescription, and at the end of the month send me a check on this basis for the number of prescriptions received. I immediately declined such an offer on the grounds that it was dishonest to make the patient pay me twice; rather preferring the reduction should be made in favor of the patient at the time of purchasing the glasses. This rule I have strictly adhered to, although the opticians will not give this reduction to the purchaser, claiming that they cannot afford to have two prices for customers. This same optical house has recently told me that such a contract between oculist and optician is practiced in all the large cities, as New York and Chicago, and this, too, by the leading men in the profession. I should certainly like to know the truth of this statement and whether such practices are considered ethical Dunbar Roy.

Ans.—The above query was submitted to Dr. Casey A. Wood, editor of the *Ophthalmic Record*, who sends the following reply:

"Dr. Dunbar Roy's query may, so far as it relates to the city of Chicago, be safely answered in the negative. It is not a common practice for the optician to pay the ophthalmic surgeon a commission on glasses furnished by him, nor would such a practice be considered ethical. I believe I am voicing the sentiment of the profession in this city when I say that such a doubtful method could not be generally practiced and be long kept a secret. A number of perfectly reputable ophthalmologists furnish glasses to their patients just as certain other physicians dispense their own drugs, and doubtless there are arguments that may be advanced in favor of this plan, but I am not acquainted with a single confrère who is willing to defend the practice of accepting commissions from the optician. If one exists, Dr. Roy's note furnishes an excellent opportunity for him to come forward and show cause for such conduct. Casey A. Wood, M.D."

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 29 to September 4, 1900, inclusive:

William F. Bernart, acting asst.-surgeon, relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., for annulment of contract.

George M. Bradfield, acting asst.-surgeon, previous orders revoked; on being relieved by Acting Asst.-Surgeon Harold W. Cowper, he will proceed to Philadelphia, Pa., for annulment of contract.

Henry R. Carter, jr., acting asst.-surgeon, relieved from the Department of the Columbia for assignment with troops going on foreign service.

Harold W. Cowper, acting asst.-surgeon, from the Department of Porto Rico to Fort Ontario, N. Y., to relieve Acting Asst.-Surgeon Bradfield.

Joseph J. Curry, acting asst.-surgeon, now at Zanesville, Ohio, on the expiration of his present sick leave to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Orlando Ducker, major and surgeon, U. S. Vols., honorably discharged from service, to take effect September 30, 1900.

Thomas G. Holmes, acting asst.-surgeon, from Fort Wright, Wash., to acompany Cops. "B" and "M," 24th U. S. Infantry, to Manila, P. I.

David J. Johnson, acting asst.-surgeon, previous orders revoked.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board to prepare a comprehensive plan for the location of new buildings, roads and walks at Fort Hamilton, N. Y.

Elmer E. Mansfield, acting asst.-surgeon, from Wilmer to San Antonio, Tex., for duty with the 25th U. S. Infantry under orders for foreign service.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., previous orders revoked; leave of absence granted.

William J. S. Stewart, acting asst.-surgeon, from Vineyard Haven, Mass., to Fort Slocum, N. Y., to accompany recruits to the Philippine Islands.

Charles K. Winne, major and surgeon, U. S. A., from Fort Crook, Nebr., to duty at Fort Porter, N. Y.

Marshall W. Wood, major and surgeon, U. S. A., leave of absence granted.

The following acting assistant-surgeons have been directed to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops destined for foreign service: Charles L. Baker, Duffield, West Va.; John L. Burkart, Grand Rapids, Mich.; Max F. Clausius, Barrington, Ill.; Samuel C. Lindsay, Salineville, Ohio; Irvine W. Patton, Huntsville, Ala.; George M. Ekwurzel, Philadelphia, Pa.; Charles A. Ross, Leopold, Ind.; Charles R. Reynolds, Philadelphia, Pa.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Sept. 8, 1900:

Asst.-Surgeon E. V. Armstrong, granted sick leave for one month.

P. A. Surgeon C. M. DeValin, ordered to additional duty at the navy yard, Portsmouth, N. H.

Asst.-Surgeon A. G. Grunwell, detached from the *Monocacy* and ordered to the *Brooklyn* by commander-in-chief of Asiatic Station.

Asst.-Surgeon T. M. Lippitt, detached from the *Newark* and ordered to the *Monocacy*.

Surgeon A. C. H. Russell, detached from the naval hospital, Yokohama, Japan, and ordered to proceed home and to wait orders.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commisioned officers for the U. S. Marine-Hospital service for the seven days ending Sept. 6, 1900:

Surgeon D. A. Carmichael, detailed as chief quarantine officer Territory of Hawaii.

Surgeon J. H. White, to proceed to New York City, for special temporary duty.

P. A. Surgeon A. R. Thomas, relieved from duty at London, England, and assigned to duty in the office of the U. S. consul at Glasgow, Scotland.

Asst.-Surgeon C. H. Lavinder, detailed as chief quarantine officer of Porto Rico.

Asst.-Surgeon J. F., Anderson, relieved from duty at Vienna, Austria, and assigned to duty in the office of the U. S. Consul-General at London, England.

Asst.-Surgeon J. W. Kerr, relieved from duty at Honolulu, H. I., and directed to proceed to Hongkong, China, for duty in the office of the U. S. consul.

Asst.-Surgeon G. M. Corput, granted five days' extension of leave of absence.

Hospital Steward E. S. Maguire, upon being relieved by Hospital Steward Charles Miller, to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward Charles Miller, relieved from duty at Detroit, Mich., and directed to proceed to New York (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Hospital Steward C. H. Woods, relieved from duty at Cairo, Ill., and directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward H. V. LaGrange, on expiration of leave of absence relieved from duty at Fort Stanton, N. M., and directed to proceed to Cairo, Ill.. and report to medical officer in command for duty and assignment to quarters.

Hospital Steward Edward Rogers, upon being relieved by Hospital Steward C. H. Woods, to proceed to Detroit, Mich., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward Mark H. Watters, directed to report to medical officer in command at Chicago, Ill., for temporary duty and assignment to quarters.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Sept. 8, 1900:

SMALLPOX—UNITED STATES

Alaska: Nome, Aug. 11, 6 cases.

Louisiana: New Orleans, Aug. 25-Sept. 1, 4 cases, 1 death.

Minnesota: Minneapolis, Aug. 18-25, 2 cases; Winona, Aug. 21-28, 2 cases.

Ohio: Cleveland, Aug. 26-Sept. 1, 9 cases; Portsmouth, Aug. 26-Sept. 1, 3 cases.

Utah: Salt Lake City, Aug. 19-Sept. 1, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 11-18, 1 case.

Brazil: Pernambuco, July 1-15, 1 death.

England: Liverpool, Aug. 11-18, 2 cases.

France: Paris, Aug. 5-18, 5 deaths.

Gibraltar: Aug. 12-19, 1 case.

India: Calcutta, July 28-Aug. 4, 10 deaths; Madras, July 28-Aug. 3, 2 deaths.

Japan: Formosa, June 1-30, 39 cases, 3 deaths.

Mexico: City of Mexico, Aug. 19-26, 8 cases, 1 death; Vera Cruz, Aug. 19-Sept. 1, 2 deaths.

Russia: Moscow, Aug. 5-11, 4 cases; Odessa, Aug. 11-18, 8 cases, 5 deaths; Warsaw, Aug. 4-11, 6 deaths.

Scotland: Dundee, Aug. 19-25, 1 case; Glasgow, Aug. 17-24, 28 cases.

Spain: Corunna, Aug. 11-18, 1 death; Madrid, July 28-Aug. 11, 63 deaths.

YELLOW FEVER

Colombia: Bocas del Toro, Sept. 1, 1 case; Cartagena, Aug. 3-17, 3 cases, 3 deaths; Panama, Aug. 20-27, 3 cases, 1 death.

Cuba: Batabona, Aug. 18-25, 1 case; Havana, Aug. 15-20, 9 cases.

Mexico: City of Mexico, Aug. 19-26, 1 death; Vera Cruz, Aug. 19-Sept. 1, 23 deaths.

West Africa: Dakar, Aug. 15, 14 cases; St. Louis, Aug. 15, 24 cases, 2 deaths.

CHOLERA

India: Calcutta, July 28-Aug. 4, 18 deaths; Madras, July 27-Aug. 3, 13 deaths.

Japan: Yokohama, July 28-Aug. 4, 1 case.

PLAGUE

China: Amoy, July 7-28, 1150 deaths; Hongkong, July 14-28, 78 deaths.

India: Calcutta, July 28-Aug. 4, 41 deaths.

Japan: Formosa, June 1-July 26, 167 cases, 135 deaths.

Philippines: Manila, July 10-17, 1 death.

Straits Settlements: Singapore, July 14-21, 1 death.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

Postage in the United States and Canada, Mexico, Hawaii, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, SEPTEMBER 29, 1900. No. 13

Original Articles.

TECHNIQUE OF VAGINAL EXTIRPATION FOR CANCER OF THE CERVIX BY LIGATURE ONLY*

RUFUS B. HALL, A.M., M.D.
CINCINNATI, OHIO.

It would hardly seem necessary before this audience to emphasize the importance of careful preparation of the patient before subjecting her to such a serious operation as the one to be considered. Yet this is a very important element in the after-management and in bringing a case of hysterectomy for cancer to a successful termination. These patients should be as carefully prepared for the operation as though they were about to be subjected to an abdominal section. It is especially desirous that the function of the kidneys be carefully investigated in every instance and every defect noted and corrected if possible. It is always advantageous in this preliminary treatment to keep the patient under observation for a few days.

The anesthetic selected should be chloroform in every instance, unless it is contraindicated from heart lesions, or, as is the case in rare instances, where the patient does not take the chloroform kindly. Then ether should be substituted.

The extreme lithotomy position should be used. The perineum should be retracted by a short, broad speculum. An instrument with a blade an inch and three-quarters long and an inch and a half to two inches broad is to be preferred, with such other retractors as the operator may deem necessary. The writer uses one or two narrow short-beaked retractors.

If the disease in the cervix is a large sloughing mass with or without severe hemorrhage, or if it is an epithelioma filling the upper half of the vagina, it is advantageous to do the operation in two stages. First, give an anesthetic and with a sharp curette cut away all of the soft tissue, and then with a thermocautery cauterize deeply all the raw surface. Postpone the radical operation for ten days or two weeks. At this time it will be found that there is an apparently healthy granulating surface, greatly contracted, and with none of that disagreeable stench which is always present in the condition just described. By this plan there will be less danger of infection. If the case is one that has recently lost much blood and still continues to bleed, this will stop the bleeding and give time to recuperate her strength somewhat. If it is proposed to do the radical operation the patient should be properly prepared and anesthetized, and then placed in the lithotomy position with the "clover crutch" applied. There should be an assistant standing at each side of the patient to steady the limbs and assist in holding the retractors, instruments, etc. The vagina should be thoroughly cleansed, the sharp curette again used and all the soft tissue cut away. The uterus should be curetted when indicated. The raw surface should again be cauterized with the thermocautery, and the vagina again thoroughly cleansed and irrigated with a 1 to 1000 solution of bichlorid of mercury.

It has been asserted with great positiveness by Cheyne and others that in operations for cancer, where the operator is compelled to cut through the cancerous tissue, there is great danger of disseminating cancerous cells over healthy tissue in the subsequent steps of the operation. This is the probable cause of recurrence later in a great many instances. Whether we accept this view or not, the thorough curetting and subsequent cauterizing, by preventing infection, adds to the safety of the patient. This also prevents bringing the cancerous tissue in contact with the healthy tissues in the subsequent steps of the radical operation.

The cervix should be fixed with a strong vulsellum forceps. The vaginal mucous membrane should be divided clear around the cervix with a knife or scissors. It should be divided a good, safe distance from the diseased area, usually a half inch or more, as indicated by the extension of the disease, and this cuff-like piece of mucous membrane then dissected back to its attachment to the uterus. This can be readily done by blunt dissection, with an occasional nick with the scissors. The bladder is detached from the uterus and the peritoneal cavity opened in front. The right and left index fingers are placed in the wound and widely separated. This part of the operation should be carefully carried out so as to push the ureters with the adjacent tissues far aside. As soon as this has been accomplished, a gauze pad 3½ by 5 inches, with a stout ligature attached, is passed into the peritoneal cavity and left resting on the uterus. The peritoneal cavity is again opened behind the uterus and the tissues pushed laterally as far as possible. The uterus now remains attached to the broad ligaments only. The operator places his first ligature at this stage of the operation. This should be a very heavy silk twist and the same material used for all the ligatures. The writer usually uses the Cleveland ligature-carrier for this purpose. He has a trusted assistant sitting to his left, whose duty it is to place the ligature in the carrier.

If the disease is more marked on one side of the uterus than it is on the other, which is usually true, he selects the healthy side for his first ligature. This is tied tightly, including a bite of tissue not thicker than a lead pencil. When the knot is thoroughly secured the tissue included is divided, leaving a good button of tissue to prevent slipping of the ligature, and one end cut short. If the disease is not far advanced, a ligature can be placed on the opposite side and treated likewise.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

This can be repeated, going from one side to the other alternately, the uterus gradually descending, until the operator is able to pass a ligature over the top of the broad ligament on one side. For this maneuver the Rickett's ligature-carrier is the best I have seen. Every ligature must be tied as carefully as though the operator expected to secure one of the main arteries in its bite. This is the only way to insure perfect hemostasis. It is important not to secure too large a bite of tissue in any one ligature. As soon as one broad ligament has been divided, the uterus can be turned aside and brought out of the vagina. Then the remaining broad ligament can be ligated from above and the ligature placed outside of the ovary and tube. This is important from the fact that the tubes are favorite channels for the extension of malignant disease. Therefore the tubes and ovaries should always be removed in cancer of the uterus. It is not always possible to place the ligature outside of the ovary and tube before the first broad ligament is divided, but after the uterus has been removed, as indicated, the operator can readily place a second ligature beyond the ovary and tube of the first broad ligament divided, and remove them. In this operation there will frequently, in fact, usually, be from six to ten ligatures on either side. The operation is almost a bloodless one. It is very unusual indeed for a patient to lose more than an ounce or two of blood.

The gauze pads placed early in the operation come into view now. They serve to protect the intestines and omentum and to prevent them from coming into the field of operation. They also absorb any blood that is lost during the operation. The bunch of ligatures on either side are now secured by tying one of the ligatures around the rest on that side, and are given into the care of the assistant. The peritoneal edges of the wound are united at the pelvic brim above the ligatures in the following manner:

A Hagedorn needle is threaded with catgut and passed through the anterior flap of the peritoneum near the angle. It then catches up the peritoneum on the broad ligament half an inch beyond the last ligature, then again catches up the peritoneum on the posterior wall near the angle. The ligature is then knotted. This brings peritoneum to peritoneum beyond the topmost ligature. This stitch is continued from one peritoneal flap to another in a running suture until the middle line is reached, then it is drawn taut. This ligature is given into the hands of an assistant. A like maneuver is carried out on the opposite side, except that the ligature is not drawn taut until after the gauze pads are removed. The gauze sponges are removed from the peritoneal cavity, and with a bit of gauze in the bite of a forceps the blood, if any, is removed from the pelvic cavity. By pulling on the ends of the catgut ligatures the peritoneum is nicely adjusted throughout from one pelvic brim to the other, but not so tightly that the blood can not escape from the pelvis for the first few hours. The two ends of the catgut are in apposition in the middle line, and are knotted and cut short. The vagina is packed snugly with iodoform gauze resting against the peritoneum. This is not disturbed for four days, during which time the patient is catheterized as occasion may require. The gauze is removed on the fourth day and not replaced, and the patient is given a hot vaginal douche. This is repeated at short intervals and she is permitted to void her urine.

The use of the ligature in this operation in place of the clamp is a distinct advance in surgery and should always be preferred. There is less suffering and an easier convalescence. In the operation with the ligature, if the disease is far advanced on one side, the operator can place the ligatures on the healthy side until he divides the broad ligament and turns the uterus out of the vagina. He can then work from above downward and enucleate the indurated cancerous tissue far out into the broad ligament. This maneuver would be totally impossible by the clamp method. The writer has performed this feat on a number of occasions and has been surprised at the ease with which it was accomplished on cases that would have to be refused operation by the clamp method, or the operator would be compelled to leave the cancerous tissue in the broad ligament.

The danger of dividing the ureters is always present, but the writer does not believe that it is always necessary to pass a bougie into the ureter. By opening the peritoneal cavity freely in front and pressing the tissues and ureters far from the middle line, with ordinary care, it would be rare indeed that a ureter would be ligated or divided in a case that should legitimately be operated on for cancer.

One of the great advantages in operating with the ligature is the fact that the peritoneum can be closed as accurately after the operation as in a median section. This is thoroughly closed by plastic exudation long before pus is formed, thus closing the cavity from danger of infection. If the gauze packing is allowed to remain three or four days, the peritoneum will be thoroughly united and the danger of infection and subsequent intestinal obstruction will be very small. Not a single case of infection or obstruction has occurred in something over 100 operations made by the writer.

ABDOMINAL VS. VAGINAL HYSTERECTOMY FOR UTERINE CARCINOMA.*

JOHN B. DEAVER, M.D.
SURGEON-IN-CHIEF OF THE GERMAN HOSPITAL,
PHILADELPHIA.

The choice of route for hysterectomy must be selected for each case. It is my desire to present a concise résumé of the reasons for each, and the advantages they offer in the cases to which they are applicable.

The views laid down are those of the general surgeon, and are based on an experience in this work that justifies, I think, an opinion. It has been claimed that vaginal hysterectomy is an operation that requires special training and attention to detail and technique which can only be acquired by the specialist. I can not, however, allow this statement to go unchallenged, for I believe that the general surgeon, with his larger field and constant application to detailed technique, is equally well, if not better, equipped to perform every operation of gynecology than is the specialist himself.

Who to-day, but in exceptional instances, would dream of amputating a carcinomatous mammary gland and leave *in situ* the axillary chains of lymphatics whether they be macroscopically infected or not, and yet how many of the leaders of gynecology recommend or perform themselves the complete operation for carcinoma of the uterus? Carcinoma of the uterus is a very common disease, not more so to-day than formerly, but with increased knowledge and diagnostic skill we are able to discover and remove, in good time, uteri that otherwise would soon end in the destruction of the patient.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I favor and perform abdominal hysterectomy for the great majority of cases of uterine carcinoma, although I grant there are cases where the vaginal operation may be the better. That the vaginal operation offers any advantages over the abdominal route is with me a question. I know of no condition indicating vaginal hysterectomy which possibly can not be better dealt with by the abdominal route.

For the sake of clearness and logical reasoning I propose to take up the different points for discussion in the order laid down in the synopsis in the Association program.

REMOVAL OF THE PELVIC GLANDS.

For the purpose of refreshing our memory I will give a brief account of the lymphatic glands and their connecting channels which are involved in the morbid processes of the uterus. The superficial lymphatics of the uterus, together with those of the ovaries and the Fallopian tubes, empty into the lumbar glands. They lie beneath the peritoneum and are joined by those from the substance of the fundus and the upper portion of the body of the organ; together they run outward, in the broad ligament, when they are joined by the lymphatics from the ovaries, Fallopian tubes and vagina to pass up with the ovarian vessels to the lumbar glands. The lymphatics from the lower part of the uterus and from the cervix of the uterus run together with most of the lymphatics of the vagina along the course of the uterine and vaginal vessels, and terminate in the internal iliac glands. The lymphatics from the lower part of the vagina join the superficial inguinal glands.

We therefore have two chains of lymphatics to consider, and while the chains nearest the disease are probably engaged in draining the part, it is not unusual to have both the upper and lower chains on one or both sides involved, necessitating their removal, if we wish to give the patient the only possible hope of recovery.

In late carcinoma or even in the early stage of rapidly advancing disease, if there is macroscopical involvement of the broad ligament, any operation short of total extirpation of the lymphatics of the pelvic organs had better not be attempted.

The abdominal operation offers the only way by which we can perform a complete hysterectomy. The incision must be a long one, the intestines and omentum kept away from the field of operation by gauze packing, the wound widely retracted, and the light good in order to perform so delicate and intricate an operation.

BETTER AREA FOR COMPLETE EXTIRPATION OF CARCINOMATOUS TISSUE.

The reasons given for the first heading hold good for the second. I can not conceive of skill so great which would make a dissection of a carcinomatous broad ligament as easy or as complete through the vagina as by the abdominal route.

LESSENED DANGER TO URETERS.

The weak spot of vaginal hysterectomy has always been the danger of injury to the ureters. As a matter of fact the ureters are in danger of injury by either route, but it seems to me that the danger is less by the abdominal route, for the evident reason that one san see what he is doing and is therefore better enabled to protect these important structures. Granting that either ureter has been torn in the removal of the carcinomatous uterus, the repairing must be done through an abdominal incision, and if it has happened in the course of a vaginal hysterectomy the abdomen must therefore be opened.

CATHETERIZATION OF URETERS UNNECESSARY.

It has been recommended by some of the advocates of vaginal hysterectomy that the ureters should be catheterized as a preliminary step. If for no other reason than this I prefer the abdominal route. From unpublished evidence which I have been able to collect, this step of the operation of catheterization of the ureters is almost as frequently a failure as a success. This uncertainty, combined with the actual danger of kidney infection and the injury of the urethra from over-stretching, is a strong argument to me against the vaginal route. I can not, however, grant that catheterization of the ureters is an essential part of vaginal hysterectomy.

Where the broad ligaments are involved in the carcinomatous process, if only to the degree of being slightly rigid, it is extremely difficult, if not impossible, to make out the ureters. Under these circumstances catheterization would be wise were it not for the fact that such cases, if not attacked through the abdomen, had better be left alone, as incomplete operation offers nothing to the patient, in fact hastens the progress of the disease.

LESSENED DANGER OF HEMORRHAGE.

There is undoubtedly greater danger of hemorrhage in vaginal hysterectomy for carcinoma of the uterus, although hemorrhage is liable to occur in either operaiton on account of distorted, displaced or degenerated vessels. It is simply a matter of increased facility for seeing the locality of hemorrhage that gives the advantage to the abdominal method. In vaginal hysterectomy we are working at the bottom of a dark passageway, and when, in addition to this, the field of operation is covered with blood, any accuracy in manipulation is out of the question. Ligation of the ovarian and uterine arteries is a very simple matter in abdominal hysterectomy for uterine carcinoma on account of the ease with which the site of operation can be exposed.

CONSECUTIVE HEMORRHAGE LESS LIABLE TO OCCUR.

The better command of the field of operation secured by the abdominal route makes the placing of the ligatures on the vessels so much more accurate and secure that consecutive hemorrhage is not only less liable to occur, but as a matter of fact is a very rare accident. When it does occur we can with good reason suspect the ligature material or carelessness.

DANGER OF INFECTING PERITONEUM LESSENED.

The use of the Trendelenburg position, with occlusion of the general peritoneal cavity and its contents by gauze packing, minimizes the risk of infection.

In vaginal hysterectomy the intestines are liable to come in contact with the fingers, instruments, ligatures, etc., which have traversed the vagina, that, in cases of carcinoma, or in any inflammatory or infectious disease, is never rendered sterile. In fact, I have very serious doubts as to the sterilization of any vagina. It is claimed that the upper portion is normally sterile, but a vagina which is patulous and which is not virgin, is, so far as I know, a fertile soil for pathologic organisms, although they remain inactive, pathologically speaking, until circumstances arise favoring activity.

Under this heading comes the question of drainage. I believe that most of the cases of abdominal hysterectomy should not be drained. When, however, drainage is needed it should be supravaginal. Vaginal hysterectomies call for gauze drainage in all cases.

NO DANGER OF PROLAPSING BOWEL.

In total removal of the uterus, be it by the vaginal or abdominal route, there is danger of prolapsing bowel, but by the more perfect closure of the peritoneum from above, the danger is lessened in the latter method. The abdominal incision makes a subsequent ventral hernia a possibility to be considered, but with the combination of the interrupted and the tier or layer suture and careful approximation of muscle to muscle, the danger is practically nil.

Vaginal hysterectomy is an operation which presents no special difficulties in the class of cases to which it is applicable. It is only applicable in those cases where the carcinomatous process is strictly confined to the vaginal portion of the cervix, the cervical or uterine canal, and where the uterus is freely movable. In cases where there are adhesions fixing the organ, or where there is or has been inflammation or fixation of the appendages, the abdominal operation is safer, easier and a more rational procedure. Any enlargement of the uterus vastly increases the difficulties of the operation and offers another objection to vaginal hysterectomy.

IMPORTANCE OF EARLY RECOGNITION OF CANCER OF THE UTERUS.*

WM. H. HUMISTON, M.D.

Associate Professor Gynecology in the Med. Dept. of Western Reserve University; Gynecologist-in-Chief of St. Vincent's Charity Hospital; Consulting Gynecologist to the City Hospital, etc.
CLEVELAND, OHIO.

The importance of early diagnosis and prompt surgical interference in carcinomatous disease of the uterus has been so repeatedly and emphatically emphasized by all writers, and the various methods and innumerable forms of technique discussed that I feel much like offering some apology for again asking your attention to the subject of carcinoma of the uterus.

However, it is not so much its early diagnosis or the manifold methods of technique in vogue of which I wish to speak a few words, but the manner of its recurrence as we have but recently learned from laboratory research and clinical experience.

It is well established that practically the only form of cancer which attacks the body of the uterus is the adenocarcinomatous variety. This is also of the most frequent occurrence in the cervix. The epitheliomata are usually confined to the vaginal portion of the cervix, and extend to the vaginal walls, and even when large areas become involved are less liable to give early metastasis.

The epitheliomatous nodular masses occurring in the cervix—resembling in their earlier state the pathologic characteristics of the scirrhus variety common in the breast—are slow to give rise to metastasis, and offer the best chance against a recurrence after a complete extirpation of the organ.

There are three modes of recurrence which are recognized by most authorities: 1, by metastasis—by far the most common—a lymphatic involvement; 2, by incomplete removal of carcinomatous areas; 3, by infection or direct implantation of carcinomatous cells in previously healthy tissue at the time of operation. Practically I regard this latter of little account, although I take every precaution to avoid such an infection.

I believe it is of vital importance to know the original seat of the malignant growth, and particularly should its pathologic variety be determined by a careful microscopic examination before operation. For, if it is found to have arisen in the cervix, and is of the adenocarcinomatous variety, we have to recall the fact that a recurrence is apt to be metastatic; if of the portio vaginalis, a recurrence is most apt to be in the seat of the resulting scar by incomplete removal of infected areas in the vaginal walls.

A few words as to what has been learned in regard to recurrence. I need say nothing further about incomplete extirpation or infection, as these subjects are easily understood and readily appreciated.

Perhaps some of you may recall cases of puerperal infection through an injury to the cervix in which a rapid spread of infection has quickly given rise to a general septicemia, and in which cases the condition of the uterus and its adnexa seemed to be but slightly implicated.

An instance of this occurred at the City Hospital last autumn. A young woman was admitted having a temperature of 106 F.; and a pulse-rate of 130. She had some tenderness and enlargement of both the liver and spleen, and was treated for ten days as a typhoid with no good results from the ordinary tub baths. No history referable to a diseased uterus could be had. To settle this point, however, I was asked to see the case. I found a swollen cervix, an enlarged uterus with its normal mobility somewhat impaired, with induration in both broad ligaments. Cultures were made from the cervical canal and a streptococcus was found to be the exciting cause. An injury to the cervix by an unclean instrument, direct infection of the glands in the parametrium, and the general lymphatic infection were the successive steps. With continued rest in bed the patient's local condition entirely subsided, and excepting the result of a septic myocarditis she had quite recovered. This is not an uncommon result where abscesses do not form in the affected glands. Again the tubes or ovaries become involved by direct lymphatic infection and the body of the uterus remains free of the disease.

To understand the course of such infection a knowledge of the lymphatic system must be gained. The same comprehension of this particular anatomic feature must be had to appreciate the difficulties to be overcome by the surgeon who operates for carcinoma of the uterus.

I must frankly admit that we clinicians are indebted to the men who devote their time to laboratory work for the advances which we are making to-day in this field, and our ready acceptance of their results show our appreciation of the worth of such research work.

I quote W. W. Russell of Johns Hopkins University: "The direction of the lymph vessels supplying the different portions of the uterus and vagina, and the position of their glands, can be separated into three distinct groups. The first group corresponds to the uterine vessel and its terminal branches, and supplies the upper one-third of vagina and cervix. The first glands connected with this group are found in the parametrium at the broad-ligament bases, a short distance from the cervix. They are not constant, and when present are often so small that they are frequently not discovered during operation. The most important glands belonging to this group are those lying about the iliac vessels at their dividing point.

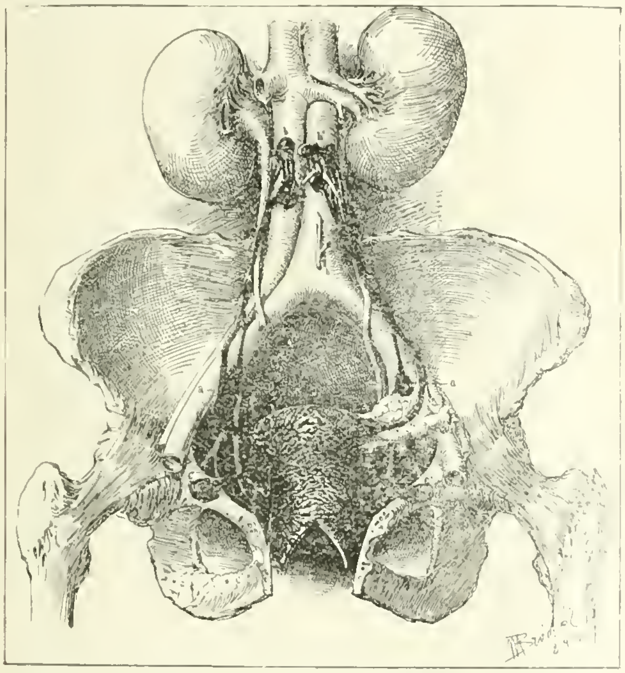
"The second group is comprised of the lymphatic vessels supplying the greater portion of the uterine body. They converge from the fundus and body, and gradually unite into two large vessels which pass outward along the upper surface of the broad ligament in close relation to the ovarian arteries. From their course it is seen that they pass between the tube and ovary. The first glands met with in this group are those in the lumbar region situated at about the level of the lower border of the kidney, directly in front of the aortic vessels and partly surrounding them.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

"The third group consists of vessels originating in the uterine cornu and passing out into the round ligament to the inguinal glands. One large vessel on either side of the uterus gives free anastomosis between body and cervix.

"The practical import of this division is as follows: There exist three avenues of escape for malignant growths of the uterus. The first group of these vessels must always be considered in disease of the cervical canal and vaginal portion of cervix, and the second and third groups in disease of the fundus, and it is through these, and these only, according to their separate divisions, that metastases are of operative significance. When the disease has passed beyond the limits of either group, rendering possible the invasion of the lymph vessels of the body by growths originating in the cervix, or vice versa, all chance of complete removal is gone."



Russell.—Lymphatics of uterus and upper third of vagina.

My results in the last three years show so far one recurrence of the adenocarcinoma of the body of the uterus. In this case I performed a vaginal hysterectomy by clamps and inadvertently left a loop of the right tube in the grasp of the clamp. Microscopic examination of the portion of the tube removed showed an involvement at its extreme proximal, but free at its distal, extremity, where it had been clamped. However, in six months there was an involvement of the whole cecum, and I am forced to believe it was due to an incomplete removal.

I operated in 1899 upon three particularly interesting and instructive cases of adenocarcinoma of the cervix. Two are dead, one still lives but there is already evidence of some involvement in the glands at the base of the right broad ligament.

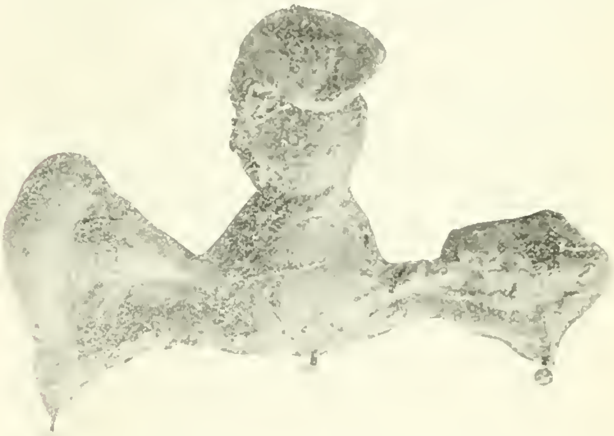
In no case of complete hysterectomy, either by vaginal or vagino-abdominal methods, have I ever had in any of the varieties of carcinoma a recurrence in the scar in the vaginal vaults.

Case 1.—A. B., age 38 years, had two children, one miscarriage eight years ago. Family history negative as to cancer. Early menstrual history also was negative. Three months prior to her first examination she had prolonged and increased quantity of menstrual flow. Thereafter she noticed an occasional bloody discharge accompanied by a very bad odor. She consulted her family physician, Dr. Diemert, who recognizing the condition immediately referred her to me. On examination I found the cervix to be completely involved, the body enlarged, but the vaginal walls and vaults free from encroachment. A microscopic examination showed the condition to be an adenocarcinoma.

Her general condition was very bad. She was addicted to the daily use of large quantities of morphin. She had a weakened heart muscle, and a chronic parenchymatous nephritis. I advised early operation, and decided that her best chances for immediate results were by the more rapid method of vaginal hysterectomy. I operated Jan. 29, 1899, using the clamps.

Her convalescence was as rapid as could have been expected. She left the hospital in five weeks. In July, I was called to see her again. I found the scar in the vagina free, but the glands along both pelvic walls and generally throughout the belly were involved. She lived until September, 1899.

Case 2.—L. A., aged 37, had seven children, two miscarriages. Early menstrual period was negative. I had operated on a maiden sister one year previous for a sarcomatous myoma; no other malignant disease in her family history could be ascertained. She had been flowing profusely for a number of months at each menstrual epoch. She had called Dr. Borts to stop the hemorrhage two months before she came into the hospital. At this time she refused any local interference. At the next period the doctor found her in collapse, hurriedly packed the vagina and applied the usual remedies for restoring her. The next day he insisted on making an examination, and found a complete disintegration of the cervix. I was called and advised removal to hospital. I first removed the disease by curette, afterward applying a cautery. In May, 1899, two weeks after, I performed a combined vaginal and abdominal hysterectomy, making a most careful dissection of the glands along the iliac vessels, and removing every particle of fatty substance at the base of the broad ligaments.



Nullipara, aged 30 years. Adenocarcinoma of cervix, double pyosalpinx. Vagino-abdominal Hysterectomy.

This patient died in four months with general involvement of the lymphatic system, though the pelvis was entirely free from any recurrence.

Case 3.—E. H., married, aged 28, was nulliparous. She had never been robust. There were hereditary tendencies to tuberculosis from both paternal and maternal sides of the family. A brother has some malignant tumor of jaw. Her early menstrual period was negative. She was admitted to Charity Hospital on November 15, 1899. Four months prior to her admittance she had first noticed a watery discharge streaked with yellow. Since that time she had a constant bloody discharge. She had been suffering from severe pains throughout the lower abdomen and both groins. Upon examination a diagnosis of double pyosalpinx was readily made, but the condition of the cervix aroused a suspicion of malignancy. A portion was removed and submitted to microscopic examination, and an adenocarcinoma was found.

On December, 1899, she submitted to an operation for complete extirpation. I could find no glands at the base of the broad ligaments, and those along the iliac vessels were not affected.

In January she returned for an examination, and I found a small gland at the base of the left ligament, and two in the right side, together about as large as an almond. They were tender on pressure. This tenderness has decreased with local applications of ichthyol, and while there has been no appreciable increase in the size of the glands during the past four weeks, I find no diminution.

It has been my experience that the most common form of cancer of the cervix, the adenocarcinoma, is by far the most to be dreaded.

1. Because of its natural growth in expanding laterally into the parametrium. (See Figure.)
2. Because the lymphatic vessels and glands in the parametrium are so small that they may easily be overlooked, yet may be infected.
3. Because of the indirect connection to the chain of glands over the iliac vessels.

The practical import of this paper can be summarized thus:

1. Early differentiation of malignant growths of the cervix.
2. Careful consideration of the importance of the lymphatic vessels and glands in their capacity of drains of the different portions of the uterus.
3. That abdominal section with complete removal of these special groups of lymphatics alone offers in suitable cases the chance against a recurrence of carcinoma, particularly when the cervix is affected.

OPERATIVE TREATMENT OF CANCER OF THE UTERUS.*

WILLIAM R. PRYOR, M.D.
NEW YORK CITY.

A paper on this subject can not contain anything startlingly new until something additional regarding the nature of cancer has been discovered. Notwithstanding that this is so, we have gained sufficient experience in its treatment to be able to make a just analysis of the various methods employed, and in this way review as it were our work in combating a disease which in America must destroy 30,000 women annually. We may also find some light in a careful study of the natural history of the disease when left unchecked, and in an analysis of the cases in which recurrence has taken place after operation. Although this paper is not to deal with the etiology of cancer, I can not refrain from calling attention to the burden of proof pointing to the theory that cancer of the uterus is caused by a parasite. And although we can not accept without further convincing evidence the statements of Max Schüller regarding its nature, yet whatever method of treatment we apply to cancer it must not violate the principles which should govern us if the disease were proved to be due to a germ. In view of the results obtained by experimental work, any method of treatment which proceeds in disregard of this work can not be classed as proper. It is eminently fitting to analyze several of the chief methods of treatment and in doing so I will first take up the operation of *vaginal hysterectomy.* This is as firmly established in the minds of the profession as the proper procedure as is any in surgery; but at the risk of meeting your disapprobation and that of many who read this paper I shall lay bare the facts.

Notwithstanding that Olshausen has succeeded in doing a hundred operations without a death due to the procedure, a success which I believe has been imitated by Leopold, we must ascribe to vaginal hysterectomy for cancer of the uterus, taking into consideration the statistics of all operators, an average mortality of 10 per cent. This mortality is trivial considering the gravity of the disease for which the operation is performed, and the difficulties inherent in the procedure. The operation is therefore to be considered in the light of its results rather than in its dangers; for the ingenuity of the surgeon has not devised a procedure more beautiful, requiring greater dexterity in its proper performance than this operation of vaginal hysterectomy for cancer: "the German operation," as Olshausen calls it. Operators will of course be loath to relinquish a piece of work which is so apparently surgical in its principles and stands on such a distinctly anatomical basis as this, for some new method of treatment.

Let us consider the results of vaginal hysterectomy for cancer. Statistics can be twisted both in their formation and in their interpretation so as to strengthen almost any argument, the point of view of the observer largely governing the result. But in the matter of cancer statistics a most commendable spirit has governed the profession, and each reporter seems to strive to tell the exact truth only. Personally, I do not believe that a woman who has suffered from carcinoma of the uterus and has been operated on should be considered out of danger of recurrence until six years have passed. Let us take the experience of Jessett. This surgeon found 58 per cent. of his vaginal hysterectomies for cancer of the cervix, free after one year, and 40 per cent. free after six years; of his operations for cancer of the body of the uterus, 83 per cent. after one year, and 60 per cent. after six years.

Mortality.—In estimating this I take at random three groups of operators in Germany, France, and England and America, a total of 1087 cases with 10 per cent. mortality. John Byrne found in 1273 cases a mortality of 14 per cent. The latest figures are by Picque and Mauclaire, up to 1889, 2376 cases with 9 per cent. mortality.

Leopold, Kaltenbach, Dimitri de Ott, Landau, Olshausen and Jacobs out of 438 cases had 16 deaths, or 3.65 per cent. Terrier, Doyen, Segond, Quenu, Richelot and Bouilly out of 286 cases had 47 deaths, or 16.4 per cent. Jessett, Lewers, Lanphear, Purcell and Russell out of 363 cases had 43 deaths, or 11.8 per cent.

As regards remote results of vaginal hysterectomy for cancer of the cervix, Jessett after 6 years had 40 per cent free; Jarvin after 4½ years, 37½ per cent.; Longuet after 3 years, 14 per cent. (6 operators). Lanphear after 3 years found 31 per cent. free; Russell after 3 years, 41.7 per cent.; Thorn after 6 years, 27.5 per cent.; Berry after 2 years, 12 per cent (5 operators). Jacobs found that 50 per cent. of his cases relapsed in the first year. The average after 3.9 years was 29.1 per cent.; average mortality was 11.5 per cent.

In vaginal hysterectomy for cancer of the body of the uterus, Kukenberg after 5 years found 66.7 per cent.

---

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

free; Lewers after 2 years, 83.3 per cent.; Jessett after 6 years, 60 per cent. The difference between the results of vaginal hysterectomy when done for cervical cancer and when performed for corporeal cancer, is striking. The mortality of the two operations is about the same.

High Amputation of the Cervix.—Thomas More Madden reports 31 cases of amputation of the cervix with recurrence in 1 case in four years. Five recurred within a year, and 2 in two years, 1 in three years, 1 in four years, and in 10 cases or 30 per cent. there was no recurrence within four years. He has 5 cases free after two years, and 6 cases free after one year. The total shows 71 per cent. free after one year and 51.6 per cent. free after two years.

In analyzing the operation of high amputation for carcinoma of the cervix, Baker, of Boston, reports 62.5 per cent. of cases free after two years, and without the loss of a patient directly from the operation. A personal communication from Dr. Baker a few days ago stated that he was more convinced than ever of the efficacy of high amputation.

John Byrne traced 40 cases operated upon by his method and found an average exemption of nine years, this operation being performed in early cases. He traced 50 cases which were advanced when operated on and found 10 exempt over two years, 11 over three years, 6 over four years, 8 over five years, 6 over seven, 2 over eleven, 1 over thirteen and 1 over seventeen. After two years there were 90 per cent. free. Lewers found 33 per cent. of his cases well after two years.

As far as the *sacral method* of operating is concerned Westermark collected 104 cases with a mortality of 24 per cent. In view of what can be accomplished by the preliminary hemostasis through the abdomen and of the combined abdominoperineal method of extirpating the uterus and rectum through the vagina, I can not see what advantage the sacral method can have in advanced cases. Jacobs, in comparing abdominal hysterectomy in 15 favorable cases, finds no relapses from several weeks to twelve months, and contrasts this picture with the series of 81 cases of vaginal hysterectomy showing relapses in 41 cases within a year. The importance of removing the vagina together with the uterus as well as the value of heat in closing the mouths of the absorbents as the operation progresses is well shown by Mackenrodt, who contrasts 81 per cent. of the recoveries at the end of one year by his method with the old method, finding that by the latter at least one-third of the cases have relapsed within one year. His very able paper should be read by all interested in cancer.

Halsted found in cancer of the breast that after a more radical operation 52 per cent. of the cases lived more than three years; the operation as previously performed for cancer of the breast gave but 20 per cent. free cases after three years. I am again forced to differ from my friend, Dr. Kelly, as to the analogy between cancer of the breast and uterine cancer, and I insist that the same requisites to success must be observed in operating for cancer of the uterus as in other parts of the body.

Roger Williams, in a discussion on early operation and late, quotes Leopold's statistics that in the early cases—where it is necessary to confirm the diagnosis by the microscope—recurrences take place in 23.7 per cent. only; whereas in advanced cases recurrences take place in 66 per cent.

It is not necessary to multiply statistics further, for in reality a careful analysis of a proper report by one accurate observer will suffice. Some operators, like Bouilly, Polk and many others, believe that all cases of clinical cancer relapse after vaginal hysterectomy, and I do too. All operators agree that the widest possible dissection should be made, and the broadest removal of tissue. If vaginal hysterectomy for cancer carries with it a general-mortality of 10 per cent., and if after five years no more than 20 per cent. of the cases are free from relapse, I can not see how the operation can be advocated against the claims of high amputation, which has practicaly no mortality inherent in it and which gives far better results. But the operators will not rest content with the results obtained by high amputation even though they are better than those seen to follow vaginal hysterectomy; for in a sort of fierce determination to combat this curse of our civilization they seek not only preventive measures, but an operation which will grant a greater immunity against return of this disease. If then we can show that the mortality inherent in a certain piece of work is no greater than that which follows vaginal hysterectomy, and if we can demonstrate that by means of this operation the broadest possible dissection and removal of tissue are possible, and that there is the least possible chance of soiling of the field of operation and dissemination of the cancer cells during its performance, we are in a position to command the attention of the profession for such an operation. Furthermore, we are bound to be guided by the analogy of operations performed for the same disease in other parts of the body if the same principles are involved. It will not do to apply laparotomy in only the advanced cases, as some suggest, reserving for vaginal hysterectomy the easy and early cases, and then contrast the statistics of the two operations. If an operation is indicated for the grave types of cancer it is still more forcibly indicated in the early cases, for the indication of operation in cancer is not so much the local state as it is the tendency to recurrence.

A consideration of these statistics forces us to the conclusion that vaginal hysterectomy for cancer of the body of the uterus gives far better results, both immediate and remote, than are seen to follow the same operation for cancer of the cervix. Some operators have attempted to modify these figures by dividing their cases into late cases and early cases. As the cancer comes to us, if we can make a diagnosis from clinical symptoms, the case is to be classed as a late case; whereas, if cancer is suspected and the diagnosis is confirmed by the microscope, the case is to be classed as an early case. The differences in the recurrences of the two classes of cases are stated by Roger Williams as 23.7 per cent. in the early cases, and 66 per cent. in the late cases; and, inasmuch, as of all cases of cancer of the uterus which come to us but 10 per cent. can be operated on by the vaginal route, we are forced to the conclusion that vaginal hysterectomy is not an admissible operation for cancer of the cervix except in a very small and selected percentage of cases, and the propriety of performing it in these cases may be disputed; for it is possible that other operative procedures less severe would give better results in the same class of cases. It may be interesting to determine why better figures are obtained when the operation of vaginal hysterectomy is performed for cancer of the body of the uterus. Two factors, I believe, conduce to this: first, in cases of cancer of the body of the uterus we can go further from the infected area than in the operation for cancer of the cervix, and during the operation there is less risk of soiling the field of operation by the cancer cells and of forcing them into the absorbents. We may with propriety compare the results obtained from two less severe operative procedures with those which follow vaginal hysterectomy.

Byrne's method of removing cancer of the cervix has unquestionably given better results than vaginal hysterectomy, and the same may be said of the method which Sims advocated and which is adopted by Herbert Snow, Lewers, More Madden, Knowsley Thornton, and Baker, of Boston. So then, vaginal hysterectomy for cancer of the cervix, after years of trial and though as perfect an operation as it has been made, must be discarded because it has not stood the test. It is not so with vaginal hysterectomy for cancer of the body of the uterus, for this grants an immunity almost as great as could be expected. I will not speak of palliative methods of treatment, methods of injecting alcohol, methylene blue, and other remedies, nor of inoculation experiments. Cancer, like other chronic diseases, has a list of these nostrums too long to cite.

In searching for an operation or method of treatment which will place surgeons in a better position before the profession at large and grant our patients greater immunity against recurrence, we should consider the methods by which cancer extends, and also the requirements of a successful operation.

Roger Williams found in autopsies on cases which had died with cancer, that the vagina was involved in 92 per cent. of the cases, and that the lymphatic glands were involved in 71 per cent. Hofmeir found the parametric tissue involved in 96 per cent., Peiser in 50 per cent.; Kiwisch the Fallopian tubes involved in 24 per cent. These investigations show, then, that unchecked cancer has a tendency to spread to the parametric tissue and the vagina and to the lymphatic glands, and in frequency in the order in which I give them. A significant fact is that metastatic growths outside of the pelvis are rarely found, and that the cancerous involvement has a tendency to be limited to the pelvis; and when recurrence takes place it is usually in the pelvis, and most commonly in the vagina or parametric tissue. The anatomic requirements of a successful operation for cancer of the uterus will necessitate the removal of a portion, at least, of the vagina, all the parametric tissues and all the lymphatic glands in order to prevent recurrence, and the surgical requirements are that this removal be made in such a way as to be practically bloodless and to prevent introduction of even microscopic portions of the cancerous tissue into the absorbents. These requirements are fairly well met when the vaginal operation is performed for cancer of the body of the uterus, but are violated in every essential when the operation is done for cancer of the cervix. Although some operators cleanse the field as thoroughly as possible before proceeding to the extirpation, and others use the actual cautery for the purpose of closing the mouths of the absorbents, these procedures are rendered ineffective owing to the mechanical bruising and pressure to which the cancer is subjected during the operation of removal through the vagina. Vaginal hysterectomy not only ignores all that has been done in the bacteriology of cancer, as soiling of the field of operation is inevitable, but it also mechanically and of necessity projects the cancer cells beyond the field of operation. If this is true of the German operation of vaginal hysterectomy for cancer—the operation which is performed in America—the criticism applies still more forcibly to the operation proposed and practiced by Duret in 1895, recently revived by Kelly, viz., by morcellating the cancerous uterus. And, whereas, I have been able in a few cases of vaginal hysterectomy to make so careful and minute a dissection of the tissues as to enable me to secure the uterine arteries outside the ureters, and in this way make a broader removal of tissue, I am convinced that I violated the two essentials to a successful removal of cancer of the cervix, in that I could not avoid soiling the field of operation by the cancer cells, nor could I avoid pressing the cancer cells into the absorbents.

Let us consider the question of the site of recurrence. Hofmeier found that the parametric tissues were first involved in 95 per cent. of recurrences observed by him, and this is corroborated by Winter. Personally, I believe that the parametric tissue is involved before we see a manifestation of the disease in the vaginal scar. Now, considering the paths by which the disease normally extends, the position in which it recurs and the requisites of a successful surgical operation, we must abandon vaginal hysterectomy for cancer of the cervix and must class it merely as a palliative operation, which carries with it a mortality and gives results not as good as high amputation. Whether we proceed on the theory that recurrence is due to the fact that some of the primary cancerous tissue in the cervix is left, or that cancerous foci away from the cervix in the vagina or in the parametric tissue are left behind, or again whether we accept Roger Williams' opinion that recurrence after two years' interval is not recurrence but a fresh outbreak of cancer in tissue subject to disease, and in a patient specially prone to it, we must decide that vaginal hysterectomy, beautiful operation as it is and challenging our admiration, is a failure when applied to cancer of the cervix.

I have shown that vaginal hysterectomy in no wise meets the requirements of a proper operation for cancer of the cervix, and that it does not grant a sufficient immunity against recurrence. An operation to be called successful must remove the lymphatic glands, must remove the parametric tissue, the ovaries, tubes, uterus and at least the upper third of the vagina. In its technique it must embrace an almost perfect sterilization of the wound and a closure of the absorbents. This is met by a preliminary burning of the cancer field and an absolute hemostasis before beginning removal of organs involved. High amputation as performed by Byrne, with the cautery, by knife and scissors, as done by Baker, Knowsley Thornton, More Madden and others, closes the absorbents and make a local removal only. This operation therefore meets some of the requirements of a successful operation, whereas, vaginal hysterectomy meets none, and as a consequence we find that the operation of high amputation gives better results than vaginal hysterectomy.

I am not satisfied that these results are sufficiently good, and have been for some years trying to improve them. Polk, Rumpf, Ries, Clark, Werder and Mackenrodt have attempted the same thing. The dissatisfaction with the vaginal operation is becoming very common, and before we adopt any operation we should be very careful to state the grounds on which it should proceed; these should be based upon the requisites I have given. It is not necessary for me to describe the operation of ligation of the internal iliac arteries nor the steps taken to remove cancerous tisue after this operation. The technique of the operation I have several times given, but its remote results I am not prepared to publish, inasmuch as not sufficient time has passed. Suffice it to say that I have ligated the internal iliac arteries nine times for advanced cancer, and that one case died, not from hemorrhage or from sepsis but from acute nephritis, the autopsy finding small red kidneys, which before operation did not reveal themselves. I maintain that by no operative procedure can a bloodless field be created except by a preliminary ligation of both ovarian and internal iliac arteries. When this step is preceded by the thorough cleansing and charring of the cancer field I believe we prevent not only the introduction of cancer cells and germs into the absorbents but we insure against local soiling by these. I know of no other way by which we can remove all the glands from the pelvic brim to the obturator foramina, the broad ligaments, the parametric tissue on each side of the uterus, beneath the ureters and to the sides of the rectum and vagina, together with the vagina. Objection may be made to this operation that it is unnecessarily severe and that it may require more skill in its performance than is possessed by the average operator. Regarding skill and acquaintance with the technique, these can be secured by repeated operations on the injected cadaver. The severity of the operation is indicated by the mortality accompanying it, and I have lost but one patient in nine operations, all for advanced cancer; in two of them I removed the rectum as well. Besides, I may remind you that we are dealing with cancer, and if an operation were presented to me for this disease which carried with it a mortality of 20 per cent. and yet granted an immunity after five years of 60 per cent., I would accept it in view of the utter failure of vaginal hysterectomy. In making this attack upon this established operation I feel that I am not alone, for Roger Williams in England is leading the same fight. On the continent, Jacobs, Bouilly, Rosario Vitanza, Rumpf, Veit, Freund, Reynier, Ricard, Ségond, all express the uselessness of vaginal hysterectomy and the necessity of adopting some other method of operating. In this country, Ries suggested the operation first performed by Rumpf and elaborated by Clark. Penrose elects the abdominal route, Russell the same. Werder, Irish, Polk, and perhaps many others whose work I do not know so well, are with me in this matter of the inutility of vaginal hysterectomy in cancer of the cervix and for the necessity for a radical abdominal operation. Lanphear, Howard Kelly, Janvrin, Coe, Goffe, Wylie, and I believe the great mass of operators in America, are still performing vaginal hysterectomy for cancer of the cervix.

Let us glance at the mortality incident to the abdominal operation. In *Revue de Mal.*, for March 20, 1900, it is stated that abdominal hysterectomy for cancer has a mortality of 23 per cent. This I deny is the result in America. Ries notes 3 deaths in 15 operations—ligation of uterine artery, removal of glands, etc., by laparotomy, the Rumpf-Ries-Clark operation—20 per cent. Irish notes 25 operations, 3 deaths—progressive ligation by laparotomy—12 per cent. Pryor gives 9 operations, 1 death—ligation of internal iliacs, removal of all glands and portion of vagina, by laparotomy—11 per cent. Penrose has 7 operations, and no death—progressive ligation by laparotomy. Jacobs reports 23 cases, 1 death—progressive ligation and glands removed by laparotomy—4 per cent. Russell has 5 cases, and no death—3 by Rumpf-Ries-Clark method, 2 by Werder's method. Polk reports internal iliacs tied 4 times, anterior branch of internal iliacs tied 10 times, 14 cases, 3 deaths, 21.4 per cent. Total is 98 cases, with a mortality of 11.2 per cent.

Most of the operations done by Rumpf, Polk, Ries, Clark, Pryor, Werder, Russell, and those who agree with us in our views, were of a more radical type than those of Irish, Penrose and Jacobs, and in women who would have been refused by most of those who operate through the vagina, and yet the general mortality is 11 per cent. only. None of us has yet had great experience, and when we get it and properly select our cases, the mortality will necessarily be much lower. The gratifying feature about this new abdominal operation is that it gives no greater mortality than follows vaginal hysterectomy.

The object of my paper is to show as forcibly as I can the uselessness of vaginal hysterectomy, and to present to the profession the urgent necessity of reviewing our work and adopting that operation which will enable us to make the broadest dissection, to remove the most tissue, to remove all tissue in which recurrence is liable to take place, in a bloodless field and in such a way as will insure local cleanliness and prevent introduction of the germs into the absorbents during the operation.

BIBLIOGRAPHY.

Amann, Jr.: Ueber die Entstehung des Uteruscarcinoms. Pest. med. chir. Presse, Budapest; 1895, xxxi, 746. Ueber Kernstrukturen in Uteruscarcinomen, Verhandl. d. deutsch. Gesellsch. f. Gynäk., Leipz., 1895, vi, 755-756.

Landau, L.: Ueber Klemmbehandlung bei Carcinoma und Myoma Uteri bei Pyosalpinx und Beckeneiterungen. Verhandl. d. deutsch. Gesellsch. f. Gynäk., Leipz., 1895, vi, 414-423.

Tabellarische Zusammenstellung der in der Zeit von 10 August, 1893, bis 24 May, 1895, ausgeführten vaginalen Radikaloperationem bei cronisch-eitrigen respektive entzündlichen Erkrankungen der Gebärmutteranhange, Ibid., 423-446.

Portes, Pierre A.: Quelques considérations sur le cancer de l'utérus et sur son traitement par le violet et le bleu de methylene d'après la méthode du Professeur Mosetig-Moorhof de Vienne, Bordeaux, 1895. No. 109.

Carstens, J. H.: Surgical treatment of malignant disease of the Uterus. Harper Hosp. Bull., Detroit, 1895, v. 20-22.

Ries, E.: Modern treatment of cancer of the uterus. Chicago M. Recorder, 1895, ix, 284-289. (Discussion) 326-334.

Schultz, H.: Ueber die palliative Behandlung Des Gebärmutterkrebses, mit Alkoholinjectionen. Wien. med. Presse, 1896, xxxvii, 7; 98; 136.

Summers, J. E., jr.: Types of operation indicated in cancer of the uterus. Med. Herald, St. Joseph, 1896, n. s., xv, 59-62. (Discussion) 91-94.

Betz, O.: Fall von Chromsäurevergiftung nach Aetzung eines inoperablen Uteruscarcinoms. Memorabilien, Heilbr., 1895, n. F. xiv, 157.

Duret: Du morcellement dans le cancer uterin. J. d. Sc. med. de Lille, 1895, i. 1: 25.

Fafius, F. A.: Seven cases of treatment of cancer of uterus by salicylic injections. Med. Obozr., Mosk. 1895, xliii, 35-42.

Hofmier, M.: Zur Anatomie und Therapie des Carcinomas Corporis Uteri. Ibid., 171-190, 2pl.

Jessett, F. B.: Cancer of the uterus removed by the use of chlorid of zinc. Brit. Gyn. Jour., Lond., 1895-96, 32-35. Lecture on Cancer of the body of the uterus. Prov. Med. Jour., Leicester, 1895, xiv, 294-297.

Lewers, A. H. N.: A case of primary cancer of the body of the uterus in which vaginal hysterectomy was performed, and more than two years have elapsed without recurrence; with a table of five other cases of vaginal hysterectomy for cancer of the body of the uterus. Tr. Obst. Soc., Lond., (1894) 1895, xxxvi, 371-390.

McMahon, A. E.: Vaginal hysterectomy for carcinoma of the neck of the uterus. Med. Rec., N. Y., 1895, xlviii, 205.

Vulliet, F.: Des injections intraparenchymateuses d'alcool dans le traitement du cancer utérin inopérable. Atti d. xi, Cong. méd. internaz., 1894, Roma; 1895, v, Ostet., 231 and also Gaz. de gynec., Par., 1895, x, 129-139.

Boudin, P.: Epithelioma du col utérin chez une femme de 23 ans. Lyon méd. 1895, lxxx, 490-497.

Lewers, A. H. N.: An inquiry into the relative advantage of vaginal hysterectomy and the supravaginal amputation of the cervix in cancer of the cervix uteri; based on an observation of 43 cases treated by one or the other of these two operations. Lancet, Lond., 1895, ii, 23-27.

Henrotay, Bull. Soc. Belge de Gynec. et Obstetr., Brux. 97-8, viii, 195.

Jacobs: Same.

Davenport, F. H.: Some observations on malignant disease of the uterus. Boston M. & S. J., 1896, cxxxiv, 253-256, (discussion) 264-267.

Demons: Cancer de la muqueuse du corps utérin. Gaz. hebd. d. soc. méd. de Bordeaux, 1896, xvii, 112.

Emanuel, R.: Ueber gleichzeitiges Vorkommen von Carcinom und Sarcom im Uteruskörper. Ztschr. F. Geburtsh. u. Gynäk., Stuttg., 1896, xxxiv, 1-11, 1 pl.

Lefour: Epithelioma du corps de l'uterus. Gaz. Hebd. d. sc. méd. de Bordeaux, 1896, xvii, 199.

Williams, W. R.: On the morphology of uterine cancer. Brit. Gyn., Jour., Lond., 1895-1896, xi, 529-558. The clinical features of uterine cancer. Lancet, Lond., 1896, ii, 1974-1077.

Boryssowicz, T.: O wartosci czesiowych operacyi przy raku macicy. On the value of partial operations for uterine cancer. Medycyna. Warszawa, 1896, xxiv, 422-446.

Kleinhaus, F.: Ueber metastatisches und gleichzeitiges Vorkommen von Krebs in der Gebärmutter und in anderen Unterleibsorganen. Ztschr. f. Heilk., Berl., 1896, xvii, 97-109.

Albers-Schonberg, H.: Beitrag zur Statistik des Carcinoma Uteri. Jahrb. d. Hamb. Staatskrankenaost. 1893-1894, Hamb. u. Leipz., 189. iv. 62-64.

Niebergall, E.: Ueber Impfmetastase eines Carcinomas Corporis Uteri am Scheideneingange. Arch. f. Gynaek., Berlin. 1896, lii, 491-496.

Russell, W. W.: The operative significance of metastasis and post-operative recurrences in carcinoma of the uterus. Am. J. Obst., N. Y., 1896,xxxiv, 851-864, 3 pl.

Backer, J.: Ueber Aetiologie und Therapie des Gebärmutterkrebses. Arch. f. Gynaek., Berl., 1897, liii, 49-91.

Clarke, A. P.: The relation of malignant diseases of the adnexa to primary invasion of the uterus. Tr. Am. Asa. Obst. and Gynec., 96 Phila., 1897, ix, 428-432.

Guinard, A.: Traitement de l'épithelioma de l'utērus et du vagin par le carbure de calcium. Tribune, Par., 1896, 2. s. xxviii, 327. Bull. Gén. de Thērap. etc., 1896, cxxx, 385-391. On the treatment of epithelioma of the uterus and vagina by carbid of calcium. N. Y. Therap. Rev., 1896, iv, 61-64.

Lloyd, J.: Curability of cancer of the uterus. Birmingh. M. Rev., 1896, xxxix, 257-262.

Pryor, W. R.: The surgical anatomy of the internal iliac artery in woman, and the more radical operation for malignant diseases of the uterus. Am. J. Obst., N. Y., 1896, xxxiii, 801-817, 1 pl.

Bäcker: Carcinoma uteri gyogyitasarol (the care of carcinoma of the uteri), Orvosi hetil., Budapest, 1896, xl, 257-271-286-299.

Duplay: Du traitement palliatif des cancers de l'utêrus inopérables. Semaine gynéc., Par., 1896, i. 161.

Bell, R.: The treatment of carcinoma of the uterus. Certain forms of ovarian disease, and fibroids of the uterus by means of thyroid, parotid and mammary gland. Therapeutics. Brit. Gynaec. J., Lond., 1896-1897, xii, 157-170.

Stone, R. M.: Report of a case of malignant uterine tumor treated by the toxins of erysipelas and bacillus prodigiosus. Med Rec., N. Y., 1896, l, 746-748.

Lanphear, E.: Indications for and against operation in cancer of the uterus. St. Louis M. Era. 1896-7. vi. 74-76.

Dührssen, A.: Ueber die Behandlung des uteruscarcinoms mit extractum herbarum Chelidonii majoris nebst Bemerkungen ueber das sogenannte Heilsystem Glunicke. Deutsche med. Wchnschr., Leipz. u. Berl., 1896, xxii, 787-789.

Jessett, F. B.: The early diagnosis of malignant disease of the body of the uterus, and its treatment by operation and illustrated by the results of 70 cases and numerous specimens. Brit. Gynaec. J., Lond., 1896-7. xii. 327-349.

Broome, G. W.: A summary of a new method for the radical treatment of cancer of the cervix. Med. Rev., St. Louis. 1896, xxxiii, 240-242.

Mackenrodt: Ueber die Igniextirpation bei Scheidengebärmutter krebs. Ztschr. f. Geburtsh. u. Gynak. Stuttg., 1896, xxxiv, 130-142 (Discussion), 145-152.

Penrose, C. B.: Cancer of the cervix uteri. Inter-Clinic, Phila., 1896. 6 s., ii, 252-263.

Byrne, J.: On the relative merits of total or partial hysterectomy for cancer of the cervix by ordinary methods, and supravaginal excision by galvanocautery. Am. Gynaec. and Obst. J., N. Y., 1896, ix, 32-44, (Discussion) 91-103. Tr. Am. Gynaec. Soc., Phila., 1896, xxi, 147-179.

Switalski: Uwagi dotyczace raka szyi macicy na podstawie spoatrzezen poczyniouych w klinice (up-to-date notes of cancer of the uterine cervix based on clinical observations). Przegl lek., Krakow. 1896. xxxv. 629-650.

Linn, S. H.: New methods of treating non-operative carcinoma, cancer (epithelioma) of the cervix uteri. N. England M. Month., Danbury, Conn., 1897, xvi. 54-59.

Ward, M. B.: The need of extreme watchfulness in treating cervical carcinoma. Denver M. Times, 1895-7, xvi, 289-291.

Kukenberg, R.: Zwei neue Fälle von Adenoma malignum der Cervixdrusen. Monatschr. f. Geburtsh. u. Gynaek., Berl., 1897, v, 138-153. 1 pl.

Lanphear, E.: Some figures showing the curability of cancer of the uterus. Tri-State M. J. and Pract., St. Louis, 1897, iv, 171.

Gellhorn, G.: Zur Casuistik der Hornkrebse des Gebärmutterkörpers. Ztschr. f. Geburtsh. u. Gynak., Stuttg., 1897, xxxvi, 420-422.

Vitrac, J.: (a) Association du cancer utérin avec des lésions néoplasiques non épithéliales de l'utérus et des annexes: (b) Résumé statistique de 82 cas d'épithélioma utérin. Gaz. Hebd. d. sc. méd. de Bordeaux, 1897, xviii, 356.

Thorn, W.: Statistisches und Klinisches zum Carcinoma Uteri. Centralbl. f. Gynäk., Leipz., 1897, lxvi, 1196. Alleg. med. Centr. Ztg., Berl., 1897, lxvi, 1063. München. Med. Wochschr., 1897, lxiv, 1247; 1290; 1323.

Berry, May D.: On some points in connection with carcinoma uteri. Lancet, Lond., 1897, ii, 1301-1305.

Russell, W. W.: Vaginal implantations from adenocarcinoma of the uterus. Am. J. Obst., N. Y., 1898, xxxvii, 293-299.

Czempin, A.: Die Behandlung sogenannter inoperabler Carcinome des uterus. Frauenartz, Berl., 1897, xii, 150-199.

Winter, G., und W. Schmitt: Ueber de Behandllung des Uteruskrebses mit Chelidonium majus. Centralbl. f. Gynäk., Leipz., 1897, xxi, 859-863.

Freudenberg, C.: Ueber die behandlung des inoperablen Uteruskrebses mit Chelidonium majus. Centralbl. f. Gynäk., Leipz., 1897, xxi. 940.

Wisselinck, A.: Zur Therapie des Uteruscarcinoms. Ztschr. f. Geburtsh. u. Gynäk., Stuttg., 1897, xxxvii, 225-276.

Bovée, J. W.: A plea for early diagnosis of an early operation for cancer of the uterus. Va. M. Semi-Month., Richmond, 1897-98, ii, 415-420.

Shirshoff, D. I.: On treatment of cancer of the uterus and erosions of the vaginal portion by extr. chelidonii majoris. Frudi Obsh., Russk. Vrach. v, St. Petersb. 1896-7, 194-207.

Hartmann, H. et P. Fredet: Resultats éloignés de ligature atrophiante, faites dans deux cas de cancer inopérable de l'utérus. Bull. et mem. Soc. de Chir. de Par., 1898, n. s. xxiv, 130-133.

Vitrac, J.: (a) Association du cancer utérin avec des lésions neoplasiques non épithéliales de l'utérus et des annexes; (b) Résumé statistique de 82 cas de epithelioma utérin. Gaz. hebd. d. sc. méd. de Bordeaux, 1897, xviii, 356.

Snow, H.: Escharotics in the treatment of uterine cervical cancer, Brit. Gynaec. J., Lond., 1897-8, 312-318.

Werder, X. O.: A new operation for the radical treatment of cancer of the cervix, consisting of the removal of the uterus and vagina en masse by the surapubic method, with report of a case. Am. J., Obst., N. Y., 1898, xxxvii, 289-293.

Lauwers: Du cancer du corps de l'utérus. Bull. Soc. belge de Gynec. et d'Obst., Brux., 1897-8., viii, 177-188.

D'Erchia, F.: Beitrag zum studium des primären Uteruskrebses. Ztschr. f. Geburtsh. u. Gynäk., Stuttg., 1898, xxxviii, 417-464.

Auvard: Cancer de l'utérus. Bull. Gen. de Thérap., Par., 1898, cxxxvi, 81-91. 81; 161: 241; 321; 401: 481.

Gallien, Karl: Beiträge zur Lehre von Carcinoma des Uterus und der Vagina (Wurzburg), Bresl., 1898.

Lucas-Championniere: Traitement palliatif du cancer de l'utérus par le carbure de calcium. J. de Méd. et Chir. prat., Par., 1898, lxix, 344-346.

Laroyenne: Le traitement du cancer utérin au début. Rev. Prat. d'Obst. et de Gynec., Par., 1898, xiv, 117-120.

Etheridge, J. H.: A note on the treatment of carcinoma of the uterus (with carbid of calcium). The Journal, Chicago, 1898, xxxi, 63-68. The use of calcium carbid in the relief of cancer of the uterus. Clin. Rev., Chicago, 1898-9, viii, 303-307.

McMurtry, L. S.: The treatment of cancer of the uterus. The Journal, Chicago, 1898, xxxi, 1470. Am. J. Obst., N. Y., 1899; xxxiv, 217-221.

Roulland: Traitement palliatif des cancers utérins par le carbure de calcium. Anjou méd., Angers, 1899. vi. 34-38.

Jacobs, C.: Ein Fall von vaginaler und vulvarer Implanation eines Adenocarcinoma Colli Uteri. Monatschr. f. Geburtsh. u. Gynaek., Berl., 1898, viii, 238-24.

Vitanza, R.: Ancora sull-amputazione del collo del'utero canceroso durante la gravidanza. Arch. di ostet. e ginec., Napoli, 1898. v. 670-692.

Westmark, F.: Ueber die Behandlung des ulcerirenden Cervixcarcinoms mittelst konstanter Wärme. Centralbl. f. Gynäk., Leipz., 1898, xxii, 1335-1339.

Irish, J. C.: Abdominal hysterectomy for cancer of the cervix. Boston M. and S. J., 1899, cxl, 251-254.

Calderini: Berlin Klin. Wochenschr., 1894, No. 15.

Westermark: In Hygiea, vol. lvi, No. 1. Quoted in the Am. Jour. of Obsterics, Feb. 1895.

Bäcker: Arch. f. Gyn., Bd. liii, H. 1.

Builly, G.: Bull. Gén. de Thér., Feb., 28 and March 15. 1895.

Lanphear, E.: Int. Jour. of Surgery, Aug. 1897.

Guinard, A.: Bull. Gén. de Thér. May 15. 1896.

Wisselinck: Am. Jour of Obst., June. 1898. (Zeit. für Geb. und Gyn., Bd. xxxvii, H. 2.)

Leopold: Ibid.

Rosario Vitanza: Am. Jour. of Obst., May. 1898. Atti della Soc. Ital. di Ost. e Gin., vol. iv.

Jacobs: Bull. de la Soc. Belge de Gyn. et d'Obst., No. 8 et 9, 1898.

Werder, X. O.: Am. Jour. of Obst., March. 1898.

Meyers, Wm. H.: Transactions of Southern Surg. and Gyn. Assn., 1897.

Olshausen: Verhandlungen der Deutschen Gesell. f. Chi., 25 Congress, 1896.

Petisen, Walther: Zeit, zur Klin. Chir., 1896, B. xvii, H. 2, p. 341.

Irish, J. C.: Boston Med. and Surg. Jour., March 16, 1899.

Madden, Thomas More: Brit. Med. Jour., 1899, pp. 981 and 1161.

Williama, Roger: Brit. Med. Jour., Oct. 21, 1899, p. 1086.

Penrose, Charlea B.: Transactions Philadelphia Academy Surgery.

Ryall, Charlea: Brit. Gyn. Jour., July 13, 1899, p. 333, Part lix, 1899.

Jessett, Frederick B.: Brit. Gyn. Jour., Part lviii, Nov. 1899 (p. 227); 1898-9, p. 541.

Jacobs: Belgian Gyn. and Obst. Society, Jan. 21, 1899.

Veit: Berlin Klin. Wochenschrift, 1899, No. 15.

Freund: Hegar's Beiträge f. Geb. u. Gyn., Bd. i, Heft 8.

Reynier: Soc. de Chir., July 12, 1899.
Ricard: Ibid., July 19, 1899.
Ségond: Les Hysterectomies totales, etc., par Dr. L. Bigeard, Paris, 1899.
Williams, Roger: Lancet, 1899, vol. ii, p. 601.
Madden, Thomas More: Lancet, 1899, vol. ii, p. 602.
Snow, Herbert: Brit. Gyn. Jour., 1897 to 1898, p. 312.
Laurenstein: Deutsch. Ztsch. f. Chir. xlv, 4 and 5, 1895; Schmidt's Jahrbch. B. 249, 351, 1896.
Olshausen: Cent. f. Gynäk., xix, I, 1895.
Purcell: Brit. Gyn. Jour., Nov., 1896, p. 345.
Landau, Theodor: Brit. Med. Jour., May, 1899, p. 1269, 1, Transactions of the German Society of Gynecology, vol. v; 2, Zeitschrift f. Geburts. u. Gynäk., vol. xxvii, p. 149.
Rumpf: Brit. Gyn. Jour., 1895-1896. (Berliner Ges. f. Geb. u. Gyn., June 28, 1895, Cbt. No. 31, p. 849.)
Williams, Roger: Brit. Gyn. Jour., Feb., 1896, p. 529.
Knowsley Thornton: Brit. Med. Jour., 1896, vol. i, p. 261.
Paschen: Cent. für Gyn., Oct. 5, 1895.
Evans, James: Amer. Gyn. and Obst. Jour., 1895, p. 68.
Byrne, John: Transactions Amer. Gyn. Society, 1896.
Thorn: Transactions of the German Naturalists, Sept. 20, 1897.
Ries: Zeitschr. f. Geb., vol. 32.
Peiser: Zeitschr. f. Geb., vol. 39.
Penrose: Annals of Surgery, June, 1899.
Russell: Johns Hopkins Hosp. Bull., Dec. 1895.
Janvrin: Personal communication, 1900.
Clark: Johns Hopkins Hosp. Bull., 1895.
Kelly: The Journal, May 19, 1900.
Baker: Trans. Amer. Gynecol. Soc., 1891.
Longuet: Le Progrès Médical, Jan. 21, 1899.
Mauclaire: Revue de Mal., Concer. 1900.
Schüller, Max: Central, für Bakter, April 20, 1900.
Picque and Mauclaire: Cent. f. die Gesam., July, 1899.
Kukenberg: Zeit. f. Geb. und Gyn., xxxii, 1895.
Pryor, W. R.: Amer. Jour. Obstet., vol. xxxv, No. 4.
Halsted: Trans. Amer. Surg. Assoc., 1898.

DISCUSSION ON PAPERS OF DRS. HALL, DEAVER, HUMISTON AND PRYOR.

Dr. H. J. Boldt, New York City—I think this subject is one of the most important brought before the Section at this meeting. I should like to call attention to the location of the neoplasm as classified by Dr. McMurtry. He divides into cancer of the cervix and cancer of the body. As a whole, this is correct in one respect, but from a clinical standpoint it is not the case. We must determine which operation we are going to perform, a vaginal or an abdominal hysterectomy. Cancer of the supravaginal portion of the cervix is more difficult to recognize, and those cases go the longest time before they are referred to a gynecologist for diagnosis and treatment. That, therefore, is an important consideration.

The ordinary form of cancer of the vaginal portion, unless it be the so-called erosion cancer, it not difficult to recognize; I refer to epithelioma or cauliflower growths, and they usually come to the physician much earlier than the other cases.

As to prophylaxis, it must be borne in mind that there is no form of disease which leads to malignant degeneration so readily as long-continued inflammatory conditions of the mucosa. Therefore, cervical fissures accompanied by inflammation of the mucosa are very prone to produce cancer.

As to the papers of Drs. Hall and Deaver, I will ask them what is the outcome of their cases three years after the operation. The technique Dr. Hall has described is a most beautiful one, but how many cases remain free from the disease after a few years of time? We must always bear in mind that the age of the patient is a most important factor in connection with the location and the extent of the disease. In regard to the ligature and clamp, the former is the neater operation, and I should always advise and use it, if consistent in a respective case. But to say that one can take off as much of the broad ligament with ligatures as with clamps is, in my opinion, erroneous. There is no danger of secondary hemorrhage if proper clamps are used. Cases which are advanced with the broad ligaments infiltrated are not going to live very long. In my experience they usually die within a year or so. We should therefore limit ourselves to the early cases. As Dr. McMurtry said, the chief factor is an early diagnosis. It is not sufficient to go into the uterus with a small curette and scrape a little endrometrium away, but every part must be curetted. If a small piece as large as a pin-head of malignant structure is secured it is sufficient to base a diagnosis on and to do a radical operation.

In discussing the malignant diseases of the uterus, the chief question is: What are the ultimate results? As far as the abdominal operation is concerned, my experience is too limited. Dr. Pryor has truly said that our experience in toto is too limited. Time will show whether the abdominal operation is superior in its ultimate results; as yet we can not speak with positiveness on this point.

Dr. J. M. Baldy, Philadelphia—It is entirely the practical aspect of gynecology that appeals to me. As to the technique when a major operation is to be done, I can fully agree with Dr. Pryor and Dr. Deaver. I know of nothing so irrational as the vaginal operation. The question is: How many patients can we get well by an operation? How can we best give health or relief? The gentlemen who are doing major operations tell us that they have from 30 to 60 per cent. of cures at the end of a certain period. They probably had excluded a hundred cases on which they would not operate, picking a half-dozen for operation. It is not fair to consider the picked cases. The question is: What relief have these gentlemen been able to give in all the cases of cancer which have come into their hands. We can not accept off-hand what figures say, because we know they can not be relied on. These gentlemen, when they include all their cases, cure one or two out of 500; it is the best showing they can make. If we wish to consider cancer practically, what will give the patient the most relief in all cases—not a few picked ones? Is it to do the major operation and kill the majority of them, or do something which will give them just as much relief as a major operation and which is accompanied by no danger? Is there anything that will do this? I am sure that there is. By referring to the medical and surgical literature of the world as it stands today, the cures are few and far between by the major operations.

We must divide cancer into two kinds in spite of the estimation by Dr. Boldt: cervical and fundus cancer. I suppose I have seen three or four hundred cancers in my life, and I have done from 50 to 150 major operations, and I do not know today of a single living case with cancer of the cervix in which I was able to make a diagnosis without the microscope. There are some I know nothing of, but judging from the others, I, in all fairness, consider that they are dead.

The fundal cancer, on the other hand, are all well, with the exception of 4 or 5 who died at the time of operation. I can put my hands on at least 13 or 14 of these women to-day who are well and healthy. What can we do to give these patients relief? Curette, scissors, knife, amputation, call it anything you wish. When you get it all away, burn, and burn as far as you can, and as thoroughly as you can. Those cases live as long as major operations and have often absolute relief. Dozens of them gain 40 or 50 pounds inside of three or four months. They have red cheeks, look well and feel well, and they usually insist that I must have made a mistake in the diagnosis of cancer. Major operations can do no more as they stand to-day. Any practitioner can carry out the one treatment—only specialists can do the major operation with safety.

Dr. G. Betton Massey, Philadelphia—Much of the lack of success in the treatment of cancer by the knife is due to delay. Such results are not infrequently due to the family physician's want of faith in this remedy, as instanced in the advice given by a physician to a patient, subsequently under my care: "Do not touch a cancer until you have to." The limitations of surgical relief are, however, very great, and I wish to call your attention to a method of treatment of cancer of the cervix, the kind of cases that have been spoken of by the last essayist and by Dr. Baldy as being least amenable to the ordinary operation. This method is surgical in spite of the fact that I bring it forward, although it is not surgical in that sense of surgery as interpreted at the present time, and which is limited entirely to the knife. This is the method of electrical destruction by the production of electrolytic salts of mercury in situ, in such a manner as to destroy the cancer as thoroughly as the knife will. This is done in the time of an ordinary operation, in from fifteen minutes to an hour and a quarter. It requires a very powerful electric current, and that is its main limitation. You must have good batteries and good apparatus. In addition to destroying the apparent limits of a cancer, it goes further by the diffusion of the oxychlorid of mercury or of zinc. Besides destroying the growth itself as thoroughly as the knife can, it produces a zone of infiltration which may be called the zone of sterilization, extending from one-half to one inch in all directions beyond the limit of the cancer. That is the distinguishing and probably the most valuable feature of this method. The method is faultless, and can easily be carried out with the proper instruments. It is rapid and sure, and is inferior to the knife operation only in that union by first intention is impossible. The dead material comes away in the ordinary manner and the cavity left heals by granulation. I have used this method on four cases of inoperable cancer of the cervix, of which two are living, one six years after the operation and the other six months. The two cases that are not living were benefited temporarily by what I call mild applications. An application was made daily for several months, controlling hemorrhage and the odor. You must remember that this is a powerful antiseptic, the oxychlorid remaining within the tissues for some time. Both of the unsuccessful cases had been operated on previously with the knife, nothing other than palliation being produced. In one of the cured cases a cure was established by the mild method, but I used 100 milliamperes for a quarter of an hour daily for six weeks, and then at longer intervals for the balance of a year. This patient is now perfectly well.

Dr. J. Henry Carstens, Detroit—Gentlemen, let us be honest. Let every one of you bring to your mind all the cases of cancer of the breast, no matter when operated on, where the axillary glands and the glands beneath the clavicle were removed—the most perfect operation. How many of these cases can you think of who are living three years after the operation without a recurrence, and how many have died? My experience is that they all recurred, and with very few exceptions they nearly all died. If you can not remove all the glands in a cancer of the breast, how in the name of common sense can you remove all the glands in the abdomen—in soft tissues where we must work around the aorta and where the operation requires a great deal of time? You can not take out every gland, you are bound to leave some of the gland and some of the lymph channel, no matter how careful you are. I will predict that the men who advocate abdominal hysterectomy will have just as many recurrences in five years as the men who do vaginal hysterectomy. Vaginal hysterectomy with me has always given poor results and I have limited my circle of operation more and more as my experience has increased. Many cases which I formerly operated on I now leave alone, because I can give my patient longer life and better well-being by palliative measures. I do not wish to say that I do not believe in vaginal hysterectomy. I can show you cases from 5 to 8 years after operation without a single recurrence, but you must get them early.

As far as electrolysis is concerned, I do not know that we are to laugh at it, but if cancer is due to the blastomyces or any other germ, and if electricity will kill it, if Dr. Massey will show a method of killing the germs in situ we will be under everlasting gratitude to him.

We must make our diagnosis early, and we must make our prognosis in all cases, even early ones, very bad indeed, as even those recur. We must use the curette and the microscope more than we do at present in order to detect cancer in the very earliest stage.

Dr. Joseph Price, Philadelphia—We are speaking to a large gathering of general practitioners and a few gynecological specialists, and a good many general surgeons. The point made by Dr. Baldy in regard to the malignancy of uterine cancers is the experience of a good many specialists. Sarcomas occur in the spinster in the upper part of the fundus, and the results by extirpation are cures. In child-bearing women the cancer commonly occurs in the cervix, rarely in the fundus. Malignancy is malignancy the world over, and always recurs except where you make the error of extirpations for cervical erosion or a crop of Nabothian cysts. In the neglected and desperate cases the curette and cautery does just what Marion Sims said many years ago in Boston. He advocated the free use of the curette and cautery before Dr. Holmes' class. I am speaking about the hopeless cases, those contaminating the atmosphere of the home. The family appeal to us to do something, because the home is becoming offensive to the family. What Dr. Carstens has said is correct. The free use of the curette and cautery, charring or cooking the parts, prolongs lives as long as a hysterectomy. It makes no difference if we extirpate, as they all come late, and sometimes they return. If they recur the deaths are easier, less objectionable to themselves and to their friends, whereas, after extirpations and recurrence in the bladder and bowel the deaths are horrible. I remember a physician's wife, from whom I removed the uterus, who came back and asked me to remove her bladder, as the growth had invaded it.

Dr. Humiston, a good anatomist, finds three sets of glands; Dr. Deaver, another good anatomist, finds two. They must reconcile this between them. There are, unfortunately, very few people who have had an opportunity of serving an apprenticeship in gynecology as we have, but there is only one well-organized department in gynecology in this country. It exists in a large hospital which is giving special departments an opportunity; and all you get there is object-lessons. Very few hospitals have organized departments for the specialties. Just here I want to pay my respects to the general surgeon, who is also entering this department. It seems that everything pertaining to sexuality is interesting, and it is the only excuse I have been able to think of for the general surgeon giving up his work and adopting ours. You must remember that many of us were general surgeons and made a great sacrifice when we entered our specialty. My brother and I made great sacrifices, giving up surgical work and a good obstetrical and family practice, which it took years to build up, in order to devote our time to gynecology. I regret that the good surgeons in Philadelphia neglect their general work and are adopting ours. If I were a younger man I would go back to general surgery, remove wens, treat ingrowing toe-nails and present the specimens at our county society. A few years ago I put three good surgeons to the test. I sent John Deaver an aneurysm case and two other general surgeons three cases each. A few days afterward I asked my students what they saw in the various hospitals to which these cases had been sent. At one hospital the "surgeon removed a pair of ovaries"; at another, "Dr. So and So "removed a pair of ovaries"; at the third the "surgeon removed a pair of ovaries." That is all they could tell me and all they had seen. Then I considered where I could send my cases after that. If our specialty is to be a specialty, let us begin now to teach it and practice it as such. It is the duty of all of you at the cross-roads to save the woman dying from an extrauterine pregnancy or from an appendicitis or a septic endometritis, as you have no time to ship them to Philadelphia. If general surgeons accept your money for four years it is their duty to educate you to treat those people at the cross-roads and not to meddle with the specialties. The teacher has been neglecting his duty to his profession. You all know that the general surgeons practice gynecology in jack-knife or rule-of-thumb fashion, and know as little about gynecology as a Chinaman does about teaching Sunday school. At present many general surgeons are practicing gynecology and professing to teach the great subject of general surgery. He is making precisely the same mistake as the professor of obstetrics is guilty of—professing to teach one specialty while practicing another.

Dr. A. H. Goelet, New York City—There are three points which should be emphasized, first, early diagnosis, and we can not insist too strongly on the family physician being impressed with this fact. Something over a year ago a physician in a Connecticut town sent me a patient to be operated on for cancer of the uterus. I sent the patient back to him with a note saying that he could cure the case himself in six months, as it was senile endometritis. I saw him later and he told me that the patient had entirely recovered under the plan of treatment I had outlined and which he carried out.

The next point is early operation. If a positive diagnosis of cancer is made, a radical operation should be done at once to remove the diseased tissue, and remove it thoroughly. As a case in point, a patient came to me about three years ago and I insisted on immediate operation. She had a cancer involving the body of the uterus. She left me in order to consult other specialists and many general surgeons in New York. They all advised the same thing. A year later her daughter came to me and asked me to operate. Their excuse for not accepting my advice in the beginning was that the family physician told her she had better wait, as it was not bad enough for an operation. I refused to operate, as I deemed it too late. She died a few months later.

The third point is that if the cancer has attacked the body of the uterus we should insist upon operation by the abdominal route, so that we can see what we are doing and so we can do more thorough work. I wish to place myself on record as favoring the abdominal route in cases where the disease has advanced beyond the cervix.

Dr. John Byrne, Brooklyn—I hesitate very much, on the present occasion, to take up your time in attempting to discuss a subject of such vital importance as the treatment of uterine cancer. Indeed, had I anything novel or of practical value to offer the few minutes allowed me by your necessary rules would hardly suffice. Besides, what I might say would, for the most part, be but a repetition of what I have been saying and advocating for the last 25 or 30 years.

Throughout the published transactions of the American Gynecological Society may be found the records and statistics of my work. These have been and are to the profession public property, and within the reach of all, and yet, though conceded to be singularly attractive, both as regards novelty of procedure and results obtained, few, if any, have followed my example or attempted to conduct electrocautery operations in a rational, not to say thorough, manner.

As Dr. Baldy has aptly said, what most concerns us and the community at large is the question: How many lives can we save by any operative measures in cancer of the uterus? How many lives can we prolong in comparative peace and comfort by operative measures? These are pertinent and practical questions, and I think I can confidently refer to my records for their elucidation. Thoroughly convinced as I am of the utter inutility, to say the least, I deny the legitimacy of hysterectomy for cancer of the cervix in any case. There is no example of malignant disease of that organ, with the exception of carcinoma of the fundus, and that ab initio, for which hysterectomy is useful or justifiable. As for primary mortality following this operation, its advocates have been in the habit, from time to time, of indulging in the wildest and most unwarranted statements and predictions—for example, that 5 per cent. would be an excessive estimate, and that by increasing familiarity with the operation and more perfect technique, primary mortality would be reduced to 2 or 3 per cent. Now, what are the facts? In 1892, as the result of an exhaustive study and careful analysis of all available data, and exclusive of probably thousands of cases which their exploiters have modestly withheld from the impress of cold, unsympathetic, and inexorable type, the actual primary mortality was found to be no less than 14 per cent. Again, seven years later (1899), a similar investigation resulted in the discovery that, instead of a reduced mortality directly attributable to the operation, the figures had crept up to over 20 per cent. Coupling these startling facts with the well-known reticence of our gynecological statisticians regarding recurrences, and about which they would seem to think "the less said the better," the conclusion arrived at ten years ago is fully sustained and emphasized, viz., that " over 90 per cent. of all the victims of cancer of the cervix uteri thus far submitted to hysterectomy would have lived longer and suffered less if they had been let alone." In brief, gentlemen, there is but one safe and successful method of treating these cases, and that is by electrocautery. Careful, slow and thorough excision of the diseased part by the heated knife, and repeated applications of the dome-shaped electrode to the remaining cavity, until the parts are dry, crisp and black, will be found an absolutely safe, and in the early stages of the disease a permanently curative, procedure. Moreover, in more advanced cases a similar course will be followed by a longer respite from relapse than from any other known method of treatment. I hope the day is not far distant when hysterectomy for cancer of the cervix will not only be abandoned as useless, but universally condemned as a criminal operation, which I believe it to be.

Dr. Phillips—I have been listening to see whether anything would be said as relating to the converse side of this picture. It has been my fortune to see, within the last six months, several cases of complete hysterectomy that I believe showed no cancer of the uterus. I believe they were simply chronic erosions. It has been my misfortune, too, to see many cases of amputation of the cervix, which I am thoroughly convinced were never cancer. Some of these diagnoses were made by the general surgeon, some by the general practitioner and a few by the gynecologist. I believe that there are many cases of simple erosions of the cervix that are sacrificed, in which complete hysterectomies are performed, that never had a single symptom of cancer. That should be thoroughly emphasized and the general practitioner should be asked in every case, before advising an operation that a thorough examination with the microscope should be made before an operation is decided on.

Dr. Charles L. Bonifield, Cincinnati—Dr. Goelet spoke of the necessity of educating the general practitioner to make an early diagnosis of cancer. It is my opinion that the general practitioner has been educated along this line, but that we must continue the education in another direction. We must educate our patients to apply for relief earlier. I have often had patients sent to me the day after they first consulted their family physician, and on examination I found them too far advanced for operation. As Dr. Baldy said, the question is a practical one; the result we should aim to obtain is to prolong life and relieve suffering. Until our friends who advise the very radical operation of removing all the glands they can find in the pelvis can prove by their statistics that they succeed in doing this, the majority of us will continue to perform the milder operation and give relief from symptoms.

As to the question between abdominal and vaginal hysterectomy, I am a decided advocate of the abdominal method; in fact, I have never done a vaginal hysterectomy. My reasons are briefly these: When the abdomen is opened, we can at once see whether there is involvement of the peritoneum between the uterus and bladder or between the uterus and rectum; if there is, a hysterectomy will do no good and the patient may be spared the dangers and discomforts of the operation; again, we may find that what seemd to be a thickening of the peritoneum from advance of a malignant disease is an inflammatory condition of the appendages having nothing to do with the cancer, and not being a contraindication to hysterectomy; in the abdominal operation we can go wider of the disease, especially in the broad ligaments, and there is less danger of soiling the field of operation.

Dr. G. J. Engleman, Boston—I have never published my results in operative work or in cancer of the uterus; as from the very beginning they have been such as they are described here to-day and now generally acknowledged, unfavorable. I never cured a case, and I deemed myself at fault somewhere, since successful and permanent results were recorded on all sides. My first hysterectomy for cancer, done twelve years ago and then most disappointing to me, is a fair sample. I found the patient improved at first, much improved; then a recurrence, and in less than a year speedy death. I was greatly interested and very much gratified at the tone of the present discussion, because formerly statements were made on all sides of success and cure, and I was unwilling to give my decidedly different and unfavorable statistics. Now, all admit precisely such results. We owe an acknowledgement to Dr. John Bryne, of Brooklyn, for his faithful work. We have doubted him and have watched him. He has gained better results with his method of amputation with the thermocautery than we have from hysterectomy. We have appointed committees to observe his work and the report on it found no flaw. Our observations to-day establish the correctness of his results and his views. We are now getting down to bed-rock; we are at last reaching the position in this question of hysterectomy for cancer of the uterus, that which was taken 75 years ago. We advocate removal in the early stages, claiming only that it will give the patient comfort for a time and then a rapid passing away. This was clearly stated by Sauter in 1822 as the result of a detailed study presented to the Academy of Medicine of Vienna. He takes precisely the position we hold to-day, but, like so much in medicine that is in advance of its time, it was ignored and lost. Hysterectomy in 1822 was a step even beyond the ovariotomy of McDowell, too progressive for the surgery of that period. Now, however, it merits our attention, especially since results and possibilities are there described, as we have only this very last year learned to admit, that temporary relief only was afforded by hysterectomy. Let us do justice and honor to the man who for so many years recognized the truth and staunchly, single-handed, maintained it.

Dr. P. A. Harris, Paterson, N. J.—I simply wish to refer to one point which I believe to be the most important item for our consideration, and that is the early detection of cancer. We as a profession are to be blamed for the condition of affairs existing to-day. If there is one mistake which is common, it is for the general profession to wait for the appearance of blood. They wait for hemorrhages. If we wait for them to appear many cases will pass the stage when an operation can do them any good. The cases should be detected early. In this connection I want to call your attention to the pre-existing leucorrhea. When you have bleeding, you often have tissue necrosis, and when this is extensive, you have very general infiltration and the case has passed to the point where anything like a good result is not to be thought of. Leucorrhea in any person, especially one advanced in age, should receive immediate and careful attention. Its cause should be ascertained. We here have a symptom of very great importance, and always preceding spottings and hemorrhage.

Dr. John G. Clark, Philadelphia—Freund, of Breslau, now of Strassburg, put into effect certain theories concerning a new method of operating for cancer of the uterus which was so skilfully planned that it proved to be the basis of all successive methods of abdominal hysterectomy. Up to this time no definitely planned operation for the total removal of the uterus for cancer had been performed, at least along the lines pursued by Freund. In the twenty-two years since Freund performed his first operation many operations and many plans of treatment other than the surgical have been inaugurated. Freund has been a most impartial critic and has never discarded any plan of treatment which promised better results than his own operation. After a careful observation of the various plans of treatment, Freund, in a personal conversation with me some two years ago, said he had returned to the abdominal method as the most radical, so far devised, for the cure of cancer. His indications for operation are as follows: If the cancer is in the early stage, radical abdominal hysterectomy is performed with a view to a permanent cure; if later, he performs vaginal hysterectomy, only as a palliative measure.

Having worked out a plan for the more radical removal of cancer by the abdominal route, I naturally cling to this method in preference to any other, and I have naturally been delighted to hear such a skilful surgeon as Dr. Pryor take such a strong stand in favor of the abdominal rather than the vaginal route. The very fact that he is so skilful and has advocated so strongly the vaginal methods in many other pelvic pathologic conditions renders his opinion of more than ordinary value when he unequivocally declares in favor of some one of the abdominal methods. If we are to follow the well-established surgical rule for the widest possible excision of tissue adjacent to the cancerous focus, it seems to me that Dr. Pryor's position is the only feasible one.

Within the last two months I have had the pleasure of trying Werder's modification of the abdominal method, and so far I have been delighted with it. In carrying out this method, practically the same plan as suggested by Ries, Rumpf and myself, may be instituted in the abdominal part of the operation. This insures the most radical removal of the diseased tissue and glands within the pelvis. After the uterine arteries are ligated well out toward their origin beyond the ureters, and the broad ligament with its cellular tissue detached from the pelvic wall, the uterus by means of strong traction forceps is drawn down into the vagina, and after whipping the peritoneum together over the pelvic wound the remainder of the operation is conducted per vaginam.

In order to render this operation most effectual I am a strong advocate of the cautery, as advised by Skene, based on Byrne's admirable work. In the cautery we have undoubtedly a better instrument than the knife. The latter cuts through but does not destroy immediately adjacent tissues; the former does both. Microscopic examinations of specimens constantly show that the operation is just within the area of cancerous infiltration and that possibly a very infinitesimally additional removal of tissue might have effected a cure. The careful excision with the cautery may secure this end.

In conclusion, therefore, I feel that a combination of the radical operation as devised by Ries, Rumpf and myself, with the methods of Werder and the use of the cautery for excision rather than the knife, will most nearly effect a radical cure. Even with all this care, our mortality statistics from a continuance of the disease must be tragically high.

Dr. J. Wesley Bovee, Washington, D. C.—I simply wish to cast my opinion in favor of the abdominal route, and I agree with Dr. Clark as to the efficacy of the operation described by Dr. Werder. We all know that in cancer of the cervix the vaginal wall comes in contact with the cancerous tissue constantly. In the operation of Dr. Werder the separation of the uterus and appendages and a portion or all the vagina is all done from above. Then the abdominal wound is closed and from below a circular incision is made around the vagina, meeting the lower portion of the dissection from above by cutting through the vaginal wall and pulling the whole uterus out through the vulva. The whole vagina can be removed in that way. I have now done 14 operations of this kind without one primary loss. Thus far, one case has died from a recurrence. Judging from the description of the symptoms I think it was a cancer of the stomach. This operation extended a little further in the way that Ries and Rumpf have shown, requiring a thorough removal of the lymphatic glands and of all the ligaments of the uterus and the vagina. It is not necessary to introduce the ureteral bougie, as the ureters are easily found and isolated. Chalot, who has done more work than anyone else in this line, ligates the iliacs and transplants the ureter into the rectum or sigmoid, or onto the skin, and removes the bladder. When invaded from cancer of the uterus, it is too late for any radical procedure in the way of extirpation of the bladder or transplantation of the ureters.

Dr. Deaver, in his paper, speaks of these radical operations, comparing the work of the gynecologist and the general surgeon. He speaks of the inguinal lymphatics running to the inguinal glands. I would like Dr. Deaver to say whether or not he removes the inguinal glands in his broad operation.

I wish to say to Dr. Clark that Dr. Sauter has been given the honor of being the first to remove the cancerous uterus through the abdomen, in 1831, but not the first to remove the cancerous uterus.

Dr. Andrew J. Downes, Philadelphia—I had little intention to report what I am going to, because I was afraid I would be premature. During the last year I was working on an electrical forceps with a view to bringing out a more practical and more useful instrument and one that would give us the same results much more quickly than the angiotribe. I have had considerable difficulty with the instrument-makers, as it seems that we can not obtain an electrical instrument as good as we want it. I attempted to procure a forceps that will control hemorrhage in 30 seconds. I now have three forceps, each with one blade on which I can boil a drop of water in 15 seconds. The heat and pressure enable us to control the hemorrhage in 30 seconds. I have operated five times with this forceps during the past winter, although not with the last one I described. I have removed the appendix three times, done one hysterectomy and one ovariotomy. The tissues grasped by the blade are white and there is no hemorrhage. If there is any pus or infected material, as is sometimes found in an appendix, the use of the forceps is not going to endanger the condition, as the forceps are sterile. The point I wish to make is, that with the electro-hemostatic forceps we can control hemorrhages; in cases of cancer we can go close to the pelvic wall and leave a perfectly sterile body behind, which a ligature does not do; what it once compresses remains compressed; if heated sufficiently it will also sterilize the tract through which it passes.

Dr. L. S. McMurtry, Louisville, closing the discussion—I take it that the discussion has thoroughly demonstrated that treatment of cancer of the uterus, is, in the present state of our knowledge, unsatisfactory. It is apparent that in prognosis and treatment we should discriminate between cancer of the cervix and cancer of the corpus. Some of the operations that have been proposed are not applicable in this disease in a large proportion of cases, because these patients will not bear prolonged surgery. A woman who has been depleted by hemorrhage or sapremia, as most of them are who apply for relief, is not in a condition to undergo an operation which will require two hours' time. I take it that Dr. Pryor operates only in cases in the early stage before there is marked constitutional poisoning.

The point I wish to emphasize is that more stress should be laid on minor gynecology. Women, about the menopause, should be invariably examined and minor operations and treatment of inflammatory diseases should receive careful attention, especially as a prophylactic measure.

Dr. R. B. Hall, closing the discussion—I agree with the gentlemen who have said that we should always conserve human life, that we should do for our patients that which will give them the best chance to live. If they can not make a perfect recovery, do the least operation which promises relief. When I agreed to write on this subject it was not an unpleasant duty, as I have always advocated, for certain selected cases, the use of the ligature in preference to the clamp for the reasons stated in my paper. It gives an opportunity to close the peritoneum and thus prevent infection and the possibility of a subsequent intestinal obstruction, which the gentlemen using the clamp with large quantities of gauze packed in the pelvis must admit is not an imaginary danger. I admit that I frequently do the combined operation for cancer of the body of the uterus, particularly sarcoma. The uterus is too large to remove through the vagina, but in those cases in which you can get outside of the diseased area the vaginal route is to be preferred. It is not such a severe operation and the patients recover easier than those that are subjected to the abdominal operation. I believe that the curette and the cautery have a field in these operations, not as a cure, but to prolong life, and to mitigate suffering. I frequently employ them, but I can not agree to the statement made by one of the gentlemen that that is the operation to be advised as a hope of a permanent cure. As to a permanent cure, I do not suppose that my experience differs very much from that of any other gentleman. The large majority of these patients are dead within three years after operation, although occasionally one lives a little longer. I have cases now, cases of epithelioma who are alive after six years. In one case I at first refused to operate, but finally consented to curette and use the cautery. After cleaning up the field, I decided to do a vaginal hysterectomy. The patient is still alive after six years, but it is a rare case. Recurrence is the rule, and it makes me hesitate to perform the radical operation advocated by some of the essayists.

Dr. W. H. Humiston, closing the discussion—My practice for several years has led me to this conclusion: It is necessary in all chronic diseases of the uterus to carefully examine microscopically all tissue removed. If malignant disease of the cervix is found, abdominal hysterectomy gives the best results. If malignant disease of the fundus alone is found vaginal hysterectomy is the better operation.

Dr. William R. Pryor, closing the discussion—I wish to say a word about curettage and removal of portions of the cervix for purposes of diagnosis. The surgeon who purposes to do this should have a clear understanding with his patient that if he finds cancer present he shall have the privilege of performing a radical operation within two weeks; for the man who puts a knife into a cancer focus disseminates cancer cells, and, unless an incomplete operation is very soon followed by a radical removal, his patient is made worse by the interference. The glands which I seek to remove in cancer of the cervix are those which lie near the obturator foramina, and I do not think that any operation for cancer of the cervix should be considered complete which does not accomplish the removal of these glands, together with all of the parametric tissue.

Dr. Deaver, closing the discussion—Notwithstanding that I am a general surgeon, I am more of the opinion than ever that the operation I advocate should be done prior to the infection of the glands. The great point is to have a definite idea of what you are going to do and then go ahead and do it. I have never had any difficulty in dissecting out the glands along the iliac arteries, as they are easily exposed. The curette and cautery is the operation par excellence in advanced cases, beyond any question of doubt. I recall a lady who was operated on four times by this method and lived for five years. I am sure that if she had had a radical operation earlier it is possible the ultimate result would have been better. What prompted me to do this work, so far as the glandular dissection is concerned, is what prompts me to do the radical breast operation. Doing general surgery for twenty years, and doing much breast work, I naturally followed the extensive dissection carefully. I operated on a case twenty years ago and the woman still lives. Of course, many cases recur. Dr. Cartsens says, make a careful prognosis; I say, make a correct diagnosis, that is the principal thing. All those who know anything about the anatomy of the breast know that the mediastinal glands may become involved, if the disease is allowed to advance; therefore, early operation and removal of the glands in the armpit before involvement is necessary. That is my practice.

So far as the anatomy of the glands is concerned, I did not say that I dissected out the inguinal glands when removing the uterus. We all know that within the pelvis we have the iliac and lumbar glands, which go to the receptaculum chyli. Those glands are the ones we must remove. If we can recognize our signboards, our anatomical landmarks, if we know the anatomical relation of the pelvic structures, it is no trouble whatever to dissect out the glands.

In regard to the general surgeon doing gynecological operations, I quite agree that the majority of them should not do such work, but these operations are so easy, so simple in comparison to those of general surgery, that I can not help but be attracted by them. I would like to see some of the gynecologists remove a large cystic or vascular goiter; why, many of them would perish—I mean the gynecologists.

THE ETIOLOGY OF SCARLATINA.

WILLIAM J. CLASS, M.D.
Medical Inspector Chicago Health Department.
CHICAGO.

In the *Berliner Klinische Wochenschrift* of July 2 and 9 there appeared an article by Adolph Baginsky and Paul Sommerfeld, in which they announce the discovery of a micro-organism whose constant presence in the throat secretions and blood of scarlet-fever patients causes them to believe that it is probably the causative factor of this disease. It is this article that has inspired me to a further communication, as well as a desire to present to the medical profession the evidence that has so far accumulated favoring the view that the diplococcus scarlatinæ, the germ discovered by me, is the cause of scarlet fever. The only notice taken by Baginsky and Sommerfeld of my investigations into the cause of scarlet fever is the statement that I had found a diplococcus resembling a very large gonococcus, which organism was considered by me as being the cause of scarlet fever. As the source on which this statement was based, they mentioned an editorial on the subject which appeared in the London *Lancet* of November 18, 1899. This editorial dealt with a preliminary report made on the subject under consideration. I mention this fact, not because I feel in the least hurt by receiving such scant consideration at their hands, but for the reason that if they had taken the trouble to read some of the later contributions by myself and others on the diplococcus scarlatinæ they would not have failed to notice the similarity in many particulars of this germ with the one whose discovery they announce. I do not presume to state positively that these two germs are identical; in fact, this would be almost impossible without having seen their cultures, but I will take the liberty to compare certain parts of the description of their organism with those made of the diplococcus scarlatinæ. The reader may then judge for himself whether there is any similarity or not. In order not to be accused of any inaccuracies or twisting of terms, I shall give Baginsky and Sommerfeld's statements in German exactly as they appeared in their article. Before beginning this comparison, however, I will say a few words in regard to the term "streptococcus."

In recent medical literature, it is quite common to find an organism described as a streptococcus when a culture shows short chains of three or four cocci mixed with single cocci. I have even seen an organism described as a streptococcus where an examination showed perhaps one or two short chains in a microscopical field filled with single cocci. It appears to me that the term "streptococcus" should be reserved for an organism the cultures of which show the chain form predominating, the chains being well defined and not simply an accidental arrangement of three or four cocci of perhaps different size and shape. In ordinary life one would hardly call three pieces of iron, each of different size, when joined together a chain. This statement is made because we are about to deal with an organism that has been described as a streptococcus, but which does not seem to conform with the proper conception of the term "chain coccus."

Baginsky and Sommerfeld describe the morphology of their germ as follows: "In direkten aus Blut in den Organen entnommenen Trockenpræparat erkennt man zu 2-3 gelagerte runde Keime, also Diplokokken oder kuerzeste Ketten, hie und da auch wohl als Tetraden gelagert."

In an article published by me[1] I made the following statement in regard to the diplococcus scarlatinæ, under the heading "Morphology": "In young cultures grown from the blood of a scarlet-fever patient the germ is usually seen as a diplococcus, both segments of which are globular. Streptococcus forms are occasionally, though rarely, met with, as are also single cocci." "Tetrads are frequently seen, and probably denote the beginning division of the organism." It would be very peculiar if two observers who have each examined over three hundred cases of the same disease should find two entirely different germs whose morphology at the same time bore such close resemblance. So much for the primary blood examinations. As we continue our comparison, certain discrepancies apparently appear. I shall again quote from the article by Baginsky and Sommerfeld: "Die Morphologie des so dargestellten Mikroben ist folgende: von wechselnder Længe: in solchen von 3-4 Individuen, indess auch in langen geschlængelten Ketten bis zu 50 Gliedern und barueber, der Keim des Streptococcus ist meist kreisrund, zuweilen allerdings auch abgeplatten und zwar in der Richtung senkrecht zur Kette, so dass zwei mit den breiten Seiten aneinander liegen. Studiert man einzelne Glieder der Ketten genauer in gefærbten Præparaten so erkennt man vielfach Diplokokkenformen, indess nicht immer, andere erscheinen also kleinere oder groessere runde Koerner. Die Form war wie man erkennt æusserst wechselnd und wandelte sich je nach den Medien, in welchen die Cultur weiter poussirt wurde. In direktem Præparat als Diplokokken aufgetretene oder als kurze Kettchen erscheinende Formen wuchsen in alkalischer Peptonbouillon zu langen Ketten, die z. Th. bei der Umzuechtung auf Agar und bei der Thierpassage sich wieder in kurze Ketten von 3—6 Gliedern unwandeln lassen. Hierbei variirte auch die Groesse des einzelnen Keimes aus demselben urspruenglichen Stamm in mannigfachster Weise." In the article referred to[2] I made the following statement in regard to the morphology of the diplococcus scarlatinæ: "A diplococcus polymorphous in character, but resembling, as ordinarily seen in slides made from fresh cultures grown on *my medium* (earth agar), a very large gonococcus. This biscuit-shaped appearence is best seen in specimens that have been but lightly stained. Tetrads are frequently seen, and probably they denote the beginning division of the organism. In very old cultures grown under favorable conditions it shows as an enormous coccus have a slight cupped appearance, the dividing line between the two portions being very indistinct in the more deeply stained specimens. By the division of the large diplococcus a number of smaller organisms are formed, which group together and do not appear as diplococci during the very early stages of their growth." This description of the organism was made from cultures grown on earth agar, while that of Baginsky and Sommerfeld showing long chains was made from cultures grown in alkaline pepton bouillon (*vide ante*). It is of importance to remember this fact, as the morphology of the germ varies according to the medium in which it is grown. ("Die Form war wie man erkennt æusserst wechselnd und wandelte sich je nach den Medien in welchen die Cultur weiter poussiert wurde.") It is this great variability in form when grown on other media than earth agar which caused me to think—as I mentioned in the article in the *New York Record*—during my early experience that the growth upon plain agar, etc., was a contamination. Jaques[3], who studied cultures of the diplococcus scarlatinæ grown on the ordinary media, says in regard to its morphology: "This germ has a wide morphology. Sometimes one stage and then another will become accentuated, according to the environment and nutrition. Sometimes conditions are favorable to its growth in chains and the culture will show streptococcus form. In another case it will grow as a staphylococcus, and still in another as a diplococcus." This variability of form which characterizes my germ, as well as that which Baginsky and Sommerfeld claim as a new discovery, is further shown by the description by Gradwohl[4] of the diplococcus scarlatinæ, who states that it shows no permanence of morphologic character, as well as by the following statement made by me in an article[5] on the subject. "This germ varies greatly in size and shape, and although the form usually seen in primary cultures grown on the earth agar is the diplococcus resembling a very large gonococcus, still a primary culture may show it in one of its other forms.

In order to prove the identity of the organism it becomes necessary to make successive transplantations of the culture from one tube to another, allowing it to grow for a few days at the least before transferring to a fresh tube. The different forms can be best studied by beginning with a culture of the large diplococcus, by transferring a loop of this culture to another tube of earth agar and allowing it to grow for a few days, and then making an examination of the growth it will be found to consist largely of tetrads; by the still further division of the tetrads in the next subculture small diplococci are formed, and through the division of these single cocci, etc." Another point of semblance between these two findings is the variability in virulence which both germs seem to possess in common.

Baginsky and Sommerfeld state, "Bei allen Thieren war die Virulenz eine aeusserst variable," and again, "Die Virulenz der Kokken ist nicht nachhaltig und geht leicht verloren, verminderte sich zumeist schon erheblich nach wenigen Tagen." This is a fact to which I have repeatedly called attention when speaking of the diplococcus scarlatinæ. I will not attempt to draw any comparison from the biologic characters of the two germs, as the following statement by Baginsky and Sommerfeld excludes such a course: "In unseren eigenen Culturen waren wir vergeblich bemueht gewisse Eigenheiten des Wachsthums in den einzelnen Staemmen zu fiziren; immer wieder variirte ebensowohl der einzelne Keim der Ketten in Form und Groesse, wie auch die Virulenz und selbst das biologische Verhalten in den Naehrmedien, so dass wir die Differenzirung einzelner Formen schliesslich auszugeben gezwungen waren." In looking over the comparison made in the preceding pages I think the reader can not fail to be impressed with the fact that in all probability the germ found by Baginsky and Sommerfeld in their primary examinations was identical with the diplococcus scarlatinæ, as the description given of it by them and my description of the germ as seen in primary cultures have almost the same wording. Of course, a point of difference is that Sommerfeld and Baginsky, in the description of the growth of their germ on agar, etc., speak of it as a streptococcus, while this term can not be applied to the diplococcus scarlatinæ as ordinarily seen. However this may be, the germ found by Baginsky and Sommerfeld in their primary blood examinations was certainly not a streptococcus, but a diplococcus, as they themselves say, "Zu zwei bis drei gelagerte runde Keime also Diplokokken oder kuerzeste Ketten." If a germ which shows such an arrangement is a streptococcus, why, then, every known coccus is a streptococcus. In their further description they speak of chains containing fifty or more cocci being found in their bouillon cultures. Such lengthy chains my diplococcus scarlatinæ never forms, and from an experience based on the examination of hundreds of cases of scarlet fever I feel justified in stating that a long streptococcus, an organism to which the name streptococcus can be properly applied, can *not* be found in cultures made from the blood of an uncomplicated case of this disease. If it is present, it is a sign either that the case is not an uncomplicated one, or that the culture is contaminated. The impression made upon me by the reading of Baginsky and Sommerfeld's paper was, that they had in their culture the diplococcus scarlatinæ mixed in some instances with a long streptococcus, the presence of which was accidental. Streptococci are present in the pharyngeal mucus of a certain proportion of cases of scarlatina, but not by any means invariably, nor do they ever compose the bulk of the culture. So much for the present in regard to the discovery of Baginsky and Sommerfeld. Let us now consider the evidence in favor of the view that the diplococcus scarlatinæ is the cause of scarlet fever.

1. *Evidence showing that the diplococcus scarlatinæ is a germ not heretofore described.*—In March, 1899, at a meeting of the Chicago Medical Society, I presented a preliminary report, together with a demonstration of specimens of a germ whose constant presence in a series of about thirty typical cases of scarlet fever had led me to believe that it was probably the cause of this disease. This germ, when grown upon a medium especially devised by me, showed certain peculiarities in its morphology—very large gonococcus form—and growth whereby it could be distinguished from other germs. A very careful and exhaustive search in bacteriological literature made prior to this announcement had failed to show the description of any germ resembling the one described by me. Since this preliminary report was published I and others have further elaborated the matter without finding anything conflicting with it. It is true that the large gonococcus form is not a constant feature of this organism, nor did I ever claim this to be the case; but it is the usual form seen when grown on the earth agar and one which serves to distinguish it from other organisms. This form, if not present in the primary cultures, can always be obtained by successive transplantations on the earth agar[6]. A full description of the different forms of this organism appears in the June issue of *Medicine* and in the *New York Medical Record,* September 2, 1899. Numerous findings of diplococci and streptococci in scarlet fever had been recorded before I announced my discovery, and may give rise to the view that I presented nothing new. While it is possible that some of these discoverers really had the diplococcus scarlatinæ in their cultures, they at best only described one of its forms, and none prove the constant presence, or the relationship, of the germ to the disease. Neither did they reproduce the disease or show any way by which the germ could be distinguished from others. Thus Crajkowski[7] in 1895 announced that he found diplococci in the blood of sixteen cases of scarlet fever; this organism presented nothing characteristic, nor did Crajkowski follow up his examination as far as can be seen by searching the literature on the subject. That the diplococcus scarlatinæ is a *new* germ is further shown in an article by Gradwohl,[2] who gives a very good description of its biological characters.

2. *Evidence showing that the diplococcus scarlatinæ is constantly present in scarlet fever.*—The presence of this germ in cases of the disease has been well proved. Thus Gradwohl[8] found it in seven consecutive cases, Jaques[2] demonstrated its presence in every one of a large number of cases examined. The writer announced before the Chicago Pediatric Society in December, 1899,[10] that he had found it in three hundred successive cases of scarlet fever and scarlatinous sore throat. Page,[11] of Boston, announced that he had found a germ corresponding to the description of the diplococcus scarlatinæ in a number of cases. Besides these published findings, I have personal knowledge of its having been found in the blood, throat secretions and scales of scarlet-fever patients by a number of other competent observers whose results have not as yet been published. These results have been so uniform that I am absolutely certain of my ability to demonstrate the presence of the diplococcus scarlatinæ in the blood, throat secretions

and scales of every typical case of scarlatina given me for examination.

3. *Evidence showing that the diplococcus scarlatinæ is a pathogenic micro-organism.*—This germ is pathogenic for mice, swine and guinea-pigs. Mice are most susceptible, and a small quantity of a virulent culture injected subcutaneously will sometimes kill the animal in an hour's time. As a rule, death takes place within twelve hours of the time of inoculation. Swine, as a rule, show no reaction from the subcutaneous injection, unless a very large quantity of a virulent culture is used. Swine are known to be insusceptible to the influence of most pathogenic germs when injected subcutaneously. Even the bacillus of hog cholera produces but little effect when administered in this manner; therefore it is not surprising that the diplococcus scarlatinæ is not very pathogenic when injected subcutaneously. Intra-abdominal injections give rise to grave symptoms, and if a sufficient amount of a virulent culture is used it will cause the death of the animal. The usual method which I have used in order to produce typical symptoms of scarlet fever in swine has been to inject a culture grown on agar and mixed with sterilized water directly into the circulation. For this purpose either the ear veins or the femoral veins were used. The amount of culture used for these experiments varied according to its virulency, usually, however, one cubic centimeter was sufficient, and in some instances caused the death of the animal a few days subsequent to its injection. Guinea-pigs usually succumb to the intra-abdominal injection of 0.1 c.c. of a virulent culture. During the first few days after inoculation these animals usually showed but little signs of sickness; then they began to refuse food, gradually became more and more emaciated, and death occurred as a rule ten to fourteen days after the injection was made. Subcutaneous injections generally were without result. These observations have to a great extent been verified by the experiments of Gradwohl.[12] Rabbits and white rats appear to be but slightly, if at all, susceptible, while cats and dogs are immune. The diplococcus could, as a rule, be easily obtained from the organs of the susceptible animals after death, and from their blood during life. Cultures taken from the blood of the ventricles and from the spleen generally showed a pure growth.

4. *Evidence showing that scarlet fever can be reproduced in animals by the diplococcus scarlatinæ.*—The diplococcus scarlatinæ is the first germ that has ever been discovered through whose agency a disease has repeatedly been produced, which has been recognized by competent men as being apparently identical with scarlet fever as it appears in human beings, so far as the rash and scaling are concerned. The animals used to reproduce the disease were white swine. When such an animal receives an intravenous injection of a virulent culture of the diplococcus scarlatinæ it will usually sicken within a few hours, there will be a rise in temperature, the animal will become restive and refuse food; after three or four days, as a rule, a decided reddening of the skin will appear, which lasts from one to two days, to be followed within a week to two weeks by profuse scaling. Sometimes the eruption is more of a papular character and the reddening not well marked, but usually it can be easily demonstrated, especially if the color of the animal is compared with that of one in good health. The disease has been reproduced by the author in a considerable number of swine, the number being large enough to exclude the possibility that it was merely an accidental phenomenon. These results have been further verified by Gradwohl[13] and Jaques.[14]

5. *Evidence showing that the pathologic changes in the organs, caused by the diplococcus scarlatinæ resemble those of scarlet fever.*—As an example of the gross changes produced by the diplococcus scarlatinæ I will give a brief statement of the findings in a young pig which was inoculated in the pathological laboratory of Rush College, Feb. 17, 1900. About 1 c.c. of agar-culture was rubbed up with 5 c.c. of sterilized water and injected into the femoral vein. On February 24 the animal was found dead, and on post-mortem the following changes were found: "Spleen is enlarged and congested; Malpighian bodies stand out prominently. Kidneys show cortex pale in color, with a few small hemorrhages near surface; capsule comes off easily; pelvis of kidney is congested and drips blood on section; pyramids stand out plainly. Liver shows numerous whitish necrotic areas and is congested; blood drips on cutting. Lymphatic glands of neck are enlarged, varying in size from a Lima bean to that of a hickory nut. Slight amount of effusion appears between layers of pericardium. Walls of intestine are congested, and show numerous hemorrhagic spots. Other organs are apparently normal." The mice and guinea-pigs that were examined post-mortem also usually showed gross signs of nephritis. In regard to their other organs, nothing positive could be stated on a macroscopical examination. The organs of a considerable number of animals were preserved for microscopical examination, the results of which will be reported later. Gradwohl has confirmed the occurrence of nephritis in swine and guinea-pigs after inoculation with the diplococcus scarlatinæ.

6. *Evidence showing that the disease produced through the agency of the diplococcus scarlatinæ is of a contagious nature.*—There are a number of facts on record which go to prove that this germ produces a contagious disease. Thus, Jaques[15] stated that when a healthy pig was placed with two pigs that were scaling after having been inoculated with the diplococcus, it developed a rise in temperature lasting several days, followed by scaling, thus showing that it had evidently contracted the disease by contact. Gradwohl, in an article previously quoted, states, that if a healthy mouse be put in a cage in which another mouse that has been inoculated with the diplococcus scarlatinæ has been kept, the healthy mouse will sicken and die and will show the diplococcus scarlatinæ in its organs post-mortem. I have seen similar results occur a number of times while carrying on my own experiments, and I think that it must be admitted that the contagious nature of the disease produced is extremely suggestive and speaks strongly in favor of the claim that the diplococcus scarlatinæ is the causative factor of scarlet fever.

7. *Influence of blood of scarlet-fever patients on the activity of the germ.*—Under this heading I will quote a few experiments described in an article[16] by me, to-wit: "A loop of pure culture of the diplococcus was diluted with fifteen minims of distilled water. One half of this was poured over a plate of glucose-agar, to the other half were added ten drops of blood from a patient who had just recovered from an attack of scarlatina, and this mixture was poured over a similar plate. Both were put into an incubator, the temperature of which was kept at about 36 C. At the end of twenty-four hours the plates were removed. The plate made from the culture without the addition of the blood showed innumerable minute colonies of the diplococcus, while on that to which the blood had been added there

were only a very few colonies. Presumably these had grown, because from the tendency to clump, some of them had not been exposed to the action of the blood. This experiment was repeated five times with almost identical results. Each time there was a slight growth of the culture to which the blood had been added, but the growth was so much more profuse in the one without this addition, that the inhibitory action of the scarlet-fever blood on the growth of the germ could be plainly demonstrated. Blood from a child 5 months old, where the possibility of a prior infection with the germ could safely be excluded, produced no inhibitory action. The other experiment consisted in inoculating four ordinary gray mice, each of which received five minims of a solution of a virulent culture of the diplococcus scarlatinæ in distilled water. Two of the mice had previously received, by subcutaneous injection, five minims each of blood-serum taken from a patient recently recovered from scarlet fever. The two animals that had not received the blood inoculations died within eighteen hours, while of the two that had been injected with the blood, one lived about forty and the other seventy-two hours." These experiments have since been repeated a number of times with practically the same result. In making the first set of experiments quoted, it was also necessary to use a virulent culture, as one that has been grown a long time on artificial media is not so sensitive.

8. *Finding of the diplococcus scarlatinæ in throat secretions of patients with scarlatinous sore throat, a further proof of its specific character.*—In an article on the etiology of acute tonsillitis,[17] I made the following statement regarding the diplococcus scarlatinæ: "It is not only invariably present in the angina of scarlet fever, but during an epidemic of this disease it will frequently give rise to an acute tonsillitis without any eruption, although not infrequently these cases are followed by a nephritis and sometimes by desquamation. It may sound like a bold statement to make, nevertheless I am fully convinced that a person who has had an attack of acute tonsillitis due to the diplococcus scarlatinæ, is rendered immune against scarlet fever; or, in other words, that this form of angina is nothing more or less than scarlet fever without the presence of an eruption." And further, "the contagion from a case of scarlatinous sore throat is capable of giving rise to typical scarlet fever in another person who has been exposed to it." The occurrence of scarlatina sine eruptione is something that has for a number of years been accepted, more or less generally, but it could not be proved positively, as the causative germ of scarlet fever was not known. Admitting for the present that the diplococcus scarlatinæ is the cause of scarlet-fever, it will be found that during an epidemic of this disease cases of scarlatina sine eruptione are of far greater frequency than has generally been supposed to be the case. Your skeptic may cry out, that the finding of the diplococcus scarlatinæ in so many cases of apparently simple sore throat speaks strongly against its being a specific micro-organism. On the contrary, it is just this fact which goes a long way to prove its specific nature. If it was only present in typical cases of scarlet fever, how could we explain those cases in which one child in a family has scarlet fever, while several others at the same time develop only a tonsillitis, followed perhaps by nephritis and desquamation. The contagion must necessarily be the same, for frequently these cases of angina give rise to an attack of typical scarlatina in another member of the family. Furthermore, if these cases of angina were not scarlatina sine eruptione, how could we account for the fact that so many people escape scarlet fever. The finding of the diplococcus shows that they had in the majority of instances been rendered immune by an attack of angina caused by this germ, and that the eruption of scarlet fever is simply one manifestation of the activity of this micro-organism. The presence of an eruption is not absolutely necessary to make a diagnosis of scarlet fever, however inconsistent this may seem when the name of the malady is considered.

9. *Growth in milk without affecting this medium a fact in favor of its being the cause of scarlet fever.*—In speaking of the diplococcus scarlatinæ, an editorial in the *Interstate Medical Journal,* March 1, 1900, states: "It is interesting to note in the description of the biologic characteristics of this diplococcus scarlatinæ that the micro-organism grows in milk, but does not produce any visible change in it, such as coagulation or digestion, etc. This will serve to explain the dissemination of this disease, which has been from time to time traced to the infected milk. It is important from a public-health standpoint. And the fact that cows are known to be susceptible to scarlet fever, taken into consideration with the fact that the diplococcus scarlatinæ is probably excreted in the milk of these animals, will explain how this milk which spreads the disease is infected. Of course, it might also be infected by means of contamination with the hands of patients with scarlet fever, or from milkers or dairymen in whose families scarlet fever is present."

10. *Finding of the diplococcus scarlatinæ in cases of surgical scarlet fever demonstrates its diagnostic value.*—In the May number of the *Chicago Medical Recorder* for 1900, there appeared a report of a case of double cryptorchidism complicated by scarlet fever, by Dr. Edward Ochsner. The patient, eighteen hours after the operation for the relief of his trouble, suddenly developed a high temperature, together with vomiting. On the following morning the patient showed a scarlet rash all over his body. The only thing that had come in contact with the patient prior to the appearance of the rash were saturated solutions of boracic acid and alcohol dressings, no iodoform being used. The question naturally arose whether the rash was of a simple septic nature, or true scarlet fever. I made cultures from the blood, obtaining a pure growth of the diplococcus scarlatinæ. A similar finding was obtained from the patient's urine, which showed traces of albumin. Subsequently, the patient scaled. Since the publication of the above report I have again had an opportunity to examine blood and throat cultures taken from a patient developing a sudden rise in temperature and scarlet rash after a slight operation upon the heel. The result of the examination of these cultures also showed the case to be one of scarlet fever. I mention these cases, because in all probability a large number of cases of so-called septic rashes are nothing more or less than true scarlet fever.

In concluding, I wish to state that all the experiments quoted are open to investigation, and that I feel confident that unprejudiced and painstaking investigators will further confirm what has been said. Allowing that these statements are based upon facts, I think it must be admitted that the diplococcus of scarlatina fulfills all of Koch's laws, and is therefore entitled to some consideration at the hands of those engaged in a search for the solution of the etiology of scarlatina.

1301 Belmont Ave.

BIBLIOGRAPHY.

1. Class: New York Medical Record, Sept. 2, 1899.

2. Class. Ibidem.
3. Jaques: THE JOURNAL, May 26, 1900, p. 1299.
4. Gradwohl: Philadelphia Medical Journal, March 24, 1900, p. 683.
5 and 6. Class: New York Medical Record, Oct. 7, 1899, p. 33.
7. Crajkowski: Centralblatt f. Bacteriologie, 1895.
8. Gradwohl: Loc. cit.
9. Jaques: Loc. cit.
10. Class: THE JOURNAL, Feb. 24, 1900.
11. Page: Journal Boston Society Medical Sciences, June, 1899.
12 and 13. Gradwohl: Loc. cit.
14 and 15. Jaques: Loc. cit.
16. Class: THE JOURNAL, Feb. 24, 1900.
17. Class: Interstate Medical Journal, March, 1900, p. 120.

New Instrument.

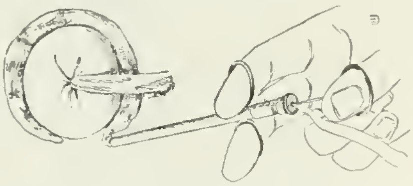
Gauze Carrier.

CLINTON T. COOKE, M.D.

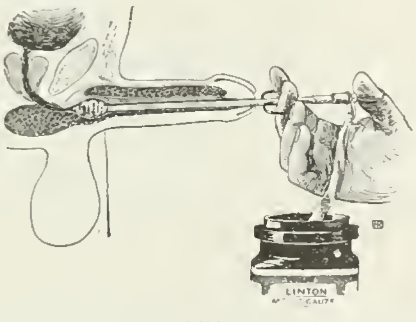
HUTCHINSON, MINN.

The accompanying cuts illustrate an instrument designed to introduce gauze into cavities in, or orifices of, the body for drainage purposes or for controlling hemorrhage.

The instrument consists of a body tube twelve inches long (I am describing size 3), one-fifth of an inch outside diameter, having two ring handles attached to its upper end, for the index and middle finger, and having within it an inner retarding tube provided with a flange above and so cut out below as to form three spurs, which project slightly into the lumen of the lower end of the tube, permitting forward movement but preventing any backward movement of the gauze when the packer is moved back to obtain a fresh hold on the gauze. A cap screws on to the upper end of the body tube to hold the retarding tube in place, having an opening in its top equal in size to the lumen of the retarding tube.



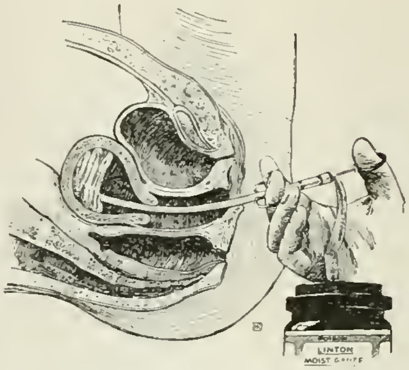
The packer is a steel rod having three outwardly directed spurs at its lower end, for engaging the meshes of the gauze and forcing it down toward the delivery end of the body tube, and at its upper end a ring handle for the thumb and a guard to prevent its entering too far and doing injury to the tissues at the lower end. The instruments are made in four sizes, Nos. 1, 2, 3 and 4.



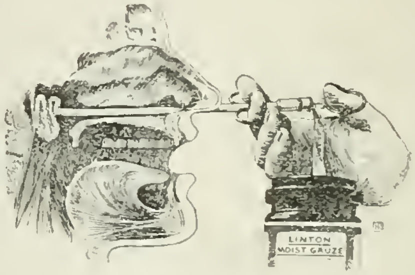
No. 1.—For nasal use in children or adults with deflections of septum or obstructive hypertrophy. It is six inches long, three-twentieths of an inch outside and takes one-half inch gauze.

No. 2.—For general nasal use. The vast majority of nasal tamponments may be made with this instrument. It is seven and one-half inches long, one-fifth of an inch outside, carries one and one-half inch gauze. It is the same diameter as No. 3 instrument.

No. 3.—For general and military surgery and gynecology. It is twelve inches long, one-fifth of an inch outside diameter and carries one and one-half inch gauze.



No. 4.—For rapid vaginal tamponment, and filling the uterus post-partum. It is eight and one-half inches long, two-fifths of an inch outside and carries a strip of gauze four to six inches wide.



THE FOLLOWING CLAIMS ARE MADE FOR THE GAUZE CARRIER.

It will rapidly, and in many cases painlessly, pack gauze into cavities, wounds, fistulæ or sinuses. The gauze, not coming in contact with the superficial portions or walls of the cavity until it reaches the desired point, is introduced aseptically. It can be properly sterilized. Being to some extent flexible it can be bent to the curvature of tortuous wounds. By its aid the uterine cavities can be more quickly, firmly, painlessly and aseptically packed with gauze than by any other method now in use. The nasal cavities and the nasopharynx can be quickly and firmly packed with gauze to check or prevent hemorrhage or to take up secretions. Punctured wounds or gunshot wounds can be promptly drained. Re-packing of any deep wounds is less painful than by any other method. Only one strip of gauze need be used for any cavity. Removal of the gauze is therefore easy. Moreover only one introduction of the instrument is necessary at one dressing. Re-infection is therefore less likely. The packing or tampon is introduced from the distal side toward the proximal side of the wound or cavity. The gauze is transferred directly from container to cavity and is not touched by human hands. For the nares or small cavities use gauze one-half inch wide; for general surgical purposes and the uterus one and one-half inches wide. For vagina tamponment use gauze four inches wide. The length of stroke of the packer should be about two or two and one-half inches. Short strokes will pack lightly, longer strokes firmly, to some extent independently of the width of strip of gauze used.

I have had these instruments made by Johnson & Johnson, of New Brunswick, N. J.

Pentosuria.—Bial describes two cases of pentosuria in the *Zeitschr. Klin Med.*, xxxix, 5 and 6, emphasizing the points that differentiate it from mellituria. Urine containing pentose reduces powerfully, does not ferment and has no polarizing properties, but it is chiefly distinguished by the positive results of the orcin and phenyl-hydrazin tests. Glycuronic acid gives the same reactions, but can be differentiated with brominphenylhydrazin, with which it forms a combination not readily soluble in water and strongly levorotatory, differing in this respect from pentose.

LIST OF MEMBERS OF THE

AMERICAN MEDICAL ASSOCIATION

As Returned by H. P. Newman, M.D., Treasurer

ALABAMA.

Appleton, Hugh L., Centre.
Atkeson, C. L. C., Columbia.
Bass, J. B., Ashville.
Bell, W. H., Hargrove.
Berry, W. T., Birmingham.
Blacke, S. L. B., Fruithurst.
Blake, Wyatt H., Wetumpke.
Blair, Hugh W., Sheffield.
Bondurant, Eugene De, Mobile.
Boroughs, Bryson, Jackson.
Brown, Geo. S., Birmingham.
Brown, Geo. W., Pratt City.
Carson, Shelby C., Greensboro.
Clark, Samuel. Ehren.
Coley, A. J., Alexander City.
Coulbourn, Jos. T., Birmingham.
Crampton, O. L., Mobile.
Cunningham, W. M., Corono.
Davis, Wm. E. B., Birmingham.
DuBose, Frank G., Selma.
Dunlap, Perry G., Adger.
Fletcher, Rich M., Madison.
Fonde, Keith, Citronelle.
Foster, Geo. W., Stevenson.
Franklin, C. H., Union Springs.
Furniss, Jno P., Selma.
Gaines, Wm. D., La Fayette.
Gay, Samuel G., Birmingham.
Gibson, Jefferson D., Birmingham.
Gilmore, Jno A., Thomasville.
Gilmore, J. N., Gaston.
Graham, W. A., Fayette.
Griggs, Alfred F., Birmingham.
Haney, J. T., Madison.
Harris, S., Union Springs.
Harrison, W. G., Talladega.
Heflin, Wyatt, Birmingham.
Hill, L. L., Montgomery.
Hirst, Jesse W., Thomas.
Hogan, S. M., Montgomery.
Howard, John W., Irondale.
Ketchum, Geo. A., Mobile.
Kirkpatrick, Sam, Selma.
LeBaron, Charles, Yellow Pine.
Ledbetter, Sam. L., Birmingham.
Lowry, S. H., Huntsville.
Moody, Hy A., Bailey Springs.
Moore, Riley J., Riverton.
Morris, E. W., Birmingham.
Nicholson, E. P., Valley Head.
Palmer, J. G., Opelika.
Palmer, C. R., Tuscumbia.
Pearson, James E., Sylacauga.
Pride, Wm. T., Madison.
Robertson, T. L., Birmingham.
Sanders, Wm. H., Mobile.
Searcy, James T., Tuscaloosa.
Shivers, O. L., Marion.
Talley, D. F., Birmingham.
Thigpen, Chas. A., Montgomery.
Trimm, James, North Port.
Walton, F., Blossburg.
Watkins, John M., Opelika.
Whitfield, Byron W., Demopolis.
Wilson, Cunningham, Birmingh'm
Wilkinson, D. L., Montevello.
Woodson, Louis G., Birmingham.

ALASKA.

McCann, D. B., Circle City.

ARIZONA.

Brockway, Geo. M., Florence.
Bell, S. D., Tucson.
Campbell, R. R., Phoenix.
Collins, Shields, Globe.
Cottrell, A. W., Phoenix.
Davis, Thos. Benton, Prescott.
Dryden, Robt. C., Winslow.
Duffield, Wm., Phoenix.
Fox, Butler G., Globe.
Johnson, H. R., St. Johns.
Jones, Chas. H., Tempe.
Looney, R. N., McCabe.
Malsch, A. F., Payson.
Phelps, R. M., Phoenix.
Sabin, T. H., Mesa City.
Sherer, E. A., Ft. Grant.
Stroud, H. E., Phoenix.
Walker, M. M., Tucson.
Ward, W. H., Phoenix.
Welch, Joseph P., Cottonwood.
Whitmore, Wm., Tucson.

ARKANSAS.

Bentley, Edwin, Little Rock.
Beakley, N. P., England.
Bittinger, Wm. M., Grady.
Blackburn, T. W., Boonsboro.
Brooksher, W. R., Fort Smith.
Brown, Geo., Conway.
Brunson, Randolph, Hot Springs.
Burns, J. L., Jonesboro.
Burns, Britt, Deckerville.
Cantrell, G. M. D., Little Rock.
Cargile, Chas. H., Bentonville.
Carrigan, S. M., Washington.
Chenault, Chas. B., Helena.
Christian, D., Springdale.
Collins, S. P., Hot Springs.
Cuep, C. W., Mammoth Springs.
Dale, John R., Arkadelphia.
Davis, Chas. E., Eureka Springs.
Dibrell, Jas. A., Jr., Little Rock.
Dibrell, Matt. S., Van Buren.
Dibrell, John R., Little Rock.
Dinwiddie, Robt. R., Fayetteville.
Drennen, C. Travis, Hot Springs.
Dunavant, H. C., Little Rock.
Ellis, Edward Q., Springdale.
Epler, E. G., Fort Smith.
Fink, Montague, Helena.
Floyd, R. G., Eureka Springs.
French, Frank L., Little Rock.
Gibson, L. P., Little Rock.
Graham, Josephus S., Tuckerman.
Hatchett, B., Fort Smith.
Hay, Eugene C., Hot Springs.
Hodges, Robt. H., Sulphur Rock.
Holland, Thos. E., Hot Springs.
Hooper, P. O., Little Rock.
Horner, A. A., Helena.
Hudson, G. W., Camden.
Hynes, Geo. F., Fort Smith.
Illing, Wm. P., Little Rock.
Jeeks, L. A., McCrory.
Jelks, Jas. T., Hot Springs.
Jordan, Arthur C., Pine Bluff.
Keller, J. M., Hot Springs.
Kirby, Leonidas, Harrison.
Lassagne, V. F., Eureka Spgs.
Lawrence, W. B., Batesville.
Lenow, Jas. H., Little Rock.
Linthicum, D. A., Helena.
Lindsey, R. W., Little Rock.
McCormick, E. G., Prairie Grove.
Meek, E., Argenta.
Mewborn, W. A., Howell.
Moulton, H., Fort Smith.
Nolder, S. M., Paragould.
Parchman, Wm. L., Van Buren.
Pry, Edwin T., Cornerstone.
Robinson, Wm. J., Portia.
Runyon, J. P., Little Rock.
Scales, J. Wm., Pine Bluff.
Shibley, J. S., Paris.
Short, Omar J., Hot Springs.
Slayden, Levi T., Tuckerman.
Smith, J. J., Chismville.
Southall, Jas. H., Little Rock.
Southard, Jefferson D., Ft. Smith.
Thompson, R. C., Pine Bluff.
Troupe, Amas W., Pine Bluff.
Watkins, Claibourne, Little Rock.
Welch, W. B., Fayetteville.
Yates, W. N., Fayetteville.

CALIFORNIA.

Adams, Chas. E., Santa Clara.
Ainsworth, F. K., Los Angeles.
Anderson, Winslow, San Fran.
Anderson, W. D., Vallejo.
Andrews, Harry A., San Fran.
Arnold, J. Dennis, San Fran.
Austin, Malcolm O., San Fran.
Baldwin, Wm. H., Sacramento.
Bard, Cephas L., Ventura.
Barbat, John Hy, San Francisco.
Barkan, Adolph, San Francisco.
Bazet, Louis, San Francisco.
Beadles, E. S., San Diego.
Beebe, C. E., Watsonville.
Bellamy, Benson C., Linden.
Bellows, G. E., Riverside.
Belknaps, L. J., San Jose.
Bergstein, H., San Francisco.
Bicknell, Fred K. T., Los Angeles.
Bixby, E. M., San Francisco.
Booth, Jas. P., Needles.
Boyes, Edwin J., Oakland.
Boyd, Walter M., Los Angeles.
Brainard, H. G., Los Angeles.
Brennan, T. F., San Francisco.
Briggs, Wallace A., Sacramento.
Briggs, Wm., Emery, Sacramento.
Bridge, Norman, Pasadena.
Bridgham, Samuel C., Pasadena.
Brinckerhoff, G. Erwin, Oakland.
Browning, Chas. C., Highland.
Brown, G. J., Point Arena.
Brown, Robt. W., Nipamo.
Brown, Philip K., San Francisco.
Bull, George C., Alameda.
Burton, H. G., Los Angeles.
Burnett, Theo. C., Santa Barbara.
Cameron, J. S., Red Bluff.
Carpenter, F. B., San Francisco.
Cartwright, C. O., Sacramento.
Casal, F. M., Santa Barbara.
Cave, Fred P., El Monte.
Chismore, Geo., San Francisco.
Chisley, Chas. P., San Francisco.
Chipman, M. M., San Diego.
Clark, Asa, Stockton.
Clark, Edward S., Napa.
Clark, B. F., San Francisco.
Cluness, W. R., San Francisco.
Cole Geo. L., Los Angeles.
Colburn, John R., Los Angeles.
Cooper, Chas. E., San Francisco.
Cooper, Chas. N., Campbell.
Couper, Edgar Ward, San Fran.
Cowles, J. E., Los Angeles.
Cowan, Chas. S., Fort Jones.
Cox, Emit J., Bodie.
Cox, Rosamond L., San Francisco.
Craig, W. H., North Ontario.
Crofton, Alfred C., Pasadena.
Crowley, D. D., Oakland.
Crumpton, H. John, Sausalito.
Cummings, Wm. M., San Diego.
Cushing, Clinton, San Francisco.
Cutter, Jas. Bird, Presidio.
Davis, S. B., Stockton.
Davis, Geo. W., San Francisco.
Davisson, J. H., Los Angeles.
Dawson, Wm. J. G., St. Helena.
Deacon, George, Pasadena.
Dryer, J. L., Santa Ana.
Dougherty, Patrick, Los Angeles.
Drysdale, G. N., Yreka.
Dunbar, L. L., San Francisco.
Eaton, F. B., San Francisco.
Ellis, H. B., Los Angeles.
Eschleman, I. S., Fresno.
Farrell, P. J. H., San Francisco.
Field, Edna R., San Francisco.
Fife, John, Red Bluff.
Fletcher, Mary B., Alameda.
Flint, Thos., San Juan.
Fallonsbee, E. A., Los Angeles.
Forwood, W. H., San Francisco.
Fowler, Wm. S., Ventura.
Frisbie, E. G., San Francisco.
Frink, Geo. K., Belvedere.
Frost, James, San Francisco.
Fuson, A. U., San Francisco.
Gaff, John V., Los Angeles.
Gallwey, John, San Francisco.
Gallimore, Elizabeth, San Jose.
Gardner, Mathew, San Francisco.
Gassaway, J. M., San Francisco.
Gaynor, John J., Eureka.
Gedge, Donald M., San Francisco.
Gibbons, Henry, San Francisco.
Gill, C. J., Riverside.
Goff, H. Neville, San Diego.
Gordon,, W. A., San Jose.
Gordon, H. S., Westminster.
Gregory, Calvin L., Yreka.
Griffin, C. F., San Francisco.
Gundrum, E., Riverside.
Hall, I. Underwood, Jr., San Jose.
Hamilton, Newell Hiram, Santa Monica.
Hanson, G. F., San Francisco.
Hart, A. C., San Francisco.
Hart, Henry H., San Francisco.
Hare, G. A., Fresno.
Harris, S. M., Grass Valley.
Harvey, D. Morris, San Francisco.
Hazelett, J. W., San Bernardino.
Hearne, J. C., San Diego.
Heaton, Conley, Pomona.
Herrick, S. S., San Francisco.
Herrick, Albert B., Santa Rosa.
Hirschfelder, J. O., San Francisco.
Hoffman, Charles Von, San Fran.
Hopkins, Wm. E., San Francisco.
Howard, Kate L., San Francisco.
Hull, Geo. S., Pasadena.
Hulen, Vaid H., San Francisco.
Hund, O. H., San Francisco.
Hund, F. J., San Francisco.
Hunter, G. T., San Francisco.
Huntington, Thos. W., San Fran.
Huntington, W. D., Oakland.
Hurley, J. M., San Bernardino.
Jackson, Craven, Los Angeles.
Johnson, J. H., Los Angeles.
Johnson, Levi D., Whittier.
Johnson, Milbank, Los Angeles.
Jones, H. Isaac, San Francisco.
Jones, Philip M., San Francisco.
Joralemon, J. C., Los Angeles.
Kahn, Adolph J., Napa.
Keck, Fred'k, San Francisco.
Kelly, E. E., San Francisco.
Kendall, O. J., Riverside.
Kengla, Louis A., San Francisco.
Kenyon, C. G., San Francisco.
Kerr, William W., San Francisco.
Kime, Jas. H., Alton.
King, C. Lee, Pasadena.
Knorp, F. F., San Francisco.
Knox, Samuel B. P., Santa Barbara.
Kreutzmann, Henry J., San Fran.
Krone, Carl R., Oakland.
Kroteszyner, M. D., San Fran.
Kugeler, H., San Francisco.
Kuhlman, C. G., San Francisco.
Kurtz, Jos., Los Angeles.
Kuser, H., Novato.
Kyle, Geo. G., Riverside.
Lane, L. C., San Francisco.
Laine, Jos. R., San Francisco.
Lasher, Geo. W., Los Angeles.
Lawhead, H. D., Woodland.
Legler, Henry T., Oakland.
Lengfield, A. L., San Francisco
Lewis, W. M., Los Angeles.
Levison, C. G., San Francisco.
Lewitt, Wm. B., San Francisco
Lilieucrantz, August, Oakland.
Lindley, Walter, Los Angeles.
Love, John H., Ventura.
McBride, J. H., Pasadena.
McCone, Jas. F., San Francisco.
McDonald, J. T., San Francisco.
McKee, Albert B., San Francisco.
McKee, J. A., Sacramento.
McLean, R. A., San Francisco.
MacGowan, G., Los Angeles.
MacMonagle, Beverly, San Fran.
McNutt, W. F., San Francisco.
Maher, Ira, Oakland.
Malaby, Z. Taylor, San Francisco.
Martin, Wm. A., San Francisco
Martindale, J. H., Los Angeles.
Mattison, F. C. E., Pasadena.
Mauzy, W. P., Oakland.
Maxson, W. H., Oakland.
Mayer, Oscar J., San Francisco.
Maynard, H. H., Los Angeles.
Mays, Arthur H., Sausalito.
Metcalfe, James A., Azusa.
Miller, Robt. W., Los Angeles.
Morton, J. H., Courtland.
Morton, R. E. L., Dinuba.
Nadeau, H., Los Angeles.
Nelson, Chas. D., Pomona.
Nutting, C. W., Siskiyou.
Oliver, Jos. A., San Francisco.
Oneill, Melville E., San Fran.
Orme, H. S., Los Angeles.
Osborne, Daniel S., St. Helena.
Osborne, Curtiss H., Pasadena.
Parker, P. J., San Diego.
Parkinson, J. H., Sacramento.
Pauling, O. P., Blue Lake.

Payne, F. H., Berkeley.
Phelan, G. J., San Francisco.
Pischl, Kaspar, San Francisco.
Pomeroy, H. M., Los Angeles.
Powell, David, Marysville.
Powers, Geo. H., San Francisco.
Prather, D. J., Oakland.
Pritchard, Maurice, Sierraville.
Rattan, Frank, Antioch.
Reed, R. C. S., Los Angeles.
Regensburger, A. E., San Fran.
Reynolds, G. P., Alameda.
Rhea, A. R., Daggett.
Richter, Louise M., Garvanza.
Rigdon, R. L., San Francisco.
Rogers, S. J. S., Marysville.
Rohr, S. M., Santa Rosa.
Ross, Thos. D., Santa Rosa.
Rosenstein, J., San Francisco.
Rosson, John B., Tulare.
Rucker, Hiram N., Oakland.
Sanborn, C. A., Redlands.
Sanderson, A. J., St. Helena.
Schwalbe, Carl, Los Angeles.
Session, O. V., Hueneme.
Sheppard, Christopher, Ontario.
Sill, E. R., Oakland.
Sherman, Henry M., San Fran.
Simmons, G. C., Sacramento.
Simmons, G. L., Sacramento.
Smart, W. N., San Diego.
Smith, E. H., Santa Clara.
Sobey, A. L., San Francisco.
Somers, Geo. B., San Francisco.
Spencer, John C., San Francisco.
Stansbury, Oscar, Chico.
Steddom, Francis W., Los Angeles.
Stehman, Hy B., Los Angeles.
Stewart, J. T., Los Angeles.
Stimson, James, Watsonville.
Stinson, J. C., San Francisco.
Stone, C. E., Marysville.
Strader, Harvey W., Sacramento.
Stuart, A. McG., Santa Rosa.
Sutherland, F. B., San Francisco.
Swan, Benj. R., San Francisco.
Tait, F. D., San Francisco.
Taylor, A. Miles, San Francisco.
Tebbets, J. H., Hollister.
Thayer, J. W., Gilroy.
Thomas, E. W., San Francisco.
Thomas, F. W., Claremont.
Thorpe, A. C., San Gabriel.
Trueworthy, J. W., Los Angeles.
Tuggle, S. P., San Francisco.
Valla, A. Z., Los Angeles.
Vowinkel, F. W., San Francisco.
Wade, Wm. N., Santa Barbara.
Wadsworth, Chas. C., San Fran.
Wagner, Hy Lewis, San Fran.
Wanzer, Lucy M. F., San Fran.
Welges, L., Woodland.
Wells, Geo. F., Occidental.
Weir, F. A., Pasadena.
Werner, Marie B., Los Angeles.
Westlake, G. W., Red Bluff.
White, G. A., Sacramento.
Whitman, C. H., Los Angeles.
Whitwell, Wm. S., San Mateo.
Wiard, W. F., Sacramento.
Wills, W. Le Moyne, Los Angeles.
Wilson, F. E., Westminster.
Winton, H. N., Haywards.
Winslow, C. E., Bartlett Springs.
Wood, J. W., Long Beach.
Wood, Thos. D., Stanford University.
Woodward, Albert P., San Fran.
Woolsey, E. H., Oakland.
Wright, H. J. B., San Jose.
Wythe, Jos. H., Oakland.
Zwalenburg, C. Van, Riverside.

COLORADO.

Allen, J. Q., Telluridge.
Anderson, B. P., Colorado Spgs.
Andrew, Chas. F., Longmont.
Arnold, W. W., Colorado Spgs.
Ashbaugh, Abraham, Central City.
Ashley, W. W. Ouray.
Axtell, Edwin B., Denver.
Bagot, Wm. S., Denver.
Bailey, Jennie, Florence.
Baker, Jas. A., Florence.
Ballin, Max, Leadville.
Bane Wm. C., Denver.
Baird, Wm. Jas., Boulder.
Barbour, L. P., Boulder.
Bartholomew, H. B., Denver.
Bates, Mary E., Denver.
Beatty, John T., Denver.
Beggs, Wm. W., Denver.
Bell, Samuel H., Meeker.
Bellrose, Norman W., Eaton.
Beshoar, M., Trinidad.
Berry, A. J., Colorado Springs.
Black, G. M., Denver.
Black, J. A., Pueblo.
Blaine J. M., Denver.
Boice, John, Denver.
Bonnet, W. M., Denver.
Bonney, Sherman G., Denver.
Bourquin, A., Denver.
Branson, Walter W., Golden.
Boyd, E. T., Leadville.
Brown, Sherman T., Denver.
Buchtell, W. H., Denver.
Bucknum, Amasa M., Denver.
Bulette, C. E., Denver.
Bulette, W. W., Pueblo.
Bull, H. R., Grand Junction.
Burns, T. Michell, Denver.
Burns, Horace R., Louisville.
Call, Chas. H., Greeley.
Campbell, W. A., Colorado Spgs.
Carlin, P. V., Denver.
Carver, Wm. B., Denver.
Carrier, F. N., Canon City.
Case, Austin G., Denver.
Chase, John, Denver.
Chapman, Walter S., Rouse.
Chenoweth, M. S., Denver.
Chipman, J. C., Sterling.
Clark, J. K., Denver.
Clark, L. G., Glenwood Spgs.
Cline, J. W., Georgetown.
Clough, Augustus A., Denver.
Cochems, Frank N., Salida.
Coleman, J. F., Montrose.
Coman, L. Z., Boulder.
Conroy, Clare R., Denver.
Condon, J. F., Breckenridge.
Coover, David H., Denver.
Cornell, Howard M., Edith.
Corwin, R. W., Pueblo.
Creighton, Basil B., Manitou.
Crews, G. B., Denver.
Cunningham, Benj. F., Cripple Creek.
Cundy, Wm. A., Denver.
Davis, Wm. H., Denver.
Dawson, Howard H., Rico.
Dayton, David F., Trinidad.
Dean, Marshall H., Glenwood Springs.
Denison, Chas., Denver.
Denney, Robt. H., Elbert.
Dodge, H. O., Boulder.
Dorland, W. L., Pueblo.
Dow, W., La Junta.
Duggins, G. G., Pueblo.
Dulin, Frank, Denver.
Durbin, Levi T., Denver.
Eckerson, Edward, Denver.
Edson, Carroll E., Denver.
Eldridge, E. F., Grand Junction.
Elliott, John F., Denver.
Elsner, John, Denver.
Eskridge, J. T., Denver.
Espey, John R., Trinidad.
Exline, Jas. W., Denver.
Ferguson, C. J., Denver.
Fierstone, J. Lea, Denver.
Finney, Frank, La Junta.
Fish, E. Hamilton, Ouray.
Fisk, S. A., Denver.
Fleming, Carey K., Denver.
Ford, C. W., Denver.
Forhan, Thos. J., Trinidad.
Foster, John M., Denver.
Freeman, Leonard, Denver.
Freeman, Russell B., Denver.
Friend, M. Milton, Lamar.
Funk, Z. D., Cripple Creek.
Gallaher, T. J., Denver.
Gardiner, C. F., Colorado Spgs.
Gerber, Max, Denver.
Gaston, James B., Cripple Creek.
Gibbs, M. D., Touraine.
Giffin, L. M., Boulder.
Gildea, Patrick F., Colorado Spgs.
Graham, John W., Denver.
Graham, R. F., Greeley.
Graham, C. A., Denver.
Graham, John C., Denver.
Grant, W. W., Denver.
Grass, John, Trinidad.
Greedy, Frank A., Denver.
Grieger, Hubert, Denver.
Griffith, Benj. F., Leadville.
Grover, Barton B., Colorado Spgs
Guthrie, Alice B., Denver.
Guthrie, Ewing C., Aspen.
Hall, J. N., Denver.
Halley, Hallack T., Arvada.
Halley, John J., Fort Collins.
Hamly, Leonora B., Denver.
Hamilton, Geo., La Jara.
Harvey, Horace G., Denver.
Harrison, Millard, Boulder.
Haskins, Benj. F., La Junta.
Hassenplug, F. A. E., Cripple Creek.
Hassenplug, G. H., Denver.
Hawes, Jesse, Greeley.
Hawkins, T. H., Denver.
Heinberger, D., Denver.
Hershey, Edgar P., Denver.
Hickman, W. A., Colorado Spgs.
Hill, Edward C., Denver.
Hilleary, Jesse G., Estes Park.
Hodson, Fred A., Florence.
Hoffman, D. S., Lake City.
Holden, G. W., Denver.
Holmes, A. Marshfield, Denver.
Hopkins, S. D., Denver.
Horn, Thos. G., Colorado Springs.
Horn, Andrew J., Denver.
Hosford, Sara D., Denver.
Hotopp, M. Theo., Glenwood Spgs.
Howland, Henry H., Denver.
Hughes, Tandy Allen, Denver.
Hutchins, Robt. K., Col. Springs.
Jackson, Edward, Denver.
Jaeger, Chas., Denver.
Jarecki, Seymour T., Denver.
Jayne, Walter A., Denver.
Jeannotte, J. J., Leadville.
Jefferson, B. L., Steamboat Spgs.
Johnson, J. Everett, Leadville.
Kapp, Julia S., Denver.
Kearby, Chas. W., Rocky Ford.
Keen, Emma J., Denver.
Kearns, Jas. F., La Junta.
Keith, John G., Leadville.
Kelly, John P., Golden.
Kenney, Frank W., Denver.
Kickland, W. Alfred, Ft. Collins.
Kilgore, A. W., Ft. Collins.
Kinney, J. E., Denver.
Kirby, Harry W., Cripple Creek.
Kleiner, Moses, Denver.
Lake, Edward F., Denver.
Lamont, Walter A., Denver.
Law, G., Greeley.
Law, John. Leadville.
Lawney, Eleanor, Denver.
Leavitt, Byron C., Denver.
Lee, E. A., Ft. Collins.
Lemen, L. E., Denver.
Levy, Robt., Denver.
Liebhardt, Laura L., Denver.
Liggett, Wilbur T., Cripple Creek.
Little, Wilbur T., Canon City.
Lobingier, A. Stewart, Denver.
Lockard, W. G., New Castle.
Love, Minnie C. T., Denver.
Lyman, C. B., Denver.
Macalaster, R. K., Glenwood Spgs.
Mackenzie, Geo., Victor.
Macomber, G. N., Denver.
McClanahan, Z. H., Colo. Spgs.
McDermith, S. T., Denver.
McDonald, Allan J., Leadville.
McDowell, Uhler D., Longmont.
McFadden, John G., Loveland.
McGuire, C. M., Walsenburg.
McHugh, P. J., Ft. Collins.
McIntosh, Norman, Gunnison.
McLauthlin, Herbert W., Denver.
McMullen, Smith, Castle Rock.
McNeilan, Milton, Basalt.
McNaught, Francis H., Denver.
Mann, Alfred, Denver.
Martin, Herman H., Denver.
Marlbourg, E. M., Pueblo.
Marks, A. D., Fort Lupton.
Medill, Walter W., Denver.
Melvin, J. Tracy, Saguache.
Miel, G. W., Denver.
Miller, Samuel W., Denver.
Miller, J. K., Greeley.
Miller, John S., Louisville.
Mitchell, Wm. C., Denver.
Moore, Alice T., Denver.
Mugrage, S. G., Denver.
Munn, Wm. P., Denver.
Neuman, D., Denver.
Neuman, Stephen, Denver.
Nickerson, Wm. M., Denver.
O'Connor, J. W., Denver.
Otis, W. D., Ft. Morgan.
Owens, D. W., Colorado Springs.
Packard, Wm. A., Monte Vista.
Palmer, T. D., Canon City.
Parkhill, Clayton, Denver.
Peavey, J. L., Colorado Spgs.
Pennock, V. R., Cripple Creek.
Perkins, I. B., Denver.
Perkins, J. M., Denver.
Pfeiffer, Oscar J., Denver.
Phelps, Mary E., Canon City.
Phillips, Geo. W., La Junta.
Pollock, R. M., Rocky Ford.
Porter, Frank R., New Windsor.
Potts, Chas. N., Silverton.
Powers, Chas. A., Denver.
Powers, J. J., Denver.
Queal, E. B., Boulder.
Rader, W. H., Silverton.
Rawson, C. D., Denver.
Raynor, Willis J., Ft. Logan.
Reasoner, P. W., Colorado Spgs.
Reed, Walter W., Fowler.
Richmond, Chas. B., Denver.
Riley, W. H., Boulder.
Rivera, E. C., Denver.
Robinson, Leaco A., Glenwood.
Robinson, A. J., Aspen.
Robinson, Martin A., Victor.
Robinson, Wm. K., Denver.
Roberts, U., Denver.
Robertson, Eugene H., Boulder.
Roehrig, G. F., Denver.
Rogers, E. J. A., West Denver.
Rogers, Frank E., Littleton.
Rothwell, W. J., Denver.
Rothwell, Edwin J., Denver.
Roseberry, B. S., Victor.
Rothwell, Peter D., Denver.
Rover, Hy W., Denver.
Rowan, W. W., Ouray.
Seebass, Alfrede R., Denver.
Sewall, Hy, Denver.
Sharpley, Wm. H., Denver.
Sheets, Elmer A., Denver.
Shippey, Orland P., Villa Grove.
Shotwell, Wm. E., Denver.
Shollenberger, C. F., Denver.
Shultz, Wm. M., Denver.
Sigman, Horace G., Rocky Ford.
Simon, Saling, Denver.
Singer, Wm. Frederic, Pueblo.
Sirois, Eucharisten, Denver.
Smith, Frank M., Holyoke.
Smith, J. W., Creston.
Smith, J. Sol., Denver.
Smith, Walter W., Erie.
Snitcher, Hy C., Denver.
Solenberger, A. R., Colorado Spgs.
Solly, E. S., Colorado Spgs.
Spratlin, Paul E., Denver.
Spivak, Chas. D., Denver.
Stedman, Arnold, Denver.
Stevens, E. W., Denver.
Stiver, Thos. J., Denver.
Stockett, Ben F., Denver.
Stover, Geo. H., Denver.
Strickler, W. M., Colorado Spgs.
Stuver, E., Ft. Collins.
Sumner, C. O., Fairplay.
Sutherland, W. B., Loveland.
Swan, Will H., Colorado Springs.
Taylor, Hugh L., Denver.
Taylor, Thos. E., Denver.
Teele, May B., Denver.
Thomas, J. N., Denver.
Townsend, Sarah May, Denver.
Trovillion, Edward B., Gold Hills.
Tullis, R. H., Eldora.
Tyler, Geo., Denver.
Van Meter, S. D., Denver.
Vaughan, E. R., Denver.
Vroom, John N., Denver.
Wade, P. A., Canon City.
Warren, Hobart E., Denver.
Waxham, Frank E., Denver.
Webb, G. B., Colorado Spgs.
Welles, Fred'k H., Victor.
Wetherill, Horace G., Denver.
Wheaton, C. L., Denver.
Whitney, Herbert B., Denver.
Whiting, J. A., Cripple Creek.
Whitmore, Edward D., Leadville.
Wiest, Sard, Longmont.
Wills, John T., Sulphur Springs.
Williams, A. H., Denver.
Williams, C. H., Manzanola.
Williams, Sherman, Denver.
Wilson, W. E., Denver.
Wolfer, Carl F., Louisville.
Wood, Ellen M., Denver.
Wooding, Benj. F., Denver.
Worthington, A. K., Denver.

CONNECTICUT.

Abrams, Alva E., Hartford.
Alexander, L. D., New Canaan.
Alling, Arthur N., New Haven.
Almy, L. B., Norwich.
Alton, C. D., Hartford.
Bacon, Wm. T., Hartford.
Bailey, Michael A., Hartford.
Baker, Frank B., E. Norwalk.
Barber, Walter L., Waterbury.
Barnes, Lewis, Oxford.
Beach, Chas. C., Hartford.
Beckwith, F. E., New Haven.
Bill, Curtis H., Bridgeport.
Bishop, T. H., New Haven.
Boucher, John B., Hartford.
Bouton, Geo. B., Westport.
Brayton, Chas. E., Stonington.
Calef, J. Francis, Middletown.
Carrington, Chas., Farmington.
Case, Ida R. Gridley, Collinsville.
Cassidy, Patrick, Norwich.
Castle, F. E., Waterbury.
Cobb, A. E., Falls Village.
Craigg, C., Danbury.
Crane, A. A., Waterbury.
Crary, D., Jr., Hartford.
Crothers, Thos. D., Hartford.
Curtis, Wm. M., Cornwall Bridge.
Davis, Emory H., Plainfield.
Day, L. T., Westport.
Donaldson, Wm. H., Fairfield.
Douglass, Edmon P., Grotin.
Eliot, G., New Haven.
Elmer, Edward O., Hartford.
Felty, J. W., Hartford.

Foote, Chas. J., New Haven.
Fox, Chas. J., Willimantic.
Fox, Morton L., Uncasville.
Fox, E. G., Wetherford.
French, Howard T., Deep River.
Frost, C. W. S., Waterbury.
Fuller, H. S., Hartford.
Garlick, S. M., Bridgeport.
Godfrey, Chas. C., Bridgeport.
Goodwin, Ralph S., Thomaston.
Graves, Fred'k C., Bridgeport.
Gray, W. W., Bridgeport.
Guild, Frank E., Windham.
Hall, E. D., Meriden.
Hazen, Miner C., Haddam.
Hill, C. E., East Killingly.
Hills, T. Morton, Willimantic.
Hotchkiss, N. R., New Haven.
House, A. L., Tarrytown.
Howe, Harmon G., Hartford.
Hurlbert, W. S., Winsted.
Jarvis, Geo. C., Hartford.
Johnson, Marcus M., Hartford.
Keniston, Jas. M., Middletown.
Kimball, Rush W., Norwich.
Knight, Geo. H., Lakeville.
Lambert, B. L., New Haven.
Law, Homer L., Hartford.
Lewis, G. F., Collinsville.
Lindsley, Chas. A., New Haven.
Lindsley, C. Purdy, New Haven.
Lowe, R. W., Ridgefield.
Lynch, John C., Bridgeport.
Lyon, Edwin B., New Britain.
MacLaren, Wm. S., Litchfield.
McDonnell, R. A., New Haven.
McGaughey, Jas. D., Wallingford.
McManus, James, Hartford.
Mailhouse, Max, New Haven.
Mason, Lewis D., Greenwich.
Mayer, Nakon, Hartford.
Moody, Mary B., New Haven.
Morrell, F. A., Putnam.
Nelson, A. W., New London.
O'Connor, Matt C., New Haven.
O'Laughlin, T. F., Rockville.
Osborn, G. W., Bridgeport.
Osborne, Oliver T., New Haven.
Otis, Samuel D., Meriden.
Overlock, S. B., Pomfret.
Paddock, Lewis F., Norwich.
Perry, J. G., Ridgefield.
Platt, Wm. L., Torrington.
Plummer, Paul, Collinsville.
Poore, J. R., Waterbury.
Porter, Geo. L., Bridgeport.
Pratt, Elias, Torrington.
Randall, W. Sherman, Derby.
Rankin, C. G., Glastonbury.
Robinson, Rienzi, Danielsville.
Rodman, C. S., Waterbury.
Root, Jos. E., Hartford.
Root, E. K., Hartford.
Russell, W. S., Wallingford.
Ruland, F. D., Westport.
Sheedy, Bryan D., Bridgeport.
Shelton, Gould A., Shelton.
Shepherd, G. R., Hartford.
Skinner, Clarence E., New Haven.
Smith, E. E., South Wilton.
Smith, Fred S., Chester.
Smith, Edward M., Newton.
Smith, Oliver C., Hartford.
Smith, Frank L., Bridgeport.
Smith, Marion, New Haven.
Stearns, H. P., Hartford.
Sullivan, Daniel F., Hartford.
Trecartin, David M., Bridgeport.
Turner, S. W., Chester.
Tuttle, Albert Lake, Milford.
Tuttle, Chas. A., New Haven.
Watson, W. S., Danbury.
Weidner, Calvin C., Manchester.
Whittemore, F. H., New Haven.
Williams, Chas. C., Hartford.
Williamson, A. N., New London.
Wilson, F. M., Bridgeport.
Winchell, Alverd E., New Haven.
Wright, J. W., Bridgeport.

DELAWARE.

Burton, Hiram R., Lewes.
Bastian, Jos. W., Wilmington.
Belville, Frank, Delaware City.
Bishop, L. A. H., Dover.
Chandler, Swithin, Wilmington.
Cook, Thos. D., Wilmington.
DeWitt, John W., St. George.
Dickson, Morton P., Glen Riddle.
Elbert, Samuel G., Wilmington.
Ellegood, Robt., Jr., Delmar.
Ellegood, Robt. G., Concord.
Ellegood, J. A., Wilmington.
Fowler, Edward, Laurel.
Frist, Harry M., Wilmington.
Haines, W. F., Seaford.
Hopkins, J. A., Milton.
Lewis, B. L., Harrington.
Marshall, Wm., Milford.
Massey, Jas. T., Canterbury.
Orr, W. P., Jr., Lewis.
Palmer, J., Jr., Wilmington.
Robinson, O. D., Georgetown.
Springer, Willard, Wilmington.
Spruance, Henry R., Wilmington.
Stevens, H. C., Wilmington.
Stubbs, H. J., Wilmington.
Vallindigham, I. S., Middletown.
Vessey, Benj. R., Wilmington.
Wilson, Jas. H., Dover.

NORTH DAKOTA.

Aylen, Jas. P., Sheldon.
Beaudoux, H. A., Fargo.
Bodenstab, Wm. H., New Salem.
Branch, Edward C., Wheatland.
Brown, J. O., Minnewaukon.
Campbell, R. D., Grand Forks.
Campbell, F. J., Fargo.
Carpenter, G. A., Fargo.
Carr, Andrew, Northwood.
Devitt, T. G., Grand Forks.
Eggers, August, Grand Forks.
Emmanuel, H. W., Milnor.
Evans, Edw. B., Fargo.
Healy, Hy H., Michigan City.
Hotson, John M., Graodin.
Jones, W. D., Devil's Lake.
McDonald, P. E., Fort Yates.
MacLachlan, C., New Rockford.
McConnell, J. DeWitt, Fargo.
McIntyre, Geo., Mayville.
Maercklein, F. W., Ashley.
Miner, Frank B., Gardner.
Moeller, Thos. O. E., Ft. John.
Moore, Dwight S., Jamestown.
Philip, W. H. M., Hope.
Platon, L. S., Valley City.
Reilly, Jas. J., Milton.
Rindlaub, J. H., Fargo.
Rowe, H. J., Castleton.
Shanely, Chas. M., Lidgerwood.
Sherping, Olaf T., Enderlin.
Smyth, F. R., Bismarck.
Sorkness, P., Fargo.
Stickney, Victor H., Dickinson.
Taylor, John D., Grand Forks.
Wear, I. N., Fargo.
Wheeler, H. M., Grand Forks.

SOUTH DAKOTA.

Bowman, A. H., Deadwood.
Cox, Fred'k W., Vermillion.
Coyne, S. J., Aberdeen.
Crain, M. F., Redfield.
Dickinson, D. K., Lead.
Edgerton, W. E., Salem.
Elliott, A. V., Beresford.
Freeman, J. W., Lead City.
Gross, C. C., Yankton.
Hohf, S. M., Yankton.
Kutnewsky, J. K., Redfield.
Lasher, B. W., Armour.
Martin, J. H., Centerville.
Miller, E. C., Brookings.
Moody, R. L., Aberdeen.
Noble, Harry B., Howard.
Rudgers, D. W., Yankton.
Smith, W. G., Sturgis.
Spafford, Frank A., Flandreau.
Stewart, J. L., Irene.
Swezey, F. A., Wakonda.
Torrence, W. W., Deadwood.

DISTRICT OF COLUMBIA.

Adams, S. S., Washington.
Aker, G. N., Washington.
Allen, H. Jerome, Washington.
Atkinson, Wade H., Washington.
Bailhache, P. H., Washington.
Barker, H. H., Washington.
Barnes, Noble Price, Washington.
Barrie, G., Washington.
Beardsley, G. S., Washington.
Behrend, Adajah, Washington.
Berman, I., Washington.
Bovee, J. Wesley, Washington.
Bromwell, J. R., Washington.
Brown, C. W., Washington.
Brumbaugh, G. M., Washington.
Bryan, J. H., Washington.
Buckley, J. W., Washington.
Burnett, S., Washington.
Busey, S. C., Washington.
Butler, W. K., Washington.
Byrns, W. F., Washington.
Carr, W. P., Washington.
Chappell, J. W., Tennallytown.
Collins, C. R., Washington.
Cook, G. Wythe, Washington.
Curtis, A. M., Washington.
Dickson, S. H., Washington.
Donohue, Florence, Washington.
Dye, Hobart S., Washington.
Elliot, Johnson, Washington.
Elliot, Llewellyn, Washington.
Evans, W., Washington.
Farnham, R., Washington.
Fletcher, R., Washington.
Fox, W. H., Washington.
Franzoni, Ch. W., Washington.
Fry, H. D., Washington.
Gardner, W. H., Washington.
Glazebrook, L. W., Washington.
Gobrecht, W. H., Washington.
Graham, R. H., Washington.
Griffith, Monte, Washington.
Hall, A. J., Washington.
Hammond, T. V., Washington.
Hance, T. F., Washington.
Hasbrouck, E. M., Washington.
Hawkes, W. H., Washington.
Hazen, W. P. C., Washington.
Heger, A., Washington.
Helberger, Ida J., Washington.
Hickling, D. Percy, Washington.
Holden, R. T., Washington.
Howard, Joseph T., Washington.
Howland, G. T., Washington.
Hurtt, Harry, Washington.
Hyatt, Frank, Washington.
Johnson, H. L. E., Washington.
Johnson, J. Tabor, Washington.
Johnson, Wallace, Washington.
Johnson, A. E., Washington.
Kurtz, John, Washington.
King, A. F. A., Washington.
Kleinschmidt, C. H. A., Wash.
Kober, Geo. M., Washington.
Kollpiaski, Louis, Washington.
Lamb, Dryden S., Washington.
Leech, D. Olin, Washington.
Leech, Frank, Washington.
Lewis, S. E., Washington.
Lochboehler, Geo. J., Washington.
Lovejoy, J. W. H., Washington.
Luce, C. R., Washington.
McArdle, T. E., Washington.
McKimmie, O. A. M., Washington.
McLain, J. S., Washington.
McLaughlin, T. N., Washington.
Mackall, L., Georgetown.
Magee, M. D., Washington.
Magruder, G. L., Washington.
Mayfield, Clifton, Washington.
Moran, J. F., Washington.
Morgan, Jas. D., Washington.
Morgan, E. L., Washington.
Motter M. G., Washington.
Muncaster, S. B., Washington.
Muncaster, Otho M., Washington.
Parsons, Mary, Washington.
Pool, B. G., Washington.
Raub, J. F., Washington.
Reisinger, Emory W., Washington
Repetti, F. F., Washington.
Reville, L. M., Washington.
Reyburn, Robert, Washington.
Richardson, C. W., Washington.
Richey, S. O., Washington.
Rixey, P. M., Washington.
Robbins, H. A., Washington.
Rosenau, Milton J., Washington.
Schweinitz, E. A. de, Washington
Simpson, Jno. C., Washington.
Smart, Major Chas., Washington.
Smith, Chas. B., Washington.
Smith, T. C., Washington.
Sothoron, Elmer, Washington.
Sowers, Z. T., Washington.
Sprigg, W. Mercer, Washington.
Stafford, J. J., Washington.
Stavely, A. L., Washington.
Sternberg, C. M., Washington.
Stone, Isaac S., Washington.
Storch, A. Bernard, Washington.
Strickler, M. B., Washington.
Suddarth, Jas. L., Washington.
Swain, Oliver A. T., Washington.
Thompson, J. F., Washington.
Tompkins, E. L., Washington.
Toner, J. E., Washington.
Vaughan, George Tulley, Washington.
Walsh, John E., Washington.
Walsh, Ralph, Washington.
Warren, Ben S., Washington.
West, G. W., Washington.
Wilmer, W. Holland, Washington.
Winter, John T., Washington.
Woodward, W. C., Washington.
Woodward, R. M., Washington.
Woodhull Alfred A., Washington.
Wyman, Walter, Washington.
Yarnall, J. H., Washington.
Yarrow, H. C., Washington.
Young, J. T., Washington.

FLORIDA.

Altree, G. H., Port Tampa City.
Anderson, W. E., Pensacola.
Anderson, T. S., Live Oak.
Arnold, E. S. F., Mandarin.
Atwood, E. C., Dayton.
Bird, Urban S., Tampa.
Blocker, L. de W., Chattahoochee.
Caldwell, F. H., Jacksonville.
Coleman, H. A., Mandarin.
Cazner, A. T., Gilmore.
DeLong, W. H., Emporia.
DePass, M. H., Archer.
Douglas, J. W., Tampa.
Drew, C., Jacksonville.
Hodges, J. Harrison, Gainesville.
Hughlett, W. L., Cocoa.
Lancaster, R. A., Gainesville.
McGinnis, R. H., Jacksonville.
McKee, W. P., Eustis.
McLane, J. N., DeFuniak Spgs.
Maloney, J. B., Key West.
Martin, I. W., Quincy.
Murry, R. D., Key West.
Myers, T. J., Bowling Green.
Newsom, W. V., Ocala.
Plummer, J. W. V. R., Key West.
Porter, J. Y., Key West.
Potter, R. B., West Palm Beach.
Rush, Warren B., Oakland.
Sabal, E. T., Jacksonville.
Shepard, G. W., Chattahoochee.
Simmons, E. C., Cocoanut Grove.
Smith, Dan. M., Ocala.
Stebbins, Hy. H., Tampa.
Steen, A. M., Palatka.
Stringer, S., Brooksville.
Sweeting, C. B., Key West.
VanHood, E., Ocala.
Worcester, O. E., Conant.
Worley, S. G., St. Augustine.
Wright, Olin S. Plant City.

GEORGIA.

Amster, Ludwig, Atlanta.
Avant, Admiral L. R., Patterson.
Bailey, J. W., Gainesville.
Baird, Jas. B., Atlanta.
Baldwin, M. A., Cuthbert.
Bardwell, E. L., Talbotton.
Bell, W. Jay, Atlanta.
Benedict, Samuel C., Athens.
Braselton, B. F., Pendergrass.
Brigham, W. R., Dublin.
Bryans, R. G., Jackson.
Bullard, W. L., Columbus.
Burford, H., Brunswick.
Burt, A. M., Macon.
Burns, J. K., Clarksville.
Calhoun, A. W., Atlanta.
Campbell, W. E., Atlanta.
Champion, W. L., Atlanta.
Childs, J. A., Atlanta.
Clark, Mollie A., Macon.
Coleman, T. D., Augusta.
Collins, Katharine R., Atlanta.
Connally, E. L., Atlanta.
Cooper, Hunter P., Atlanta.
Corbin, Marion X., Savannah.
Cortelyou, P. R., Marietta.
Cox, Ross P., Rome.
Crawford, J. M., Atlanta.
Currie, Malcom L., Savannah.
Daniel, J. W., Savannah.
Davis, Jeff, Toccoa.
Davis, E. C., Atlanta.
Davis, W. L., Albany.
Dean, Jarvis G., Dawson.
Doughty, W. H., Augusta.
Drewry, T. Ellis, Griffin.
Duggan, J. H., Stephensville.
Duncan, W., Savannah.
Duncan, J. W., Atlanta.
Earnest, J. G., Atlanta.
Eberhardt, J. W., Hartwell.
Elkin, W. S., Atlanta.
Farmer, J. L., Savannah.
Fite, Berry W., Resaca.
Foster, Eugene, Augusta.
Garlington, Thos. Rich., Rome.
Gaston, J. McFadden, Atlanta.
Gerdine, John, Athens.
Goodrich, E. C., Augusta.
Goss, Ishsm H., Athens.
Griffin, W. C., Cartersville.
Grimes, Geo. J., Columbus.
Hall, T. M., Milledgeville.
Hardman, L. G., Harmony Grove.
Hardman, W. B., Harmony Grove
Harris, B. B., Savannah.
Herrmann, Jefferson D., Eastman.
Hiers, J. Lawton, Savannah.
Holliday, W. Z., Augusta.
Holmes, J. B. S., Atlanta.
Holt, Wm. F., Macon.
Holbrook, W. H., Dalton.
Hopkins, J. G., Thomasville.
Hoyt, W. D., Rome.
Hubbard, T. Virgil, Atlanta.
Hurt, C. D., Atlanta.
Hutchins, Millie B., Atlanta.
Izlar, R. P., Waycross.
Jarrell, J. G., Savannah.
Jenkins, R. H., Hogansville.
Johnson, J. C., Atlanta.
Keaton, P. H., Damascus.
Kime, Rufus R., Atlanta.
Lane, Leonidas P., Stillmore.

Lattimore, R., Savannah.
Lovvorn, J. L., Bowdon.
McCurry, Isham L., Hartwell.
McDuffie, J. H., Columbus.
McHatton, H., Macon.
McIntosh, T. M., Thomasville.
McLean, J. L., Birdforce.
McMaster, H. B., Wynesboro.
McRae, Floyd W., Atlanta.
Malone, J. D., Marietta.
Mathews, S. M., Quitman.
Mitchell, T. E., Columbus.
Moore, K. P., Macon.
Murphey, C. E., Atlanta.
Nicholson, Wm. P., Atlanta.
Noble, Geo. H., Atlanta.
Nunn, R. J., Savannah.
Olmsted, J. C., Atlanta.
Owens, Wm. W., Savannah.
Paine, H. M., Atlanta.
Parks, Willis B., Atlanta.
Peete, Cola A., Macon.
Peters, Alvon B., Moultrie.
Powell, T. O., Milledgeville.
Powell, Buna C., Villa Rica.
Quillian, D. D., Athens.
Reid, K. L., Atlanta.
Ridley, F. Morris, La Grange.
Rogers, J. T., Excelsior.
Rose, John R., Eastman.
Roy, Dunbar, Atlanta.
Roy, Gustavus G., Atlanta.
Rumble, Smith, Goggansville.
Scott, Hy F., Atlanta.
Sharp, L. J., Harmony Grove.
Shorter, J. H., Macon.
Slack, Hy R., La Grange.
Smith, Claud A., Atlanta.
Spears, Wm. T., Rutledge.
Spears, A. Foster, Farrar.
Spense, J. M., Jr., Waresboro.
Stapler, Marvin M., Macon.
Stephens, L. P., Atlanta.
Stovall, Albert S. J., Elberton.
Summerfield, J. E., Atlanta.
Tate, W. B., Tate.
Terrell, H. W., La Grange.
Terry, W. R., Shellman.
Thomson, R. M., Savannah.
Travis, Wm. D., Covington.
Tuten, Jas. G., Jesup.
Walker, T. D., Cochran.
Walker, J. L., Waycross.
Warning, T. P., Savannah.
Westmoreland, W. F., Atlanta.
Whipple, W. H., Macon.
Whitehead, W. H., Atlanta.
Wilcox, G. A., Augusta.
Williams, Howard J., Macon.
Wimberly, J. S., Sunlight.
Wimberly, W. C., Fort Gaines.

ILLINOIS.

Chicago.

Abel, J. F., Chicago.
Abt, I. A., Chicago.
Acres, Louise, Chicago.
Adolphus, P., Chicago.
Alderson, John J., Chicago.
Alexander, H. C. B., Chicago.
Allport, Frank, Chicago.
Andrews Edmund, Chicago.
Andrews, E. Wyllys, Chicago.
Antisdale, E. S., Chicago.
Auld, J. M., Chicago.
Babcock, Robert H., Chicago.
Bacon, C. S., Chicago.
Baer, A. W., Chicago.
Baldwin, A. E., Chicago.
Baldwin, L. Blake, Chicago.
Banga, H., Chicago.
Bartlett, J., Chicago.
Barrett, Channing W., Chicago.
Barrett, E. J., Chicago.
Barlow, L. N., Chicago.
Bates, M. DaCosta, Chicago.
Baum, Wm. L., Chicago.
Bausman, A. B., Chicago.
Beard, C. H., Chicago.
Beardsley, Jennie A., Chicago.
Beck, Carl, Chicago.
Beery, C. C., Chicago.
Belknap, F. W., Chicago.
Berg, L. M., Chicago.
Berry, J. G., Chicago.
Besharian, J. H., Chicago.
Bettman, Boerne, Chicago.
Beverige, T. F., Chicago.
Bevan, A. D., Chicago.
Billings, Frank, Chicago.
Bishop, S. S., Chicago.
Blech, Gustavus M., Chicago.
Bouffleur, A. J., Chicago.
Boyd, S. J., Chicago.
Braunwirth, Anna M., Chicago.
Brown, J. M., Chicago.
Brown, Heman, H., Chicago.
Brown, S., Chicago.
Brower, Daniel R., Chicago.
Bryan, C. H., Chicago.
Buck, J. B., Chicago.
Burroughs, W. M., Chicago.
Burr, A. H., Chicago.
Burwash, H. J., Chicago.
Butterfield, F. A., Chicago.
Byford, Henry T., Chicago.
Campbell, Ralph R., Chicago.
Carey, F., Chicago.
Carpenter, G. T., Chicago.
Casselberry, Wm. E., Chicago.
Chaffee, F. F., Chicago.
Chandler, F. C., Chicago.
Chapman, G. H., Chicago.
Chapman, C. F., Chicago.
Chamberlain, G. M., Chicago.
Cheney, H. W., Chicago.
Chew, J. H., Chicago.
Christopher, W. S., Chicago.
Church, Walter F., Chicago.
Class, W. J., Chicago.
Close, C. F., Chicago.
Cole, Samuel, Chicago.
Coey, A. J., Chicago.
Coleman, W. F., Chicago.
Conboy, Daniel, Chicago.
Conley, T. J., Chicago.
Connell, F. C., Chicago.
Cook, J. C., Chicago.
Cooke, A. H., Chicago.
Coolidge, F. S., Chicago.
Cory, A. L., Chicago.
Cotton, A. C., Chicago.
Coulter, J. Homer, Chicago.
Cunningham, D. H., Chicago.
Cushman, H., Chicago.
Dahl, Svenning, Chicago.
Dal, J. W., Chicago.
Danforth, I. N., Chicago.
Davis, C. G., Chicago.
Davis, Thos. A., Chicago.
Davis, Nathan S., Chicago.
Davis, N. S., Jr., Chicago.
Davis, Effa V., Chicago.
Davis, W. C., Chicago.
Davison, C., Chicago.
Davenport, Nora Soulé, Chicago.
De Lee, Joseph B., Chicago.
Deming, H. H., Chicago.
Dennis, G. J., Chicago.
De Veny, S. C., Chicago.
Dewey, F. J., Chicago.
Dickson, W. F., Chicago.
Dickinson, Frances, Chicago.
Dickerman, Ed. T., Chicago.
Dodd, Oscar, Chicago.
Dodds, R., Chicago.
Doering, E. J., Chicago.
Doherty, D. J., Chicago.
Dubs, Rudolf S., Chicago.
Dudley, E. C., Chicago.
Duncan, W. E., Chicago.
Eads, D. D., Chicago.
Eads, B. B., Chicago.
Eckley, W. T., Chicago.
Edwards, Arthur R., Chicago.
Eisendrath, D. N., Chicago.
Elliott, A. R., Chicago.
Engelman, Rosa, Chicago.
Evans, Wm. A., Chicago.
Faber, P. J., Chicago.
Favill, Henry B., Chicago.
Fenger, Christian, Chicago.
Ferguson, A. H., Chicago.
Fisher, W. A., Chicago.
Fisher, J., Chicago.
Fiske, G. F., Chicago.
Frank, Jacob, Chicago.
Frankenthal, Lester G., Chicago.
Frankenstein, V. S., Chicago.
Frothingham, H. H., Chicago.
Fuller, W., Chicago.
Furlong, M., Chicago.
Fütterer, G., Chicago.
Galloway, D. H., Chicago.
Gamble, W. E., Chicago.
Garceau, A. E., Chicago.
Gardiner, Edwin J., Chicago.
Gary, I. C., Chicago.
Gehrman, A., Chicago.
Getzlaff, B., Chicago.
Gfroerer, G. S., Chicago.
Gillmore, R. T., Chicago.
Gilmer, T. L., Chicago.
Glenn, F. G., Chicago.
Goldspohn, A., Chicago.
Goodsmith, W. P., Chicago.
Gorgas, L. W., Chicago.
Gradle, Henry, Chicago.
Graham, D. W., Chicago.
Gregory, L. L., Chicago.
Greene, F. C., Chicago.
Green, G. W., Chicago.
Hagens, G. J., Chicago.
Haight, A. T., Chicago.
Haines, W. S., Chicago.
Hakanson, A., Chicago.
Hale, A. B., Chicago.
Hall, R. N., Chicago.
Hall, W. S., Chicago.
Hamill, E., Chicago.
Hammond, J. D., Chicago.
Hammond, Glenn M., Chicago.
Hanson, L. P., Chicago.
Hardie, T. Melville, Chicago.
Harris, M. L., Chicago.
Hartley, J. D., Chicago.
Hartung, H., Chicago.
Harsha, Wm. M., Chicago.
Harlan, A. W., Chicago.
Harvey, D. S., Chicago.
Harvey, Robert H., Chicago.
Hawley, J., Chicago.
Hawley, Geo. F., Chicago.
Hawley, C. W., Chicago.
Hawley, E. R., Chicago.
Hayford, E. L., Chicago.
Head, G. P., Chicago.
Heckard, M. O., Chicago.
Hektoen, L., Chicago.
Henderson, E. E., Chicago.
Henderson, N. H., Chicago.
Henrotin, Fernand, Chicago.
Henssler, O. W., Chicago.
Hepburn, J. C., Chicago.
Hequembourg, J. E., Chicago.
Herrick, James B., Chicago.
Herzog, M., Chicago.
Hernelsdorf, A., Chicago.
Hess, F. A., Chicago.
Hessert, W., Chicago.
Hester, W. W., Chicago.
Hilton, G. V., Chicago.
Hitt, A. W., Chicago.
Hoelscher, J. H., Chicago.
Hollister, Mary C., Chicago.
Hollenbeck, F. D., Chicago.
Holmes, Bayard, Chicago.
Holmes, F., Chicago.
Holroyd, E. E., Chicago.
Holinger, J., Chicago.
Hooper, Henry, Chicago.
Hotz, F. C., Chicago.
Huizinga, J. G., Chicago.
Hunt, J. S., Chicago.
Hunt, Florence W., Chicago.
Hyde, J. N., Chicago.
Ingals, E., Chicago.
Ingals, E. Fletcher, Chicago.
Isham, Ralph N., Chicago.
Jaques, Wm. K., Chicago.
Jay, Milton, Chicago.
Jay, Frank W., Chicago.
Johnson, F. S., Chicago.
Johnson, G. W., Chicago.
Johnstone, A. R., Chicago.
Johnstone, Stuart, Chicago.
Jones, S. J., Chicago.
Kales, J. D., Chicago.
Kewley, J. R., Chicago.
Klebs, Arnold C., Chicago.
Knudson, T. J., Chicago.
Krusemarck, C., Chicago.
Kuflewski, W. A., Chicago.
Kuh, S., Chicago.
Kurtz, C. E., Chicago.
Larkin, F. A., Chicago.
Larkin, O. E., Chicago.
Latham, Vida A., Chicago.
Lawbaugh, E. A., Chicago.
LeCount, E. R., Chicago.
Lee, J. H., Chicago.
Lee, E. H., Chicago.
Leeming, J., Chicago.
Lemke, A. F., Chicago.
Leusman, F. A., Chicago.
Lewis, D., Chicago.
Lewis, Chas. J., Chicago.
Lewis, H. F., Chicago.
Lewis, Le Roy, Chicago.
Linnell, B. M., Chicago.
Lobdell, Effie L., Chicago.
Lodor, C. H., Chicago.
Loeb, Leo, Chicago.
Loew, Alex, Chicago.
Loomis, E. B., Chicago.
Loring, J. B., Chicago.
Luehr, Edward, Chicago.
Lydston, G. Frank, Chicago.
McArthur, L. L., Chicago.
MacArthur, R. D., Chicago.
McClure, C. F., Chicago.
McCullum, J. L., Chicago.
McCullough, J. R., Chicago.
McCurdy, J. G., Chicago.
McLaughlin, A. W., Chicago.
McMahan, J. P., Chicago.
MacMartin, D. R., Chicago.
McWilliams, S. A., Chicago.
Mack, Milton H., Chicago.
Mackey, Cornelius D., Chicago.
Mahoney, G. W., Chicago.
Mann, W. A., Chicago.
Marshall, John S., Chicago.
Martin, H. M., Chicago.
Mather, H. H., Chicago.
Maywit, L., Chicago.
Mellish, E. J., Chicago.
Menge, Fred, Chicago.
Mergler, Marie J., Chicago.
Mercer, F. W., Chicago.
Mettler, L. Harrison, Chicago.
Meyerovitz, M., Chicago.
Miller, R. E., Chicago.
Miller, De Laskie, Chicago.
Miller, W. E., Chicago.
Miller, C. H., Chicago.
Miley, Levi C., Chicago.
Missick, O. S., Chicago.
Monash, D. F., Chicago.
Montgomery, Wm. T., Chicago.
Montgomery, L. H., Chicago.
Moore, F. D., Chicago.
Morgan, W. E., Chicago.
Morgenthau, Geo., Chicago.
Moyer, Harold N., Chicago.
Murphy, John B., Chicago.
Murphy, C. T., Chicago.
Nance, W. O., Chicago.
Neeley, J. R., Chicago.
Nelson, D. T., Chicago.
Newman, Henry P., Chicago.
Niles, J. W., Chicago.
Norderling, K. A., Chicago.
Noyes, F. B., Chicago.
Ochsner, A. J., Chicago.
Oneal, Oren, Chicago.
Orth, W. S., Chicago.
Oughton, C. M., Chicago.
Owens, John E., Chicago.
Oven, A. B., Chicago.
Paddock, C. E., Chicago.
Patrick, Hugh T., Chicago.
Patton, J. A., Chicago.
Payne, D. A., Chicago.
Peck, A. H., Chicago.
Pennington, J. Rawson, Chicago.
Peterson, Reuben, Chicago.
Pettyjohn, E. S., Chicago.
Phillips, C. J., Chicago.
Pierron, J. J., Chicago.
Pierce, N. H., Chicago.
Pinckard, C. P., Chicago.
Piper, E. D., Chicago.
Plecker, J. H., Chicago.
Plummer, S. C., Jr., Chicago.
Poore, J. E., Chicago.
Porter, R. H., Chicago.
Preble, R. B., Chicago.
Price, O. J., Chicago.
Pritzker, L. J., Chicago.
Pruyn, C. P., Chicago.
Purdy, C. W., Chicago.
Pusey, Wm. A., Chicago.
Pynchon, Ed, Chicago.
Quine, Wm. E., Chicago.
Quinlan, Wm. W., Chicago.
Reilly, F. W., Chicago.
Reynolds, Arthur R., Chicago.
Rhodes, J. E., Chicago.
Rice, E. P., Chicago.
Richards, Annette S., Chicago.
Richman, S. T., Chicago.
Ridlon, John, Chicago.
Ries, Emil, Chicago.
Riese, B. L., Chicago.
Rittenhouse, H. H., Chicago.
Ritter, M. M., Chicago.
Roan, C. F., Chicago.
Robison, J. A., Chicago.
Rohrabough, E. E., Chicago.
Romig, S. V., Chicago.
Root, Eliza H., Chicago.
Royce, W. S., Chicago.
Ruggles, G. S., Chicago.
Rumpf, W. H., Chicago.
Rutherford, C., Chicago.
Salisbury, J. H., Chicago.
Sawtelle, H. W., Chicago.
Schaefer, F. C., Chicago.
Schmidt, O. L., Chicago.
Schmidt, L. E., Chicago.
Senn, Nicholas, Chicago.
Senn, E. J., Chicago.
Seville, F. F., Chicago.
Shepstone, J. A., Chicago.
Sherwood, F. R., Chicago.
Shorman C., Chicago.
Shryock, A. O., Chicago.
Simmons, Geo. H., Chicago.
Sippy, B. W., Chicago.
Small, A. R., Chicago.
Smedley, N. J., Chicago.
Smith, E. M., Chicago.
Spach, A. B., Chicago.
Sprague, W. B., Chicago.
Staneff, Demetrius, Chicago.
Starkey, H. M., Chicago.
Stahl, F. A., Chicago.
Stanton, S. C., Chicago.
Starkweather, R. E., Chicago.
Steele, D. A. K., Chicago.
Steeves, Alice M., Chicago.
Stevenson, Sarah H., Chicago.
Stearns, W. G., Chicago.
Stillians, D. C., Chicago.
Storer, W. D., Chicago.
Stoll, J. J., Chicago.
Stowell, J. H., Chicago.
Straus, Irving J., Chicago.
Stringfield, C. P., Chicago.

Stubbs, F. G., Chicago.
Stubbs, J. C., Chicago.
Stulik, C., Chicago.
Sudduth, W. X., Chicago.
Sullivan, T. J., Chicago.
Swartz, T. B., Chicago.
Sweet, A. A., Chicago.
Tagert, A. H., Chicago.
Talbot, E. S., Chicago.
Tansey, E. E., Chicago.
Test, E. C., Chicago.
Thomas, A. L., Chicago.
Thomas, H. M., Chicago.
Thometz, John J., Chicago.
Thompson, M. E. B., Chicago.
Tichener, W. A., Chicago.
Todd, J. F., Chicago.
Turner, B. S., Chicago.
Turck, F. B., Chicago.
Turck, R. C., Chicago.
Tuteur, E. B., Chicago.
Tyler, H. A., Chicago.
VanDuyn, A. C., Chicago.
Van Hook, Weller, Chicago.
Van Velsor, F. F., Chicago.
Van Winkle, J. W., Chicago.
Verity, W. P., Chicago.
Wagner, C., Chicago.
Waite, Lucy E., Chicago.
Wall, F. X., Chicago.
Walker, S. J., Chicago.
Walter, Will. Chicago.
Ward, C. W., Chicago.
Ware, Lyman ,Chicago.
Warner, A. K., Chicago.
Washington, J. N., Chicago.
Watkins, T. J., Chicago.
Waugh, W. F., Chicago.
Weaver, G. H., Chicago.
Weatherson, J., Chicago.
Weber, Saml. L., Chicago.
Webster, J. Clarence, Chicago.
Webster, J. P., Chicago.
Webster, G. W., Chicago.
Wells, Edward F., Chicago.
Wells, F. C., Chicago.
Wells, W. B., Chicago.
Wenzlick, W., Chicago.
Wermuth, W. C., Chicago.
Wescott, C. D., Chicago.
Wesley, A. A., Chicago.
Whalen, C. J., Chicago.
Wiggin, T. B., Chicago.
Wilder, W. H., Chicago.
Williams, J. F., Chicago.
Williams, D. H., Chicago.
Wilson, W. L., Chicago.
Wilson, R. C., Chicago.
Wing, E., Chicago.
Wood, Casey A., Chicago.
Wood, G., Chicago.
Woodruff, T. A., Chicago.
Woodworth, P. M., Chicago.
Younger, W. J., Chicago.
Zeisler, Joseph, Chicago.
Zelt, F. R., Chicago.

Abbott, D. H., Elgin.
Abbott, W. C., Ravenswood.
Adams, A. D., Jacksonville.
Adelsberger, L., Waterloo.
Allaben, J. E., Rockford.
Allison, W. R., Peoria.
Allen, G. F., Aurora.
Allen, C. A., Virden.
Anderson, B. C., Rockford.
Anderson, Martha, Moline.
Anthony, F., Sterling.
Armstrong, J. W., Centralia.
Arnold, Philip, Elizabeth.
Babb, H., Springfield.
Bacon, J. B., Macomb.
Baird, J., Evanston.
Baker, E. F., Jacksonville.
Bane, T. N., Loda.
Bannister, H. M., Evanston.
Barnes, Ira N., Decatur.
Barnes, Wm., Decatur.
Barlow, C., Eaton.
Barto, F. C., Plainview.
Barton, P. H., Danville.
Barker, R. N., Hopedale.
Baughman, J. A., Neogo.
Bechtold, L. J., Belleville.
Bell, J. F., Elgin.
Bell, F. E., Mattoon.
Bennett, S. B., Stanton.
Bergen, L. M., Highland Park.
Bernhardi, Carl, Rock Island.
Bernreuter, E., Mount Olive.
Best, J. E., Arlington Heights.
Bird, C. R., Toledo.
Blair, E. J., Monmouth.
Blackburn, M. H., Dover.
Blackman, F. H., Geneva.
Black, J. N., Clayton.
Black, C. E., Jacksonville.
Block, Wm. S., Port Byron.
Boal, Robt., Lacon.
Boggs, Wm. R., Macon.
Bondurant, A. A., Cairo.
Boswell, C. J., Beechwood.
Bourland, I. N., Equality.
Bouton, W. C., Waukegan.
Bowles, Marion K., Joliet.
Bower, R. W., Sheridan.
Bowers, W. C., Decatur.
Bowcock, C. M., Springfield.
Brayton, Sarah H., Evanston.
Bradley, W. J., Coal City.
Bradway, C. F., Abingdon.
Brannon, L., Joliet.
Brannon, G. H., Manhattan.
Brayshaw, J. B., Berlin.
Brennecke, H. A., Aurora.
Bremmer, Hugh A., Ashton.
Breckenridge, Stephen, Riverside.
Britton, A. L., Athens.
Brobst, C. H., Peoria.
Brock, J. E., Coal City.
Brockhausen, B. E., Freeport.
Brooks, H. J., Elgin.
Broughton, R., Dwight.
Brown, Jas. L., Peoria.
Brown, E. J., Decatur.
Brown, H. B., Lincoln.
Brown, P. W., Fish Hook.
Brown, C. B., Sycamore.
Brobeck, A. L., Wellington.
Brock, J. E., Coal City.
Buck, H. B., Springfield.
Bucknell, S. E., Alhambra.
Bumstead, J. E., Dundee.
Burlingame, D. E., Elgin.
Burke, C. O., Atlanta.
Burton, E. F., Oak Park.
Burnham, A. F., Jacksonville.
Burns, Wm. W., Polo.
Burrows T. W., Ottawa.
Burwash, T. N., Plainview.
Buxton, W. E., Samsville.
Caldwell, W. S., Freeport.
Calkins, F. W., Rockford.
Calhoun, C. D., Elburn.
Calhoun, W. J., St. Charles.
Campbell, A. E., Clinton.
Carter, J. M. G., Waukegan.
Carpenter, E. A., Baileyville.
Carter, C. C., Rock Island.
Carter, Chas. W., Aledo.
Cashburn, R. L., Carthage.
Catlin, E. P., Rockford.
Center, C. D., Quincy.
Chapman, A. L., Carlock.
Chapman, H. W., Whitehall.
Chenoweth, W. J., Decatur.
Christi, R. J., Jr., Quincy.
Clark, Sumner, Effingham.
Cleveland, E. F., Dundee.
Collins, J. S., Carlinville.
Cole, W. C., Jacksonville.
Coleman, J. E., Canton.
Colt, J. D., Litchfield.
Comegys, J. P., Rock Island.
Connelly, J. W., Farmington.
Conner, J. J., Pana.
Cook, W. H., Coffeen.
Cook, E. P., Mendota.
Cooley, Elmer B., Pilot.
Corr, A. C., Carlinville.
Corey, J. E., Lexington.
Cowan, G. R., Girard.
Cox, W. M., Mt. Sterling.
Craig, G. G., Rock Island.
Crane, F. M., Pittsfield.
Crawford, N. B., Eureka.
Crebs, Berry S., Carmi.
Crocker, Geo. L., Springfield.
Crow, J. T., Carrollton.
Cruse, C. V., Oskaloosa.
Curtiss, R. M., Marengo.
Cushing, H. E., Champaign.
Daniels, F. H., Batavia.
Dalton, W. B., Scottville.
Davidson, T. W., Fairview.
Day, H. S., Paxton.
DeCourcy, J. O., East St. Louis.
Detweiler, E. S., La Grange.
Dickinson, S. B., Austin.
Dicus, G. A., Streator.
Dicus, Joseph F., Streator.
Dieffenbucher, P. L., Havana.
Dixon, J. N., Springfield.
Dixon, W. Eugene, Sidell.
Dodds, J. C., Tolono.
Doolittle, Wm. H., Woodstock.
Dougall, Wm., Joliet.
Duffield, H. T., Pittsfield.
Dunn, J. W., Cairo.
Edwards, J. W., Mendota.
Eddy, W. J., Shelbyville.
Edlin, E. A., Moline.
Egan, J. A., Springfield.
Ensign, W. O., Rutland.
Evenson, H. O., Newark.
Evinger, J. W., Paris.
Eyster, Geo. S., Rock Island.
Fairbrother, H. C., E. St. Louis.
Farley, W. K., Waterman.
Ferrell, H. V., Carterville.
Flegenbaum, E.W., Edwardsville.
Fink, J. W., Hillsboro.
Firebaugh, I. L., Robinson.
Firestone, J. H., Freeport.
Fisher, W. F., Alton.
Fisher, C. J. C., Carlinville.
Fitch, W. H., Rockford.
Fitch-Mulligan, Ella, Ottawa.
Fitts, A. A., Batavia.
Flexer, J. R., Joliet.
Fletcher, Jos., Mendon.
Foote, D. E., Belvidere.
Franken, J. G., Chandlerville.
Frederick, L. J., Joliet.
Freeman, J. A., Millington.
Friend, W. M., Sumner.
Fringer, W. R., Rockford.
Frizzelle, C. H., Pontiac.
Fyke, E. E., Centralia.
Garrison, Harriet, Dixon.
German, W. H., Morgan Park.
Germann, Melinda K., Quincy.
Gilbert, E. B., Geneseo.
Gillis, E. P., Du Onoin.
Gilson, G. H., Shipman.
Gledhill, H. R., Jerseyville.
Goble, E. T., Barlsville.
Godfrey, H. T., Galena.
Goodman, T. B., Cobden.
Goodell, F. W., Effingham.
Gourley, W, W., Downer's Grove.
Green, A., Rockford.
Green, Earl, Mt. Vernon.
Griffiths, B. B., Springfield.
Grigsby, W. E., Blandinsville.
Grim, A., Franklin Grove.
Grinstead, W. F., Cairo.
Guthrie, F. A., La Salle.
Guthrie, Wm. E., Guthrie, Sparta.
Haan, H. J. de, East St. Louis.
Hadway, C Du, Jerseyville.
Hagler, Elmer E., Springfield.
Hairgrove, J. W., Jacksonville.
Haines, Geo. M., Durand.
Hale, J. A., Alto Pass.
Hall, C. W., Kewanee.
Hall, S. C., Omaha.
Hall, Joseph, Westfield.
Hanson, R., Lewistown.
Harrison, Henry M., Quincy.
Hardy, H. T., Kaneville.
Harvey, L. J., Griggsville.
Hart, H., Quincy.
Haskin, H. S., Highland Park.
Haskell, W. A., Alton.
Hatch, H., Quincy.
Hatch, W. G., Quincy.
Haering, O. E., Bloomington.
Haven, A. C., Lake Forest.
Hawks, J. D., Elmwood.
Hays, Theodore C., Canton.
Heise, Ellen H., Canton.
Helm, J. A., Metropolis.
Helm, W. B., Rockford.
Henry, R. H., Peotone.
Herriott, E. L., Jacksonville.
Heywood, C., Casey.
Hilsabeck, W. F., Windsor.
Hill, G. E., Girard.
Hoffman, J. A., Pesotum.
Hoffman, F. N. A., Teutopolis.
Holt, J. D. C., Elmwood.
Hole, B. W., Tallalula.
Hollanbush, J. R., Rock Island.
Holderness, E. P. G., Chenoa.
Hopkins, J. N., Burnt Prairie.
Horrell, C. B., Galesburg.
Horwitz, S., Peoria.
Howard, W. E., Ohio.
Howard, C. H., Champaign.
Howland, E. D., Lockport.
Huff, W. J., Stewardson.
Hughes, N. J., Waverly.
Hull, M. D., Bloomington.
Hull, J. R., Good Hope.
Hunt, C. C., Dixon.
Hunt, F. R., Austin.
Hunter, C. T., Springerton.
Huntsinger, H. P., Pinckneyville.
Hurst, S. T., Green View.
Hutchins, W. A., Orangeville.
Ingram, W. T., Murphysboro.
Ives, C. H., Dixon.
Jenks, D. S., Plano.
Jenks, F. H., Elgin.
Johnson, O., Quincy.
Johnson, C. G., Galesburg.
Johnson, C. W., Litchfield.
Johnson, E. A., Danville.
Johnson, Frank, E. Carondelet.
Jump, D. W., Plainfield.
Kanne, A. J., Peoria.
Kaull, Wm. M., Princeton.
Kauffmann, J. S., Blue Island.
Kaylor, T. D., Barry.
Keefer, Jane Reid, Sterling.
Keefer, J. F., Sterling.
Kelly, M. W., Joliet.
Kelso, H. A., Paxton.
Kendall, H. W., Quincy.
Kerrick, H. C., Brocton.
Kiernan, Jas. G., Englewood.
Kilgore, J. C., Monmouth.
Kirby, W. H., Chestnut.
Knapp, A. A., Brimfield.
Knight, F. S., Waukegan.
Knight, Mary C., Aurora.
Kohl, Julius, Belleville.
Kreider, Geo. N., Springfield.
La Baume, Lydia H., Rockford.
Larned, E. R., Joliet.
Law, D. H., Dixon.
Lee, A. M., Carbondale.
Leeds, L. L., Lincoln.
Lemen, E. C., Upper Alton.
Le Sage, P., Joliet.
Lewis, R. E., Macomb.
Lichty, D., Rockford.
Lindsay, V. T., Springfield.
Lino, E. C., Monmouth.
Linabery, W. L., Wyanet.
Littlefield, H. H., Beardstown.
Little, J., Bloomington.
Lowrie, Jas. L., Lincoln.
Lucas, Geo. M., Elgin.
Lycan, H., Paris.
Lyerly, A. J., Wolf Lake.
Mackenzie, W. R., Chester.
MacNeal, A., Berwyn.
McAnally, J. T., Carbondale.
McClelland, R. A., Yorkville.
McClelland, S. E., Decatur.
McCormick, N. K., Normal.
McClanahan, W. S., Woodhull.
McFall, D. M., Mattoon.
McGrew, F. A., Davis.
McIntosh, A. J., Allendale.
McKinnie, E. L., Viola.
McKennan, H., Paris.
McLean, John, Pullman.
McLean, W. H., East St. Louis.
McMann, W. W., Gardner.
McMaous, J. M., Cairo.
McMennamy, B. F., Bethany.
McMillan, P. H., Shiloh Hill.
McPherson, C. W., Hazelhurst.
Mackey, A. N., Aledo.
Maclay, A. L., Delavan.
Main, R. H., Barry.
Mammen, E., Bloomington.
Manley, P. G., Mt. Carmel.
Marcy, M. S., Peoria.
Martin, Wm. S., Tuscola.
Martin, S. C., Anna.
Marshall, J. A., Pontiac.
Mason, F. M., Rossville.
Mason, J. S., Rantoul.
Mathews, J. P., Carlinville.
Mayo, E. L., DeKalb.
Middleton, A. B., Pontiac.
Miller, T. N., Rockford.
Miller, Katharine, Lincoln.
Miller, A. L., Dixon.
Miller, J. H., Pana.
Miller, J. F., Palmer.
Milligan, Josephine, Jacksonville.
Mills, C. H., Champaign.
Miner, J., Winchester.
Mitchell, J. H., Mt. Vernon.
Mitchell, Robt. J., Girard.
Mitchell, E. L., Monmouth.
Mittan, F. J., Colfax.
Moffett, W. T., Blue Mound.
Montgomery, E. B., Quincy.
Moore, L. C., Reynolds.
Morehouse, H. W., Danville.
Morel, C. T., Bourbonnais.
Morton, A. J., Elmwood.
Morgan, E. A., Decatur.
Moxey, M., Mt. Vernon.
Moyer, M. L., Hillsboro.
Mudd, W. A., Athens.
Mullen, T. R., Bloomington.
Munson, S. E., Springfield.
Murphy, T. C., Manito.
Murphy, E. S., Dixon.
Myers, J. C., Clinton.
Nagle, R. J. Dixon.
Nash, A., Joliet.
Nash, W. R., Fairmount.
Nason, W. A., Algonquin.
Nesbitt, Geo. W., Sycamore.
Neville, F. A., Meredosia.
Newcomer, J. W., Petersburg.
Nixon, M. G., Columbia.
Noble, C. M., Bloomington.
Norbury, Frank P., Jacksonville.
Norton, G. A., Aurora.
Nutt, Frederick L., Marengo.
Oliver, J. H., Kewanee.
Oren, S. A., Lanark.
Owens, A. E., Princeton.
Oyler, P. H., Mt. Pulaski.
Page, J. F., Eureka.
Palmer, C. A., Princeton.
Parke, C. R., Bloomington.
Parkhurst, F. J., Danvers.
Patch, Wm., Stanford.
Patterson, H. A., Downing.
Pelton, O. L., Elgin.

Penniman, D. B., Argyle.
Percy, J. F., Galesburg.
Perisho, E. E., Ancona.
Pettit, J. W., Ottawa.
Pitner, T. J., Jacksonville.
Pogue, J., Edwardsville.
Poling, J. A., Freeport.
Polk, John L., Arcola.
Postle, J. M., Hinckley.
Pratt, J. A., Aurora.
Prather, J. E., Glasgow.
Priestman, J. L., Neponset.
Prince, A. E., Springfield.
Proctor, Geo. R., Coleta.
Purdue, Perry F., Lyndon.
Putney, W. G., Serena.
Raab, Ernst P., Belleville.
Rabe, W. L., Dwight.
Rafferty, T. N., Robinson.
Rathburn, F. D., New Windsor.
Reder, F., New Athens.
Regan, E. W., Canton.
Rendleman, J. W., E. St. Louis.
Rice, J. H., Quincy.
Rice, E. E., Allison.
Richards, Wm. M., Joliet.
Richardson, Martha Ann, Canton.
Richings, Dr. H., Rockford.
Ricker, S. J., Aurora.
Ringnell, F. O., Orion.
Rivard, Geo. I., Assumption.
Robertson, Thos., Steeleville.
Robinson, F. C., Wyanet.
Rogers, A. E., Bloomington.
Rook, C. W., Quincy.
Rosenberry, A. J., Oak Park.
Ross, O. W., Carrolton.
Roskoten, O. J., Peoria.
Rothgeb, H. D., East Lynn.
Rowe, Mark, Paris.
Rowe, J., Abingdon.
Roy, J. H., Kankakee.
Rulein, P. G., Joliet.
Russell, L. B., Hoopeston.
Ryan, L. R., Galesburg.
Sala, St. Elmo M., Rock Island.
Salter, A., Lena.
Schwartz, E., Knoxville.
Schneck, Jacob, Mt. Carmel.
Schlernitzauer, A., Millstadt.
Scott, J. W., Venice.
Scott, J. D., Time.
Shallenberger, W. E., Canton.
Sherman, W. P., Aurora.
Sherrick, C., Monmouth.
Shutt, Margaret T., Springfield.
Sihler, G. A., Litchfield.
Silvey, A. R., Murphysboro.
Skelly, J. I., Pekin.
Skinner, Cynthia A., Monmouth.
Slater, A. S., Wataga.
Slater, Catharine B., Aurora.
Sloan, W. K., Moline.
Smith, Lee, Bloomington.
Smith, A. C., Sterling.
Smith, C. F., Kankakee.
Smith, Chas. Ed, Palmyra.
Smith, H. W., Roadhouse.
Smith, Jos. W., Bloomington.
Smith, Wm. H. C., Godfrey.
Snow, F. H., Chadwick.
Snyder, J. F., Monroe Center.
Soule, C. E., Sheridan.
Sparling, Wm. H., Moweaqua.
Spear, L. E., Shirley.
Spear, J. W., Mason City.
Speed, J. N., Rushville.
Starkel, C. H., Belleville.
Standley, J. H., Alexis.
Standley, Emma B., Alexis.
Stealy, J. H., Freeport.
Stephenson, B. M., Peoria.
Stedman, W. E., Sullivan.
Stewart, J. T., Peoria.
Stone, C. A., Mason City.
Stoops, P. H., Ipava.
Stremmel, S. C., Macomb.
Studor, Jos., Peoria.
Sullivan, J. C., Cairo.
Sutton, E. M., Peoria.
Sutton, J. E., Canton.
Swan, W. S., Harrisburgh.
Sweetland, W. M., Highland Park.
Swenson, J. G., Moline.
Taylor, A. D., Springfield.
Taylor, L. C., Springfield.
Taylor, J. T., Buda.
Ten Broeck, W. H., Paris.
Thomas, C. D., Peoria.
Tibbets, L., Rockford.
Tombaugh, L. H., Waukegan.
Tope, J. W., Oak Park.
Trout, W. A.,Atwater.
Trout, J. J., Nashville.
True, Charles, Kankakee.
Tulley, F. E., Granite City.
Tuthill, John A., Le Roy.
Tweddale, Jas., Washburn.
Tyler, J. H., Clinton.
Uran, B. F., Kankakee.
Van Benschalen, Wm. C., South Chicago.
Van Horne, A. K., Jerseyville.
Vance, N. Noble, Bement.
Vertrees, C. M., Murrayville.
Wadsworth, J. L. R., Collinsville.
Wakely, T. A., Jacksonville.
Walbright, G. W., Round Knob.
Wallace, F. E., Monmouth.
Walker, J. B., Effingham.
Walker, S. R., Chebanse.
Watson, W., Mt. Vernon.
Webster, J. R., Monmouth.
Weidner, M. R., Dolton's Station.
Weir, John, West Union.
Weir, L. J., West York.
Weis, E. W., Ottawa.
Werner, F. W., Joliet.
Westgate, Letitia A., Sycamore.
Wheeler, G. W., Prophetstown.
Wheeler, H., Grant Park.
White, Marion L., Dixon.
White, J. L., Bloomington.
White, J. T., Freeport.
White, Solon C., Somonauk.
White, Solon M., Somonauk.
Whitney, J. D., Petersburg.
Whitten, T. J., Nokomis.
Whitten, H. H., Peoria.
Wiggins, J. L., East St. Louis.
Wilkinson, G. E., Alton.
Will, O. B., Peoria.
Williams, T. W., Casey.
Williams, W. W., Quincy.
Williamson, J. H., Assumption.
Wilhelmj, C. F., East St. Louis.
Willard, E. R., Wilmington.
Wilson, A. A., Davis.
Winn, G. L., Rockford.
Winn, C. S., Byron.
Winslow, F. C., Jacksonville.
Wood, J. H., Champaign.
Woodruff, H. W., Joliet.
Wright, J., Clinton.
Wylie, S. W. Paxton.
Zeller, G. A., Peoria.

IDAHO.

Brown, Newell J., Hailey.
France, H., Wardner.
Genoway, C. V., Wallace.
Givens, John W., Blackfoot.
Hunter, A., Kendrick.
La Rue, F., Idaho Falls.
Maxey, E. E., Caldwell.
Monroe, Jas., Custer.
Myers, M. C., Blackfoot.
Nourse, R. L., Hailey.
Ormsby, O. C., Pocatello.
Pendleton, G. W., Idaho Falls.
Smith, W. F., Mountain Home.
Sweet, C. L., Boise.
Watkins, W. W., Moscow.
Waterhouse, G. M., Weiser.
Wetzel, T. E., Council.

INDIAN TERRITORY.

Allen, E. N., South McAlester.
Blakemore, J. L., Muscogee.
Bond, Robt., Hartshorne.
Clinscales, Albert M., Vinita.
Clinton, F. S., Tulsa.
Fite, F. B., Muskogee.
Ford, W. H., Fairland.
Fortner, B. F., Cherokee Nation.
Hardy, J. J., Sutter.
Herron, A. W., Adair.
Long, LeRoy, Caddo.
Tilly, W. T., Pryor Creek.
West, G. W., Eufaula.

INDIANA.

Ader, W., Somerset.
Anderson, R. S., Princeton.
Annis, E. L.; La Porte.
Aspinwall, N. B., Plymouth.
Bacon, C. P., Evansville.
Bailey, G. D., Spiceland.
Ball, J. R., Lebanon.
Ball, Thomas Z., Waveland.
Ball, L. L., Muncie.
Banker, A. J., Columbus, Ind.
Barnhill, J. F., Indianapolis
Beasley, G. F., Lafayette.
Beatty, William H., Worthington.
Becknell, Irvin J., Milford.
Begley, B., Inglefield.
Bell, Guido, Indianapolis.
Bell, W. H., Logansport.
Beramer, J. M., Indianapolis.
Berteling, J. B., South Bend.
Bick, J. M., Hammond.
Biggerstaff, James T., Bippus.
Binkley, J. T., Sr., Evansville.
Blitz, L. B., Evansville.
Bloomfield, E. M., Peru.
Blount, R. F., Wabash.
Blue, C. L., Tocsin.
Bock, Chas., Ft. Wayne.
Bolling, L. A., Attica.
Bond, C. S., Richmond.
Boswell, A. J., Elkhart.
Bower, G. B. M., Ft. Wayne.
Boyers, J. S., Decatur.
Brayton, A. W., Indianapolis.
Brown, B. A., Indianapolis.
Brownback, O. W., Pendleton.
Brose, L. D., Evansville.
Bruner, C. K., Greenfield.
Brucker, C. M., Tell City.
Brunker, J. W., Riley.
Brecklin, G. W., Muncie.
Buckman, A. B., Ft. Wayne.
Bulson, A. E., Jr., Ft. Wayne.
Burckhardt, L., Indianapolis.
Burke, G. W., Newcastle.
Burket, Calvin W., Warsaw.
Burcham, H. C., Albany.
Campbell, F., Shelbyville.
Cantrell, F. A., Evansville.
Carey, W. W., Spencerville.
Carson, L. O., Traders Point.
Carson, J. C., Valparaiso.
Carson, W. F., Huntington.
Carter, C., Brookville.
Chafee, W. C., Huntington.
Chaffee, J. A., Yeoman.
Chenoweth, F. A., Winchester.
Chittick, Chas., Frankfort.
Christie, J. H., Canaan.
Cline, L. C., Indianapolis.
Coleman, A., Logansport.
Collins, C. C., Roachdale.
Conley, L. H., Gas City.
Cook, C. J., Gwynneville.
Cook, C. P., New Albany.
Cook, J. W., Pendleton.
Cook, Geo. J., Indianapolis.
Cook, L. H., Bluffton.
Cowing, H. A., Muncie.
Cooperider, J., Madison.
Copeland, Chas. C., N. Madison.
Cosby, G. O., Burnsville.
Cottingham, I. E., Evansville.
Cox, Edgar, Kokomo.
Cox, D. A., Howell.
Crapo, G. W., Terre Haute.
Crapo, J. R., Terre Haute.
Crockett, L. A., Indianapolis.
Cromer, L. G., Union City.
Crull, E. A., Ft. Wayne.
Culbertson, Scott, Vevay.
Cummings, S. M., Elkhart
Cushman, Abaces, Graysville.
Dalgleish, H. T., Vevay.
Darby, A. B., Waterloo.
Davis, Eugene, Indianapolis.
Davis, L. N., Farmland.
Daugherty, C. A., South Bend.
Dean, E. R., South Bend.
Defrees, H. J., Napanee.
Deming, N. L., Ft. Wayne.
Dickey, A. S., Tipton.
Dove, S. C., Westfield.
Downing, J. R., Yorktown.
Drayer, P., Hartford City.
Drayer, L. Park, Ft. Wayne.
Duncan, J. B., Bedford.
Dunning, L. H., Indianapolis.
Eastman, Fred P., South Bend.
Eastman, Joseph, Indianapolis.
Eastman, J. Rilus, Indianapolis.
Eastman, Th. B., Indianapolis.
Easley, E. P., New Albany.
Eberhard, E. L., South Whitley.
Eckelman, F. C., Elkhart.
Edenharter, G. F., Indianapolis.
Eidson, J. W., Bourbon.
Eichelberger, W. C., Terre Haute.
Emery, C. H., Bedford.
English, C. H., Ft. Wayne.
Evans, C. S., Union City.
Faith, A. H., Washington.
Fairfield, W. J., Anderson.
Fankboner, W. A., Marion.
Fermier, P. G., Leesburg.
Ferree, S. L., Indianapolis.
Ferris, E. S., New Castle.
Fink, Henry A., South Bend.
Finley, G. W., Brazil, Ind.
Fitch, A. P., Lebanon.
Flack, O. M., Ambia.
Fletcher, C. I., Indianapolis.
Fletcher, W. B., Indianapolis.
Flynn, Wm., Marion.
Fodrea, Zeri H., Westfield.
Frank, H. P., Losantville.
Freeman, E. D., Osgood.
Friermood, E. K., Greentown.
Fullinwider, C. H., Mt. Vernon.
Furniss, S. A., Indianapolis.
Gaddy, Orville, Paris Crossing.
Galbraith, T. S., Seymour.
Garey, D., New Albany.
Garber, J. B., Dunkirk.
Garretson, W. M., Perkinsville.
Garver, J. J., Indianapolis.
Gaylord, H. G., Indianapolis.
Geary, J. K., Coesse.
Gerrish, M. F., Seymour.
Gers, H., Washington.
Gilbert, W. H., Evansville.
Goldsberry, J. A , Bloomingdale.
Goodale, C. W., Metz.
Goodin, S. A., Montpelier.
Graham, Hannah M., Indianapolis.
Graham, Alois B., Indianapolis.
Grant, G. H., Richmond.
Greene, Geo. R., Muncie.
Green, E. V., Martinsville.
Greenawalt, G. L., Ft. Wayne.
Griswold, E. H., Peru.
Gumair, C. H., Evansville.
Hadley, E., Indianapolis.
Hager, W. A., South Bend.
Hall, Homer J., Franklin.
Hall, Joseph E., Alexandria.
Hall, John W., Portland.
Hamilton, S. M., Connersville.
Hardman, R. H., Converse.
Harris, Robt. W., New Albany.
Hartloff, Chas. W., Evansville.
Haughton, R. E., Richmond.
Haworth, M. C., Noblesville.
Hayden, A. M., Evansville.
Hayes, F. W., Indianapoli.
Hays, G. C., Hays, Hillsboro.
Hazelwood, J., New Albany.
Heath, F. C., Indianapolis.
Helm, Chas. J., Peru.
Henley, A., Fairmount.
Henry, W. C Aurora.
Herrmann, A. J., Logansport.
Hesler, G. F., Tocsin.
Hessler, Robert, Logansport.
Hewins, W. A., Chandler.
Hibberd, J. F., Richmond.
Hickes, C., Mt. Vernon.
Hill, J. W., South Bend.
Hodges, E. F., Indianapolis.
Holder, R. E., Columbus.
Hollingsworth, S. G., Harlan.
Holtzendorff, A. C., Plymouth.
Hood, T. C., Indianapolis.
House, John W., Lawrenceburg.
Humphreys, F. B., Angola.
Hunt, B. S., Winchester.
Hunt John W., Anderson.
Hunt, J. S., W. Terre Haute.
Hunt, M. V., Anderson.
Hurty, John N., Indianapolis.
Inks, J. S., Napponee.
Inlow, I. W., Blue Ridge.
Jaeger, A. S., Indianapolis.
Jameson, H., Indianapolis.
Jay, M. T., Portland.
Jenkins, W. O., Terre Haute.
Jennings, W. L., Bridgeport.
Jones, H. E., Anderson.
Jessup, Maria A., Friendswood.
Johnson, L., Bourbon.
Johnston, M. F., Richmond.
Jones, O. H., Crawfordsville.
Jones, Geo. E., Evansville.
Jones, W. A., Ft. Wayne.
Jordan, DeWitt, Indianapolis.
Justice, J. H., Greenfield.
Justice, W. A., Eden.
Kahlo, G. D., Indianapolis.
Keegan, C. J., Canal.
Kegley, J. L., Stones Crossing.
Keiper, G. F., La Fayette.
Kemper, Arthru T.,Muncie.
Kemper, G. W. H., Muncie.
Kennedy, T. C., Shelbyville.
Kerth, J. H., Evansville.
Kimball, T. C., Marion.
Kimball, M. C., Converse.
King, W. R., Greenfield.
King, Jas. E., Centreville.
Kitson, F. S., N. Manchester.
Knapp, Geo., Vincennes.
Knapp, Chas., Evansville.
Knapp, A. J., Evansville.
Knapp, A. B., Washington.
Kolmer, J., Indianapolis.
Krausgrill, D., Chesterton.
Kremer, Nicholas A., Madison.
Kyle, J. J., Indianapolis.
Lammers, F. H., Greencastle.
Lanam, J. H., Franklin.
Lancaster, T. A., N. Manchester.
Lane, W. H., Angola.
Larkin, E. L., Terre Haute.
Lash, H. M., Indianapolis.
Laughlin, E. D., Orleans.
Lee, David F., Zionsville.
Lemmon, S. W., Albion.
Link, John E., Terre Haute.
Llater, Francis E. Brookston.
Little, J. A., Logansport.
Long, J. B., Indianapolis.
Loring, S. C., Burr Oak.

Lower, M. O., N. Manchester.
Lowder, Charles R., Pittsboro.
Lowder, L. T., Bloomington.
Lyons, J. H., North Webster.
McAllister, E. B., Terre Haute.
McCaskey, G. W., Ft. Wayne.
McCool, W. E., Evansville.
McCoy, P. V., Evansville.
McCoy, G. T., Columbus.
McCoy, W. A., Madison.
McCully, C. H., Burnetts Creek.
McCutchen, J. H., Evansville.
McFadden, W. G., Shelbyville.
McIntyre, C. W., New Albany.
McKinney, D. R., Cowan.
McKinney, George W., Gas City.
McMahan, W. R., Huntingburgh.
McMahan, Adah, La Fayette.
McOscar, E. J., Ft. Wayne.
McShane, J. T., Indianapolis.
Mackey, C. W., Portland.
Maddox, L. E., Montpelier.
Malone L. A., Indianapolis.
Marisbury, L. O., Peru.
Marvel, Chas., Richmond.
Mason, C. H., Tell City.
Masters, J. L., Indianapolis.
Matteson, D. E., Marion.
Mavity, D. E., Fowler.
Maxwell, A., Indianapolis.
Maxam, F. H., Princeton.
Meyer, J. W. H., La Porte.
Miley, Isaiah, Anderson.
Mills, C. C., Rey Key.
Miller, C. E., Muncie.
Mitchell, H. F., South Bend.
Moffett, E. D., Indianapolis.
Montgomery, H. T., South Bend.
Mooney, H. C., Laketon.
Morehead, T. W., Terre Haute.
Moore, P. G., Wabash.
Moore, M. G. Vincennes.
Moore, S. H., Indianapolis.
Morgan, W. V., Indianapolis.
Morris, J. E., Liberty.
Morris, J. L., Columbus.
Muelchi, Wm. H., Tell City.
Murray, Donn P., Dunkirk.
Murphy, C. W., Salem.
Myers, Wm. H., Fort Wayne.
Nash, G. W., Indianapolis.
Neier, O. C., New Palestine.
Newcomber, M. V. B., Tipton.
Newell, J. W., Denver.
Newton, W. T., Indianapolis.
Nieschang, C. C. F., Ft. Wayne.
Noble, T. B., Indianapolis.
Nourse, F. P., Alexandria.
Nussel, F., Brazil.
Oliver, J. H., Indianapolis.
Oneal, L., Somerset.
Overman, C. J., Marion.
Page, L. F., Indianapolis.
Pannenberg, J. C., Hammond.
Pantzer, H. O., Indianapolis.
Parsons, C. H. Rushville.
Passage, H. V. Peru.
Patterson, A. W., Indianapolis.
Perry, G. L., West Chester.
Peters, Daniel C., Greentown.
Peters, W. H., La Fayette.
Pettigrew, D. A., Flat Rock.
Pfaff, O. G., Indianapolis.
Pierson, A., Spencer.
Pigman, Garrett, Liberty.
Piske, G. W., Carlisle.
Porter, Miles F., Fort Wayne.
Powell, J. Z., Logansport.
Preston, J. L., Greencastle.
Price, W. A., Nappanee.
Proegler, C., Ft. Wayne.
Quillin, Sam. N., Carp.
Ramsbrok, C. R., Huntingburg.
Ramsey, D. C., Mt. Vernon.
Ranke, H., Ft. Wayne.
Ray, Chas. C., Arcadia.
Rea, C. L., Falmouth.
Rea, O. A., Culver.
Reagan, Jesse S., Lebanon.
Reed, J. H., Monticello.
Renner, M. E., Urbana.
Renner, J. H., Lagro.
Reyer, E. C., Indianapolis.
Reynard, G., Union City.
Rice, W. G., Muncie.
Ridenous, D., Chili.
Ridenour, D. C., Peru.
Ristine, W. H., Crawfordsville.
Ritter, C. L., Indianapolis.
Rogers, A. G., Parker City.
Roope, A. P., Columbus.
Rosenthal, I. M., Ft. Wayne.
Rosenthal, M. I., Ft. Wayne.
Ross, John H., Kokomo.
Rous Hannah C., Vevay.
Rubin, B., Michigan City.
Ryker, Chas., Manville.
Salb, J. P., Jasper.
Sanders, Frank E., Perryville.
Sassaman, F. W., Valparaiso.
Sawyer, F. M., South Bend.
Schaefer, C. R., Indianapolis.
Scherer, S. P., Indianapolis.
Schell, W., Terre Haute.
Schultz, Wm. H., Lebanon.
Schneck, Luella M., Indianapolis.
Sensenich, A. S., Wakarusa.
Sexton, J. C., Rushville.
Shackelford, T. J., Warsaw.
Shaffer, A. H., Huntington.
Sharp, H. C., Jeffersonville.
Shoemaker, S. A., Poneto.
Short, W. H., La Grange.
Showalter, J. E., Waterloo.
Short, R. B., Union Mills.
Shull, C., Montpelier.
Sigman, E. L., New Albany.
Simmon, L. A., Kokomo.
Smith, H. M., Vincennes.
Smith, Martha J., Indianapolis.
Spear, R., East Chicago.
Spencer, E. V., Mt. Vernon.
Spink, Mary A., Indianapolis.
Spitler, Chas. E., Saratoga.
Spooner, Jared, Peru.
Squires, James W., Cherubusco.
Stemen, C. B., Fort Wayne.
Stephenson, D. W., Richmond.
Stewart, Charles S., Garrett.
Stewart, J., Anderson.
Sterne, A. E., Indianapolis.
Stillson, J. O., Indianapolis.
Stockwell, J. S., Charleston.
Stockton, Sarah, Indianapolis.
Stolz, C., South Bend.
Stone, R. F., Indianapolis.
Storch, L. A. E., Indianapolis.
Sutton, Horley H., Aurora.
Sutcliffe, J. A., Indianapolis.
Swartz, W. W., Poe.
Swartz, D. J., Auburn.
Swafford, B. F., Terre Haute.
Tabor, F. A., Terre Haute.
Terrill, L. B., Anderson.
Terrell, W. H., Stilesville.
Terry, C. C., South Bend.
Teters, B. F., Middleburg.
Thomas, G. A., Linton.
Thompson, J. L., Indianapolis.
Thompson, D. A., Indianapolis.
Thompson, W. N. Sullivan.
Thompson, F. B., Lafayette.
Tobias, A. W., Elwood.
Todd, L. L., Indianapolis.
Trent, I. N., Muncie.
Trueblood J. C., Loogootee.
Tucker, W. W., Greencastle.
Turner, S. R., Dyer.
Umberline, Charles D., Reese Mill.
Utz, Henry C., Atlanta.
Vance, Chas. E., Gas City.
Van Benschoten, G. W., S. Bend.
Van Swearingen, B., Ft. Wayne.
Varner, G. W., Evansville.
Varner, W. T., Evansville.
Varier, J. A., South Bend.
Veach, Patrick H., Stanton.
Vinnedge, W. W., Lafayette.
Wampler, J. M., Richmond.
Wahl, G. F., Bremen.
Wall, Francis M., Warren.
Walker, E., Evansville.
Waller, W. H., Angola.
Ward, J. O., Peru.
Ward, A. O., Indianapolis.
Wareham, J. W., Gilead.
Warner, Malvin E., Carlisle.
Washburn, I. B., Rensselaer.
Watts, E. K., Richmond.
Webster, J. C., Lafayette.
Weever, J. B., Evansville.
Wegner, W. G., South Bend.
Weist, J. R., Richmond.
Weist, Harry H., Richmond.
Weinstein, L. J., Terre Haute.
Welch, O. F., Westport.
Wertz, T., Evansville.
Wetherell, R. B., Lafayette.
Whery, Mary A., Ft. Wayne.
Whery, Wm. P., Ft. Wayne.
Wheelock, K. K., Ft. Wayne.
White, C. A., Danville.
White, E. G., La Grange.
White, R. P., Ft. Wayne.
Whitledge, Geo. A., Anderson.
Wiedemann, F. E., Terre Haute.
Williams, Thos. B., Angola.
Williams, Alice P., Columbia City.
Williams, W. S., Kendallville.
Williamson, P. E., Sweetser.
Willien, L. J., Terre Haute.
Wiles, F. M., Indianapolis.
Wilson, W., Yankeetown.
Wilson, A. L., Indianapolis.
Wilson, R. J., Salem.
Winton, C. F., Washington.
Wishard, W. N., Indianapolis.
Woollen, G. V., Indianapolis.
Wood, H. D., Angola.
Wood, T. F., Angola.
Wood, W. F., Mishawaka.
Wood, E. U., Columbus.
Work, J. A., Elkhart.
Worrell, J. P., Terre Haute.
Worsham, L., Evansville.
Wright, E., Huntington.
Wright, T., Boonville.
Wynn, F. B., Indianapolis.
Young, S. J., Terre Haute.

IOWA.

Adair, A. W., Kellogg.
Aldrich, J. T., Murray.
Allen, W. L., Davenport.
Allen, C. W., Story City.
Amos, A. R., Des Moines.
Anderson, Albert, Esterville.
Andre, T. J., Schaller.
Armstrong, G. T., Osceola.
Ashby, A. A., Red Oak.
Bailey, H., Charles City.
Bailey, S., Mount Ayr.
Baker, E. L., Indianola.
Baker, C. W., Stanwood.
Baker, J. W. H., Davenport.
Ballah, Wm. J., Washta.
Bannister, M., Ottumwa.
Barnes, H. E. W., Creston.
Barnes, C. E., Burlington.
Bean, J. V., Fairfield.
Beam, W. W., Rolfe.
Beane, A. A., Burt.
Beatty, W. W., Dunlap.
Beggs, G. W., Sioux City.
Belt, A. L., Gilmore City.
Bergen, Andrew C., Sioux City.
Berry, R. P., Clermont.
Bethea, J. W., Des Moines.
Bierring, W. L., Iowa City.
Bigelow, I. S., Dubuque.
Biller, J. G., Cherokee.
Birney, C. C., Mason City.
Birney, E., Greene.
Bisgard, Jas., Harlan.
Blanchard, L. Edgewood.
Blaise, T. T., Mason City.
Bliss, C. S., LuVerne.
Bloodgood, Chas., Clinton.
Bond, L. L., Denison.
Boody, Geo., Independence.
Bowen, A. B., Maquoketa.
Bowman, L. J., Carroll.
Boyd, C. E. Newton.
Bradley, C. C., Manchester.
Brick, P. L., Le Mars.
Brockman, D. C., Ottumwa.
Branson, L. H., Iowa City.
Brawnson, J. D., Monona.
Brookings, D. J., Woodward.
Brooks, A. L., Audubon.
Brown, H. W., Waterloo.
Brown, F. E., Pringhar.
Brown, F. O., Lewis.
Buchanan, R. E., Independence.
Buck, S. C., Cresco.
Bundy, A. D., Osage.
Burd, Edwin, Lisbon.
Burt, C. I., Davenport.
Caldwell, S. A., Little Sioux.
Carson, J., Mt. Vernon.
Carson, A., Elliott.
Carver, W. F., Fort. Dodge.
Chamberlain, H. D., Nevada.
Chapman, R. R., Bridgewater.
Chapman, R. U., Des Moines.
Chatterton, A. S., Peterson.
Childs, R. F., Audobon.
Churchill, C. H., Ft. Dodge.
Clark, E. W., Grinnell.
Clarke, J. F., Fairfield.
Cleaves, L. R., Cherokee.
Coad, H. O., Hull.
Coskley, J. W., Mt. Etna.
Cokenower, J. W., Des Moines.
Cole, T. C., Thurman.
Conn, J. E., Ida Grove.
Conniff, Robt. E., Sioux City.
Cooling, A. A., Wilton Junction.
Cook, W. H., Niles.
Cook, C. E., New London.
Cooper, W. F., Clear Lake.
Cottle, C. C., Marshalltown.
Cottam, G. G., Rock Rapids.
Coveney, Mamie A., Clinton.
Craig, N. S., Manchester.
Crawford, A., Mt. Vernon.
Crawford, G. E., Cedar Rapids.
Crawford, J. P., Davenport.
Crawford, J. C., Waukon.
Cram, F. W., Sheldon.
Criley, B. H., Dallas Centre.
Crouse, E. A., Grundy Center.
Crouse, D. W., Waterloo.
Cushman, R. A., Sanborn.
Dally, Milton, Sheldon.
Darnall, C. D., West Union.
Darey, J. H., Northwood.
Dean, L. W., Iowa City.
Dean, H. M., Muscatine.
Dean, W. W., Sioux City.
Deering, A. A., Boone.
Detwiler, D. W., Moravia.
DeVaux, F. H., Des Moines.
Divine, J. H., Sioux Rapids.
Doan, H. C., Humbolt.
Dobson, G. H., LeGrande.
Doolittle, E. W., Garden Grove.
Dorsey, F. B., Keokuk.
Dower, T. J., Fonda.
Dudley, Elwin, Paullina.
Duffield, H. P., Marshalltown.
Duffy, E. A., Frederick.
Dunlavy, J. C., Sioux City.
Duncan, M. J., Pleasantville.
Eichelberger, Agnes, Sioux City.
Elskamp, G. H., Washington.
Emmert, J. M., Atlantic.
Enfield, C., Jefferson.
Engle, H. P., Newton.
Eschbach, H. C., Albia.
Evans, O. E., Gowrie.
Evans, J. G., New Hartford.
Fairchild, D. S., Clinton.
Fellows, C. D., Valley Junction
Finch, H. C., Lynnville.
Finlayson, D. W., Des Moines
Finarty, J. W., Knoxville.
Fleming, J. C., Burlington.
Flinn, T. M., Spring Hill.
Fordyce, O., Guthrie Center.
Foxworthy, O. W . Weldon.
French, L., Davenport.
Gardner, Ira K., New Hampton.
Gearhart, G. W., Springville.
Getz, H. L., Marshalltown.
Gillin, C. W., Doon.
Goodrich, W. W., Mingo.
Goss, E. L., Sheffield.
Gould, G. S., Sully.
Graves, D., Gilman.
Gray, S. T., Albia.
Graham, J. DeWitt, Springville.
Gratiot, H. B., Dubuque.
Greene, J. H., Dubuque.
Griffin, C. C., Vinton.
Grimmell, G., Jefferson.
Gutch, W., Albia.
Guthrie, J. R., Dubuque.
Haecker, L. E., Hampton.
Hageboeck, A. L., Davenport.
Hamilton, C. H., Dubuque.
Hamilton, J., Cedar Rapids.
Hanawalt, G. P., Des Moines.
Hanna, Rebecca, Red Oak.
Harriman, W. E., Ames.
Hart, R. J., Charter Oak.
Hazen, E. H., Des Moines.
Hedges, T. M., Grinnell.
Hejinian, A. G., Anamosa.
Herrick, J. F., Ottumwa.
Heustis, J. W., Dubuque.
Hill, G. H., Independence.
Hill, Nancy M., Dubuque.
Hobby, G. M., Iowa City.
Hobson, T. A., Parkersburg.
Hobson, Abraham, Hampton.
Hoering, G. P., Walnut.
Holliday, J. W., Burlington.
Hornibrook, H., Cherokee.
Hostetter, J. L., Colo.
Houghton, F. W., Council Bluffs.
Hoyt, F. C., Mt. Pleasant.
Huecker, J., Lansing.
Hughes, J. C., Keokuk.
Hull, F. C., Carlisle.
Hunter, W. W., Monticello.
Hyatt, B. F., Ottumwa.
Irish, Harry R., Forest City.
Jackson, Daniel, Audobon.
James, C. E., Durham.
James, C. S., Centreville.
Jeffrey, J. A., Nevada.
Jenkins, G. F., Keokuk.
Jicinsky, J. R., Cedar Rapids
Jepson, W., Sioux City.
Jewell, P. M., Decorah.
Johnson, F. S., Odebolt.
Johnson, A. H., Cedar Rapids.
Jolly, A., Hamburg.
Jonsson, Christian, Clinton.
Jones, N. Jasper, Shelby.
Jones, Louis H., Wall Lake.
Jungblut, H. C., Tripoli.
Keehl, F. W., Waterloo.
Kegley, E. A., Cedar Rapids.
Kegel, E. T., Walcott.
Keith, Katharyn E., Panora.
Kemmerer, O. T., Eldridge.
Kempker, J. F., Houghton.
Kenefick, M. J., Algona.
Kennedy, J. F., DesMoines.
Kessel, Geo., Cresco.
Kessler, A., Carroll.
Kester, G. W., Grand Junction.
Kierulff, B. F., Marshalltown.
Kimball, C. B., West Liberty.
King, E. H., Muscatine.

King, A. E., Blockton.
King, F. R., Anita.
Knott, Van Buren, Sioux City.
Knott, J. M., Sioux City.
Lacey, T. B., Council Bluffs.
LaForce, B. D., Ottumwa.
LaForce, W. B., Ottumwa.
LaGrange, J. W., Marion.
Langan, J. O., Clinton.
Langan, D., Clinton.
Lapsley, R. M., Keokuk.
Lauritzen, N. P., Exira.
Lawrence, Edw., Osceola.
Layton, H. R., Leon.
Leipziger, H., Burlington.
Lenty, A., Larchwood.
Lesan, C. T., Mt. Ayr.
Lessinger, W. S., Mt. Pleasant.
Lewellen, P. W., Clarinda.
Lindahl, J., Boone.
Lindsay, John J., Manchester.
Littig, L. W., Iowa City.
Little, F. H., Muscatine. *
Livingston, H., Hopkinton.
Loose, David N., Maquoketa.
Louthan, B. S., Sutherland.
Love, J. S., Springville.
Lovelady, J. M., Sidney.
Luckey, J. E., Vinton.
Lytle, S. S., Iowa City.
McAllister, Chas., Spencer.
McAlvin, J. G., Gruudy Center.
McCarthy, W. W., Des Moines.
McClain, W. H., Conrad Grove.
McClintock, J. T., Iowa City.
McClure, T. G., Doud's Station.
McClure, A. W., Mt. Pleasant.
McCleary, J. D., Indianola.
McCowen, Jennie, Davenport.
McColloch, G., Humeston.
McCray, Frank H., Schaller.
McFarlane, D., Keoto.
McGrath, W. C., Eagle Grove.
McKenzie, H. M., Elwood.
McMorris, J., Belle Plaine.
McMahon, G. T., Waukee.
Macrae, D., Sr., Council Bluffs.
Macrae, D., Jr., Council Bluffs.
Maker, L. E., Sac City.
Marner, W. A., Miles.
Maxwell, Thos. J., Keokuk.
Mead, F. N., Cedar Falls.
Mehler, F. C., New London.
Meredith, Marion, Vinton.
Merritt, W. H., Pleasantville.
Middleton, W. D., Davenport.
Miller, H. D., Audubon.
Minges, Geo., Dubuque.
Moon, A. C., Williamsburg.
Morgridge, G. O., Muscatine.
Morse, N. C., Eldora.
Mueller, J. A., Dyersville.
Munger, E. E., Spencer.
Murphy, F. G., Mason City.
Myera, W. H., Sheldon.
Nash, A. R., Tipton.
Naumann, P. C., Burlington.
Neff, Geo. R., Farmington.
Nelson, H. E., Dayton.
Newman, M. M., Edgewood.
Nicol, Jno. H., Villisca.
Nicoll, D. T., Clinton.
Norstrom, J. H., Boone.
Nossaman, A. J., Pella.
Nusum, Geo., Honey Creek.
Nysewander, C., Des Moines.
O'Keefe, C. J., Marble Rock.
Overholt, D. W., Columbus Junct.
Owen, W. E., Williamsburg.
Park, Wm. W., Indianola.
Park, G., Sioux City.
Parker, C. C., Fayette.
Parr, T. S., Indianola.
Patterson, M. F., Des Moines.
Pennington, B. S., Mediapolis.
Peters, W. T., Burt.
Philpott, J. W., Ft. Madison.
Porterfield, F. W., Atlantic.
Powell, Chas. B., Albia.
Powell, F. A., Sioux City.
Powers, J. C., Hampton.
Powers, T. E., Clarinda.
Preston, C. H., Davenport.
Priestly, Jas. T., Des Moines.
Putnam, T. L., Shenandoah.
Quinn, C. T., Meriden.
Rawson, A. A., Corning.
Rawson, C. D., Des Moines.
Raymer, H. S., Cedar Rapids.
Reynolds, M. S., Knoxville.
Resner, A. K., Manning.
Reynolds, E. M., Centreville.
Reynolds, H. R. Clinton.
Rice, C., Smithland.
Rice, N. J., Council Bluffs.
Riley, Jno., Exira.
Ristine, H. G., Fort Dodge.
Ristine, J. M., Cedar Rapids.
Roberts, Jason, Osceola.
Roberts, T., St. Charles.
Robertson, Chas. M., Davenport.
Robinson, J. L., Monroe.
Robinson, R. E., Frederika.
Robinson, S. E., West Union.
Rockwood, E. W., Iowa City.
Rogera, S. H., Red Oak.
Rohlf, W. A., Waverly.
Roome, J. C., Calmar.
Rood, L. D., Dea Moines.
Rowe, G. D., Boone.
Ruml, W., Cedar Rapids.
Ruth, Chas. E., Keokuk.
Sampson, F. E., Creston.
Sawyers, J. L., Centerville.
Sayre, S. N., St. Charles.
Schifferle, E., Creston.
Schooler, L., Des Moines.
Scott, Clifton, Des Moines.
Scott, H., Paullina.
Scott, W. E., Adel.
Scrogga, J. A., Keokuk.
Sells, F. W., Murray.
Seybert, F. T., Council Bluffs.
Seymour, F. E., Ft. Dodge.
Sherman, W. B., Manchester.
Sherman, E. Amelia, National.
Sherman, A. W., Burlington.
Shipley, W. M., Ottosen.
Schuell, T. J., Parnell.
Schrader, J. C., Iowa City.
Sigworth, H. W., Anamosa.
Sisson, E. O., Keokuk.
Skinner, G. R., Cedar Rapids.
Sliter, C. N., West Mitchell.
Sloan, M. G. Dexter.
Smead, C. C., Newton.
Smith, E. R. Toledo.
Smith, C. H., Mason City.
Smith, S. J., Wellman.
Smith, H. C., Clarksville.
Smouse, D. W., Des Moines.
Sones, C. O., Panora.
Spilman, S. A., Ottumwa.
Stanton, T. P., Chariton.
Starr, J. W., Lacona.
Stanger, G. H., Boone.
Steinle, H. F., Burlington.
Stevens, F. T., Mt. Pleasant.
Stevenson, C. E., Emerson.
Stoner, C. E., Des Moines.
Stutsman, C., Burlington.
Sugg, J. F. H., Clinton.
Summers, N. P., Van Meter.
Swezey, A. J., Decorah.
Swett, P. W., Cedar Rapids.
Tanner, W. C., Stuart.
Taylor, J. F., Salix.
Taylor, T. G., Waterloo.
Tedron, J. B., Williams.
Terry, M. C., Brighton.
Thompson, B., Tama.
Thornburg, M. W., Redfield.
Thornton, J. H., Lansing.
Throckmorton, T. M., Chariton.
Torrey, B. N., Creston.
Townsend, George E., Gowrie.
Treynor, V. L., Council Bluffs.
Treat, J. A., Stuart.
Tuttle, Mary B., Burlington.
Vail, A. M., Rock Rapids.
Vance, F. E., Eddyville.
Van Metre, E. J., Tipton.
Vest, W. E., Montezuma.
Vincent, W. A. Belle Plaine.
Voldeng, M. N., Des Moines.
Waddey, E. J., Waterloo.
Wahrer, C. F., Ft. Madison.
Wallace, C. E., New Sharon.
Watson, Wm., Dubuqne.
Weber, Lee, Davenport.
Van Werden, W., Des Moines.
Weston, N. T., Colfax.
Wetmore, Josephine M., Grinnell.
Whitley, F. E., Webster City.
Whitley, R. L., Osage.
Wick, D.M., Cedar Falls.
Wieland, F. W., Dubuque.
Wight, A. H., New Hampton.
Will, F. J., Eagle Grove.
Willett, H. C., Whitten.
Williams, R. R., Manning.
Williams, W. J., Adel.
Williams, J. C., What Cheer.
Wilson, H. P., Mediapolis.
Witte, M. E., Clarinda.
Wood, I. C., Logan.
Woodbridge, W., Central City.
Worley, J., Belle Plaine.
Wright, A. L., Carroll.
Wright, J. C., Clear Lake.
Wright, W. E., Knoxville.
Yocom, A. L., Chariton.
Young, H. B., Burlington.
Young, H. C., Bloomfield.

KANSAS.

Aikman, R. A. Ft. Scott.
Allen, Frank T., Neodesha.
Armstrong, E., Greenleaf.
Barker, W. E., Chanute.
Barnes, Ida C., Topeka.
Basham, W., Neal.
Broua, H. A., Manhattan.
Bower, W. C., Lebanon.
Boyd, G. A., Edgerton.
Coldren, E. V., Topeka.
Cole, G. E., Girard.
Collins, Melvin, Oxford.
Comer, J. J., Willis.
Comstock, H. C., Hutchinson.
Crawford, J. R., Saliua.
Daily, F. M., Beloit.
Daugherty, P, Junction City.
Davis, J. T., Independence.
Deaver, H. J., Robinson.
Dewees, Wm. B., Salina.
Dillon, J., Eureka.
Dorsey, J. G., Wichita.
Emerson, George, Winfield.
Ennis, J. M., Cedar Vale.
Felty, H. B., Abilene.
Flack, A. C., Fredonia.
Fryer, J. L., National Military Home.
Fulton, A. L., Iola.
Gardiner, C., Emporia.
Garey, J. H., Wilsey.
Gifford, A., Lawrence.
Gill, H. Z., Pittsburg.
Goddard, C. C., Leavenworth.
Gray, G. M., Kansas City.
Greene, F. F., Olathe.
Green, D. E., Pleasanton.
Grisell, W. S., Ransom.
Groff, W. D., Nortonville.
Grove, Wm. T., Eureka.
Grubb, L. Y., Topeka.
Gundry, A. E., St. Mary's.
Hall, Sarah O., Ft. Scott.
Hall, W. C., Coffeyville.
Hall, F. C., Jr., Cuba.
Hamilton, E. E., Wichita.
Harvey, W. S., Salina.
Harvey, Z. T., Council Grove.
Hastings, H. E., Olathe.
Hawley, J. E., Burr Oak.
Hawthorne, E. W., Gypsum City.
Hayes, N., Seneca.
Hazlett, B. E., Abilene.
Hertzler, A. E., Halstead.
Hissem, H. Z., Ellsworth.
Hornor, L., Wichita.
Hoshaw, U. G., Chanute.
Jacobs, L. D., Emporia.
Jameson, T. H., Wellington.
Judd, C. E., Topeka.
Kaster, J. P., Topeka.
Ketchersid, J. N., Hope.
Lane, J. A., Leavenworth.
Langworthy, S. B., Leavenworth.
Leary, M. F., Gaylord.
Leslie, C. F., Clyde.
Lewis, J. P., Topeka.
Lewia, J. K., Argentine.
Love, J. E., Whiting.
Lutz, E. J., Kansas City.
Lyman, L. J., Manhattan.
McCarty, Thos. L., Dodge City.
McCarty, C. E., Dodge City.
McClellan, G. B., Weir.
McKenzie, J. A., Eldorado.
McNary, O. C., National Military Home.
Magee, R. S., Topeka.
Marner, G. P., Marion.
Miner, H. C., Topeka.
Minney, J. E., Topeka.
Mitchell, P. S., Atchison.
Moorhead, J. L., Neodesha.
Morae, F. D., Lawrence.
Morton, R. J., Green.
Morrison, E. E., Great Bend.
Munn, L. F., Topeka.
Munn, C. E., Topeka.
Newton, C. S., Winfield.
Neidman, W. F. de, Pittsburg.
Ochiltree, H. M., Haddam.
Phillips, E. D. F., Lawrence.
Pigman, S. C., Concordia.
Porter, John W., Midway.
Rees, W. H., Pleasanton.
Reynolds, L., Horton.
Roberts, R. A., Kansas City.
Sabine, A., Garden City.
Sawhill, W. F., Concordia.
Schenck, W. L., Topeka.
Seacat, G. M., Cherry Vale.
Shelley, J. F., Elmdale.
Shelley, A. A., Abilene.
Shelly, E. T., Atchison.
Smethers, W. H., Moline.
Smith, F. H., Goodland.
Smith, E., Lawrence.
Stevens, T. A., Caney.
Stewart, S. G., Topeka.
Stewart, J. P., Clay Center.
Stouffer, Christopher C., Emporia.
Strawn, J. N., Elk City.
Tenney, A. P., Kansas City.
Thrailkill, G. H., Galena.
Trueheart, P. P., Sterling.
Tresler, L. S., Fall River.
Tyler, DeWitt O., Clifton.
Van Eman, W. J., Leavenworth.
Venard, J. N., Ness City.
Wachter, M. M., Axtel.
Walthall, J. D., Paola.
Wever, J. L., Leavenworth.
Wilhort, John W., St. George.
Wilson, W. P., Westmoreland.
White, R. E., Norton.
Williston, S. W., Lawrence.
Winterbotham, W. H., Salina.
Wright, S. A., Bern.

KENTUCKY.

Adamson, H. E., Maysville.
Adams, J. F., Bagdad.
Aitkin, C. W., Flemingsburg.
Alcorn, E., Houatonville.
Alderson, M. E., Russellville.
Allen, Ben A., Louisville.
Allen, M. K., Louiaville.
Anderson, T., Louisville.
Austin, C., Bagdad.
Bailey, Wm., Louisville.
Barnes, J. R., South Carrollton.
Barrow, David, Lexington.
Beckett, J. B., Powersville.
Blaine, A. D., Dry Ridge.
Blincoe, A. G., Bardstown.
Block, O. E., Louisville.
Blue, W. R., Louisville.
Bodine, J. M., Louisville.
Bogle, J. C., Danville.
Bohannon, J. G., Greenville.
Boyd, Frank, Paducah.
Brooks, J. G., Paducah.
Brown, H., Hustonville.
Brown, W. A., Parksville.
Bryan, F. F., Georgetown.
Bullington, Travis A., Louisville.
Bullitt, Jas. B., Louisville.
Butt, A. L., Russellville.
Cain, Achilles W., Somerset.
Carpenter, J. G., Stanford.
Cartledge, A. M., Louisville.
Courtwright, H. P., Bowling Green.
Cheatham, Wm., Louisville.
Chessy, E. A., Morgantown.
Coffmau, W. H., Georgetown.
Coleman, B. L., Lexington.
Coleman, J. R., Paducah.
Conway, W. H., Sunset.
Cook, L. B., Stanford.
Cowen, L. C., Rabbit Hash.
Cowgill, Warwick M., Paducah.
Creel, M. P., Central City.
Dabney, S. G., Louisville.
Dalton, J. M., Harrodsburg.
David, E. L., Louisville.
Davis, George E., Lawrenceburg.
DeBeck, D., Covington.
Dixon, Arch, Henderson.
Driskill, A. J., Grand River.
Dunn, M. C., Zion.
Durrett, L. P., Prestonia.
Evans, Silas, Paris.
Faltus, R G., Louisville.
Farmer, Charles, Louisville.
Farris, Alex A., Hickman.
Finley, F. W., Red Ash.
Fisher, S. K., Milton.
Fitch, J. W., Russell.
Fithian, F., Paris.
Freeman, J. A., Beard.
Frey, R. Wesley, Trenton.
Gilbert, R. B., Louisville.
Gilmer, J. P., Louisville.
Goslee, L., Lakeland.
Grant, H. H., Louisville.
Graham, C., Henderson.
Grassham, R. H., Salem.
Green, E. M., Danville.
Greenley T. B., Meadow Lawn.
Griffin P. H., Henderson.
Guthrie, W. A., Franklin.
Hampton, S. E., Milton.
Hancock, D. O., Henderson.
Hanna, W. M., Henderson.
Hayden, J. V., Salem.
Heavrin, J. P., Owensboro.
Hodge, J. A., Henderson.
Holloway, S. W., Louisville.
Hopson, Joseph, St. Matthews.
Insko, Mark, Bratton.
Ingram, Julia, Louisville.
Irwin, J. W., Louisville.
Jackson, W. Z., Burkley.
Johnson, J. E., Lebanon Junction.
Kearns, C., Covington.
Kelley, C. W., Louisville.
Kelly, E., Lebanon.
Keen, W. C., Burkeville.

Kelly, W. H., Covington.
La Rue, F. G., Hampton.
Lassing, H. C., Union.
Lee, J. R., Columbus.
Letcher, J. H., Henderson.
Lewis, John A., Georgetown.
Lucas, C. G., Louisville.
McCain, J. H., Curdsville.
McChord, R. C., Lebanon.
McCormack, J., Bowling Green.
McDowell, H., Cynthiana.
McKeel, P. W., Wingo.
McLean, H. L., Wilmore.
McMurtry, Lewis, S., Louisville.
Malloy, J. J., Covington.
Mann, Chas., Nicholasville.
Marvin, J. B., Louisville.
Matthews, Jos. M., Louisville.
Meany, W. B., Louisville.
Meek, J. M., Falmouth.
Meyer, J. M., Danville.
Miller, J. A. H., Princeton.
Morton, W. W., Catlettsburgh.
Morris, N. G., Fulton.
Morrison, A. M., Goshen.
Mosby, W. L., Bardwell.
Mosely, J. C., Henderson.
Moss, R. H., Niagara.
Moss, W. R., Clinton.
Muttera, John D., Rush.
Nelson, W. C., Salvisa.
Ouchterloney, J. A., Louisville.
Parrish, Benjamin F, Midway.
Payne, G. W., Bardwell.
Peck, J. M., Arlington.
Pelle, H. E., Louisville.
Peyton, J. F., Stanford.
Pickett, T. E., Maysville.
Pitman, H. S., East Bernstadt.
Plummer, H., Harodsburg.
Pope, Curran, Louisville.
Pound, T. P. D., Louisville.
Pratt, R. D., Shelbyville.
Price, A. D., Harrodsburg.
Price, J. L., Sherman.
Ramsey, R. T., London.
Ravitch, M. L., Lexington.
Ray, J. M., Louisville.
Reddick, Jns. T., Paducah.
Reddish, G. M., Somerset.
Reynolds, D. S., Louisville.
Reynolds, J. F., Mt. Sterling.
Richmond, W. W., Clinton.
Ritter, H. B., Louisville.
Robinson, I. M., Guthrie.
Roberts, H. H., Paris.
Roberts, Wm. O., Louisville.
Roberts, D. Y., Louisville.
Rodman, W. E., Hodgeville.
Salmon, J. M., Ashland.
Sargent, A., Hopkinsville.
Satterwhite, T. P., Louisville.
Scarborough, J. R., Spring Hill.
Shoemaker, T. J., Morganfield.
Sighis, H. P., Hopkinsville.
Simons, A. A., Cloverport.
Skillman, H. M., Lexington.
Smith, A. W., Richmond.
Solomon, Leon L., Louisville.
Speidel, C. E., Louisville.
Stevens, E. A., Mayfield.
Stuckey, T. H., Louisville.
Stuckey, T. H. Jr., Louisville.
Stucky, J. A., Lexington.
Sullivan, R. R., Uniontown.
Taylor, J. F. La Grange.
Taylor, A. P., Lexington.
Trail, A. J., Bardwell.
Troutman, J. S., Paducah.
Tuley, Henry E., Louisville.
Ussery, W. C., Paris.
Vance, A. Morgan. Louisville.
Wade, J. H., Ashland.
Warner, G. M., Louisville.
Watben, Wm. H., Louisville.
Wedding, S. J., Hartford.
Wells, J. E., Cynthiana.
Wesley, Cyrus, Ansel.
Wiley, E. M., Lexington.
Willis, S. W., Jasper.
Woodburn, Jas. T., Bremen.
Woody, Samuel E., Louisville.

LOUISIANA.

Archinaud, P. E., New Orleans.
Bloom, J. D., New Orleans.
Chaille, S. E., New Orleans.
Chauff, L. D., Lions.
Cusachs, P. L., New Orleans.
Czarnowski, D., New Orleans.
Dabney, T. S., New Orleans.
Delaup, S. P., New Orleans.
Dickson, W. L., Shreveporot.
Ducrocq, H. L., Lafurche Crossing.
Egan, J. C., Shreveport.
Formento. Felix. New Orleans.
Fox, G. R., Moreanville.
Frierdich, G. J., New Orleans.
Gazzo, J. B. C., Raceland.
Gessner, H. B., New Orleans.
Gray, R. A., Shreveport.
Holloway, W. A., Rosedale.
Harrell, R. F., Ruston.
Helmick, A. S., De Siard.
Henry, S. L., New Orleans.
Hunt, R., Shreveport.
Joachim, Otto, New Orleans.
Jones, A. W., Jones.
Kohnke, Q., New Orleans.
Kohlman, W., New Orleans.
Larue, F. A., New Orleans.
Laurans, J., New Orleans.
Lewis, E. S., New Orleans.
McCutchon, P. B., New Orleans.
McKowen, E. C., Jackson.
McVea, Chas., Baton Rouge.
Mainegra, R. J., New Orleans.
Matas, R., New Orleans.
Monette, G. N., New Orleans.
Mouton, G. C., Rayne.
Newell, E. D., King.
Oechsner, J. F., New Orleans.
Parham, F. W., New Orleans.
Parker, Wm. E., New Orleans.
Parsons, H. J., Mansfield.
Pigott, J. F., Covington.
Provosty, L. M., New Roads.
Pugh, T. B., Napoleonville.
Reynaud, L. F., New Orleans.
Salter, R. W., New Orleans.
Scheppegrell, W., New Orleans.
Schumpert, T. E., Shreveport.
Souchon, B., New Orleans.
Stewart, C. S., Amite City.
Sutherlin, W. K., Shreveport.
Tolson, G. R., Covington.
Weber, A., New Orleans.
White, John F., Fisher.

MAINE.

Barrett, F., Cumberland Hills.
Bassford, S. J., Biddeford.
Beede, J. W., Auburn.
Bradbury, B. F., Norway.
Bridges, Q. A., Guilford.
Brooks, S. D., Portland.
Coe, Thomas U., Bangor.
Cousins, W. L., Portland.
Crockett, E. A., Lewiston.
Crosby, N. H., Monson.
Davis, O. C. S., Augusta.
Dobson, L., Ashland.
Donovan, J. A., Lewiston.
Dyer, Florence M., Portland.
Ellwell, W. E., Togus.
Ferguson, F. B., Deer Isle.
Foster, C. W., Woodfords.
Fox, H., Bath.
Fuller, E. M., Bath.
Garcelon, A., Lewiston.
Gordon, Seth C., Portland.
Gordon, J. W., Ogunquit.
Gregory, G. A., Boothbay Harbor.
Hanson, H. F., Bangor.
Hennessey, D., Bangor.
Hersom, Jane L., Portland.
Hill, C. D., Bethel.
Hill, J. F., Waterville.
Holt, E. E., Portland.
Hunt, H., Greenville.
Hunter, Samuel B., Machias.
Maybury, Wm. J., Saco.
Nash, A. W., E Jefferson.
Norton, C. E., Lewiston.
Parsons, D. E., Oakland.
Peabels, A. M., Auburn.
Peaslee, C. A., Wiscasset.
Robinson, D. A., Bangor.
Robinson, F. J., Fairfield.
Sattler, Robert, Biddeford Pool.
Small, W. B., Lewiston.
Smith, O. P., Portland.
Spear, W. M., Rockland.
Sprague, O. A., Turner.
Taylor, J. Madison, Bar Harbor.
Thayer, A. S., Portland.
Thayer, F. C., Waterville.
Thombs, S. B., Portland.
Tuell, J. E., Augusta.
Walker, Jason, Minot.
Weeks, H. S., Portland.
Wedgwood, M. C., Lewiston.
Wedgwood, M. J., Lewiston

MARYLAND.

Baltimore

Aronsohn, A., Baltimore.
Ashby, T. A., Baltimore.
Bates, J. W. P., Baltimore.
Belt, S. J., Baltimore.
Bernstein, E. J., Baltimore.
Biedler, H. H., Baltimore.
Billingslea, M. B., Baltimore.
Blake, J. D., Baltimore.
Bloodgood, J. C., Baltimore.
Bolgiano, W., Baltimore.
Bombaugh, C. C., Baltimore.
Bossyns, A. J., Baltimore.
Bosley, J., Baltimore.
Branham, J. H., Baltimore.
Brush, E. N., Baltimore.
Brinton, Wilmer, Baltimore.
Caldwell, J. J., Baltimore.
Carroll, J. J., Baltimore.
Cassidy, H. F., Baltimore.
Chisholm, F. M., Baltimore.
Christian, J. H., Baltimore.
Cone, Claribel, Baltimore.
Cone, S., Baltimore.
Cooke, T., Baltimore.
Crouch, J. F., Baltimore.
Crutcheld, Eugene Lee, Baltimore.
Cushing, H. W., Baltimore.
Dashiell, N. S., Baltimore.
Dausch, P. G., Baltimore.
Donovan, C. O., Baltimore.
Dunott, D. Z., Baltimore.
Dwinellel, J. E., Baltimore.
Earle, S. Y., Jr., Baltimore.
Eilau, E. W., Baltimore.
Feddeman, W. H., Baltimore.
Finney, J. M. T., Baltimore.
Fiske, J. D., Baltimore.
Fleming, G. A., Baltimore.
Friedenwald, J., Baltimore.
Friedenwald, A., Baltimore.
Fridenwald, H., Baltimore.
Fulton, J. S., Baltimore.
Funck, J. W., Baltimore.
Futcher, T. B., Baltimore.
Gardner, W. S., Baltimore.
Gavin, F. D., Baltimore.
Gickner, E., Baltimore.
Gilchrist, T. C., Baltimore.
Giles, A. B., Baltimore.
Harlan, H., Baltimore.
Hartman, G. A., Baltimore.
Hartwig, C. W., Baltimore.
Harrison, A. C., Baltimore.
Hempel, J. F., Baltimore.
Herman, N., Baltimore.
Hill, C. G., Baltimore.
Hopkinson, B. M., Baltimore.
Howard, W. L., Baltimore.
Hundley, J. M., Baltimore.
Iglehart, J. D., Baltimore.
Jacobs H. B., Baltimore.
Jay, J. G., Baltimore.
Jones, C. H., Baltimore.
Kelly, Howard A., Baltimore.
King, J. T., Baltimore.
Knipp, H. E., Baltimore.
Laciar, A. J., Baltimore.
Latimer, T. S., Baltimore.
Leonard, B. F., Baltimore.
Lewis, W. M., Baltimore.
Linthigum, G. M., Baltimore.
Lord, J. W., Baltimore.
Lumpkin, T. M., Baltimore.
Mackenzie, John N., Baltimore.
McConachie, A. D., Baltimore.
McShane, J. F., Baltimore.
Martinet, J. F., Baltimore.
Martin, Frank. Baltimore.
Marshall, H. T., Baltimore.
Mills, W. A., Baltimore.
Morgan, W. P., Baltimore.
Moyer, F. G., Baltimore.
Neff, J., Baltimore.
Nolan, C. F., Baltimore.
Opie, T., Baltimore.
Osler, Wm., Baltimore.
Pole, A. C., Baltimore.
Reiche, P. H., Baltimore.
Reid, E. M., Baltimore.
Reik, Henry O., Baltimore.
Rennolds, H. T., Baltimore.
Reynolds, G. B., Baltimore.
Richardson, T. L., Baltimore.
Riley, Chas. H., Baltimore.
Rowe, M., Baltimore.
Rowland, J. M. H., Baltimore.
Sadtler, C. E., Baltimore.
Sanger, F. D., Baltimore.
Savage, M., Baltimore.
Savin, T. L., Baltimore.
Sellman, W. A. B., Baltimore.
Singewald, E. M., Baltimore.
Smith, A. W., Baltimore.
Smith, E. A., Baltimore.
Smith, W. P., Baltimore.
Smith, T., Baltimore.
Stewart, Jas., Baltimore.
Street, David, Baltimore.
Tanneyhill, G. Lane, Baltimore.
Teackle, St. George, Baltimore.
Thayer, W. S., Baltimore.
Tiffany, L. McL., Baltimore.
Tinker, M. B., Baltimore.
Todd, Wm. J., Baltimore.
Trimble, I. R., Baltimore.
Uhler, J. R., Baltimore.
VanDyke, A. D., Baltimore.
Welch, W. H., Baltimore.
Whitehead, A., Baltimore.
Wiegand, W. E., Baltimore.
Willing, J. E., Baltimore.
Wilson, H. M., Baltimore.
Winslow, R., Baltimore.
Winslow, J. R., Baltimore.
Woods, Hiram, Jr., Baltimore.
Worthington, T. C., Baltimore.
Young, H. H., Baltimore.

Anderson, E., Rockville.
Birnie, C., Taneytown.
Bordley, J., Centreville.
Brayshaw, T. H., Glenburnie.
Byrne, B. J., Ellicott City.
Clark, J. C., Sykesville.
Davis, S. S., Boonsboro.
Dickenson, G. E., Upper Fairmount.
Ellis, C. M., Elkton.
Fahrney, H. P., Frederick.
Fort, S. J., Ellicott City.
Griffith, L. A., Marlboro.
Gundry, A. T., Catonsville.
Gundry, R. F., Catonsville.
Henkel, C. B., Annapolis.
Heyde, E. W., Parkton.
Hines, W. F., Chestertown.
Humrichouse J. W., Hagerstown.
Jacobs, C. C., Frostburg.
Jarrett, H. S., Towson.
Jones, C. P., Snow Hill.
Macgill, C. G. W., Catonsville.
McComas, H. W., Oakland.
Marsh, W. H., Solomons.
Monmonier, J. C., Dickeyville.
Morris, John, Sykesville.
Norris, M. D., Eldersburg.
Portman, Adeline E., Chevy Chase.
Reichard, V. M., Fairplay.
Scofield, W. K., Annapolis.
Skilling, W. Q., Lonaconing.
Smith, F. B., Frederick.
Sprecher, D. V., Sykesville.
Stevens, J. A., Oxford.
Wade, J. Percy, Catonsville.
Wareham E A., Hagerstown.
Williams, Arthur, Elk Ridge.

MASSACHUSETTS.

Boston.

Abbott, Samuel W., Boston.
Arnold, H. D., Boston.
Ball. C. D. E., Boston.
Baxter, W. E., Boston.
Beach, H. H. A., Boston.
Boland, E. S., Boston.
Bowditch, H. H., Boston.
Bradford, E. H., Boston.
Briggs. E. C., Boston.
Broidrick, J. P., Boston.
Brown, H. A., Boston.
Bullard, W. N., Boston.
Bundy, F. E., Boston.
Burrell. H. L., Boston.
Bush. J. Foster, Boston.
Byers, D. W., Boston.
Cabot, R. C., Boston.
Chamberlain, M. L., Boston.
Chandler, H. B., Boston.
Chenery, E., Boston.
Conant, W. M., Boston.
Cobb, (F. C., Boston.
Cobb, C. M., Boston.
Craig, D. H., Boston.
Cutler, E. G., Boston.
Davidson, K. M., Boston.
Denig, Blanche A., Boston.
Dodge, W. W., Boston.
Dorr, H. I., Boston.
Eames, G. F., Boston.
Elliott, J. P., Boston.
Engelmann, George J., Boston.
Folsom, C. F., Boston.
Garland, George M., Boston.
Gavin, M. F., Boston.
Gerstein, M., Boston.
Gifford, B. D., Boston.
Goldthwait, J. E., Boston.
Goodale. J. L., Boston.
Graham, D., Boston.
Grant, W. H., Booston.
Greenleaf, R. W., Boston.
Harvey, Edwin B., Boston.
Hebbard, E. C., Boston.
Hogner, P. G. R., Boston.
Hughes. Laura A. C., Boston
Hyde, George S., Boston.
Jones, D. W., Boston.
Jelly. G. F., Boston.
Johnson. J. W., Boston.
Johnson, F. M., Boston.
Kellogg, E. B., Boston.
Kilburn, H. W., Boston.
Kingsbury. A. D., Boston.
Knowles, W. F., Boston.
Lancaster, W. B., Boston.
Leonard, H. F., Boston.

Lincoln, D. F., Boston.
Lombard, J. P., Boston.
McCormaek, R. J.. Boston.
McQueeney, F. J., Boston.
Marey, Henry O.. Boston.
Marion, H. E., Boston.
Martin, F. C., Boston.
Miller, A. E.. Boston.
Moran, J. B., Boston.
Morse, J. L., Boston.
Munro, J. C.. Boston.
Nichols, A. H.. Boston.
Osman, C. Frank. Boston.
Palmer, Ezra. Boston.
Parsons, F. S., Boston.
Phelps, J. S.. Boston.
Putnam, J. J., Boston.
Reynolds, E.. Booston.
Rice. F. W.. Boston.
Richardson, M. W.. Boston.
Richardson. M. H.. Boston.
Roteh, T. M.. Boston.
Ruddick, W. H., Boston.
Shaw, H. L. Boston.
Shattuck, Frederick C.. Boston.
Standish, M.. Boston.
Stevens, Chas. W., Boston.
Storer, M., Boston.
Temple, W. F., Boston.
Tenney, J. A.. Boston.
Thompson, C. O., Boston.
Thompson, P. H., Boston .
Tilton, F. H., Boston.
Tracy, Edward A., Boston.
Wallace, F. H.. Boston.
Warren, John, C., Boston.
Webster, G. A., Boston.
White, W. H.. Boston.
Williams, J. L.. Boston.
Williams, F. H.. Boston.
Williams, C. H., Boston.
Williams, H.. Boston.
Wylie, E. C., Boston.

Abbe, A. J., Fall River.
Adams, J. F. A., Pittsfield.
Adams, C. S.. Woltaston.
Alden, C. H., Hyannisport.
Allen, C. J., Winchester.
Ames, R. P. M., Springfield.
Andrews, W. H., Springfield.
Andrews, R. R., Cambridge.
Baker. H. B., Dighton.
Banfield. F. L., Worcester.
Bartlett, G. P., Wobnrn..
Bartlett, O. L., Broeton.
Bass. Wm.. Lowell.
Beattie, R. F., Swampscott.
Bennett, Alice, Wrentham.
Bennett, F. S., Boston Highlands.
Blake, C. A., West Brookfield.
Blodgett, A. G., Ware.
Bond, W. G.. Revere.
Bowen, C. W., Westfield.
Bowers, W. P., Clinton.
Bragg, Francis A., Foxboro.
Brashear. B. B., Concord.
Bridgham. C. B., Cohassett.
Brown. W. G., Plymouth.
Bryant, L. L., Cambridgeport.
Buck. A. W., Fall River.
Burns. H. H., Athol.
Bushnell, E. H., Quincy Point.
Butler, W., Vineyard Haven.
Byrne, C. A., Hateld.
Calkins, Marshall, Springfield.
Chamberlin, T., Concord.
Channing, W., Brookline.
Clarke, Aug. P., Cambridgeport.
Cobb, Caroline M., Lynn.
Cobb. A. C., Southampton.
Connell, A. I., Fall River.
Cone, D. E.. Fall River.
Cooke, S. P. F., Gloucester.
Copeland, H. F.. Whitman.
Corey, F. E., Westboro.
Coughlin, J. W., Fall River.
Cowles. Edward, Waverly.
Cram, J. W., Colrain.
Cunningham, T. E., Cambridge.
Cutter, C. K., Somerville.
Cutler, C. N., Chelsea.
Davis. W.. Worcester.
Dearing. T. Haven, Braintree.
Dearing, H. L., Braintree.
Doble. E. E., West Quiney.
Dolloff, A. S., Beverly.
Dorman. A. B., Winthrop.
Drew, C. A., State Farm.
Dunham, H. B., Rutland.
Eaton. Lillie. Winchester.
Eaton. W. W.. Danvers.
Edes, Robt. T.. Jamaica Plain.
Ellis, D. S., Woreester.
Fenwick. J. B., Chelsea.
Fraser, J. C., East Weymouth.
French, J. I., Winchester.
Frissell, S., Sprinigfield.
Fuller, G. E., Monson.
Gage, Homer, Worcester.
Galligan, E. F.. Taunton.
Gallison, A. J., Franklin.
Garland, J. E., Gloucester.
Gerry, E. P.. Suffolk.
Getchell, A. C., Worcester.
Gibbs, L. J., Chicopee Falls.
Giddings, T., Housatonic.
Gifford, J. H., Fall River.
Gilbert, J., Fall River.
Gordon, J. A., Quincy.
Gordoo, S. N., Fall River.
Granger, F. C., Randolph.
Hall, H. P., Leominster.
Hamlin C. F., Medway.
Hartwell, B. H., Ayer.
Harriman, J. L.. Hudson.
Harrington, T. F., Lowell.
Harris. A. E., Lynn.
Hayden, Catherine P., Woburn.
Hayes. F. L., Brookline.
Hayes, I. B., Florence.
Hildreth, J. L., Newton. Upper Falls.
Hixon, E. C., Cambridge.
Holland, J. W., Westfield.
Hooper, F. H.. New Bedford.
Hough, G. de N., New Bedford.
Hutchison, Claribel M., Waltham.
Hurd, G. P., Reading.
Hyde, F. T.. Weston.
Irish, J. C.. Lowell.
Irwin, V. J., Springfield.
Jackson, J. H., Fall River.
Jefferson, H. P., Lowell.
Johnson, W. A., Lowell.
Jones, G. W., Cambridgeport.
Keller, E. C., Jamaica Plain.
Kelly, M., Fall River.
Knight, M. W., Milford.
Knowlton, C. D., Roxbury.
Lawler, W. P., Lowell.
Learned, J. B., Northampton.
Learned. W. T., Fall River.
Leach, Wm., Vineyard Haven.
Leonard, M. H., New Bedford.
Leslie, H. G., Amesbury.
Lewis, A. C., Fall River.
Locke, H. M., Sturbridge.
Logan, F. P. T., Gloucester.
MacCabe, A., Gloucester.
McGauren, Geo. D., Lawrence.
McGrath, B. F., Beverly.
McIntosh, H., Medway.
Mackie, L. V. G., Attleboro.
Mackie, G., Attleboro.
Mahoney, S. A., Holyoke.
Makechnie, H. P., West Somerville.
Mansfield, H. T., Needham.
Manchester, D. B., Beverly.
Marr. M. L., Dorchester.
Martin, G. A., Franklin.
Mellen, M. E., Chicopee.
Mercer. W. M., Pittsfield.
Merrill, W. H., Lawrence.
Merrill, Q. H., Leominster.
Messer, C. C., Turners Falls
Miller. Vesta D., Needham.
Minot, J. J., Mattapan.
Miner. W. W., Ware.
Morrill. C. P., North Andover Depot.
Moses, T. F., Waltham.
Murphy. E. V., Fall River.
Newton, Leroy A., Greenfield.
Norris, A. L., Cambridgeport.
Nottage. H. P., Goshen.
Noyes, N. K., Duxbury.
Osgood, G., Rockland.
Ott, G. J., Clinton.
Overlock. M. G., Worcester.
Paddock, F. K.. Pittsfield.
Parker, M. G., Lowell.
Parker, W. T.. Westboro.
Pearson. M. W., Ware.
Peckham. A. C., Fall River.
Penny, H. T., Cliftondale.
Perry, H. B., Amherst.
Peterson, C. A. B., New Bedford.
Pierce, F. B., Haverhill.
Pierce, W. H., Greenfield.
Pierce, A. H.. Leominster.
Pinkham, G. E., Lowell.
Plummer, E. M., Charleston.
Pope, F. F., Ashby.
Prefontaine, L. A., Springfield.
Presbery. Silas D., Taunton.
Proctor, P. C.. Gloucester.
Putnam, J. M., Chelsea.
Qua, L. R., Pepperell.
Quint. N. P., West Medway.
Ransom, N. M., Somerville.
Richards. G. L., Fall River.
Ring, A. M., Arlington Heights.
Rives, W. C., Readville.
Rowley, W., Gloucester.
Ryder, G., Malden.
Sargent, A. N., Salem.
Sawyer, E. A., Gardner.
Scofield, W. W. Dalton.
Scribner. E. V., Worcester.
Shackford. C. H., Chelsea.
Shattuck, A. M., Worcester.
Sheldon, C. C., Lynn.
Silva, F. P., Charlestown.
Smith. W. A., Springfield.
Smith, F. G., Somerville.
Simpson, C. E., Lowell.
Somers, J. E., Cambridge.
Soules, S. G., Hudson.
Stanley, J. M., Northboro.
Stevens, E. H., North Cambridge.
Stetson, H. G., Greenfield.
Stetson, F. E., New Bedford.
Stone, F. E., Lynn.
Swift, L. C., Pittsfield.
Swift, W. N., New Bedford.
Synan, W. E., Fall River.
Symonds, B. R., Salem.
Thayer, E., Roxbury.
Thompson, R. J., Fall River.
Thorn, E. C., Jr., Deerfield.
Tobey, G. L., Lancaster.
Trueworthy, E. W., Lowell.
Tucker, S. C., Peabody.
Tucker, W. L., Hinsdale.
Tuttle, A. H., Cambridge.
Vanghan, J. H., Everett.
Warner, C. T.. Marlboro.
Weiser, W. R., Springfield.
Wheatley, F. G., North Abington.
Wheeler, C. A., Leominster.
White, H. C., Somerville.
Whitney, E. M., New Bedford.
Wilson, R. Browning. Holbrook.
Withington, A. B., Pittsfield.
Wolcott, H. P., Cambridge.
Wood, N. P., Northfield.
Wood, A.. Wooster.
Woods, J. H., Boulevard.
Woodward, S. B., Worcester.

MICHIGAN.

Detroit.

Amberg, E. Detroit.
Anderson, Willis S., Detroit.
Anderson, C. G., Detroit.
Anderson, Christine M., Detroit.
Beisman, J., Detroit.
Bell, Samuel, Detroit.
Bennett, John F., Detroit.
Book, J. B., Detroit.
Brady, M., Detroit.
Brodie, B. P., Detroit.
Brown, N. F.. Detroit.
Campbell, D. S., Detroit.
Campbell, Don M., Detroit.
Campbell, P. M., Detroit.
Carrier, A. E., Detroit.
Carstens, J. Henry, Detroit.
Chittick, W. R., Detroit.
Cleland, Henry A., Detroit.
Collins, A. N., Detroit.
Connor, L., Detroit.
Cook, Emma D., Detroit.
Cox, G. W., Detrtoit.
Douglas, Chas., Detroit.
Duffield, Geo., Detroit.
Emerson, J. E., Detroit.
Frothingham, G. E., Detroit.
Gibbs, H.. Detroit.
Gillman, R. W., Detroit.
Hartz, H. J., Detroit.
Hitchcock, Chas. W., Detroit.
Houghton, E. M., Detroit.
Hubel, J. T., Detroit.
Huson, Florence, Detroit.
Inglis, D., Detroit.
Irwin, J. L., Detroit.
Ives, Augustus W., Detroit.
Jenks, E. W., Detroit.
Jennings, Chas. G., Detroit.
Kiefer, Hermann, Detroit.
LaFerte, D.. Detroit.
Leonard, C. H., Detroit.
Longyear, Howard W., Detroit.
Longhead, R. P., Detroit.
Lyons, A. B., Detroit.
McEachren, H. A., Detroit.
McEwen, P. C.. Detroit.
McGraw, T. A., Detroit.
McLean, Angus, Detroit.
Maire, Lewis E., Detroit.
Maclean. D., Detroit.
Mann, F. W., Detroit.
Manton, W. P., Detroit.
Martin, W. C.. Detroit.
Metcalf, W. F., Detroit.
Miner, S. G., Detroit.
Moran, Geo. W., Detroit.
Mulheron, J. J., Detroit.
O'Donovan, D., Detroit.
Odell, R. W.. Detroit.
Parker, Delos L., Detroit.
Parker, W. R., Detroit.
Polozker, I. L., Detroit.
Poole, W. H.. Detroit.
Renaud, Geo. L.. Detroit.
Robbins, F. W.. Detroit.
Scherer, O., Detroit.
Schorr, E.. Detroit.
Shurly, E. L., Detroit.
Smith, E. B., Detroit.
Smith, Eugene, Detroit.
Stevens, W. C., Detroit.
Summers, F. S.. Detroit.
Tappey, E. T., Detroit.
Thüner, A.. Detroit.
Tibbals, F. B., Detroit.
Walker. H. O., Detroit.
Walker, Thaddeus, Detroit.
Walker, F. B., Detroit.
Warren, W.. Detroit.
Wilson, W. J.. Detroit.
Winter, James, Detroit.
Wyman. Hal C.. Detroit.
Yarbrough, C. C., Detroit.
Yates, H. W., Detroit.

Albright, Jos., Grand Rapids.
Alvord, A. W., Battle Creek.
Andrews, G. E., Bay City.
Bachman, N. E., Staanton.
Baker, H. B., Lansing.
Baker, Chas. H., Bay City.
Barber, O. P., Saginaw.
Beech, G. D., Champion.
Bell, J., Benton Harabor.
Berry, H. G.. Romeo.
Berry, W. F., Mt. Clemens.
Best, L. E., Grand Rapids.
Bigham, E.. Grand Rapids.
Bliss, Lyman W., Saginaw.
Bogan, J. H., Mackinaw Island.
Boise, Eugene, Grand Rapids.
Bokhof, D. H., Lansing.
Booth, Chas., Escanaba.
Braden, G. M., Scotts.
Bradley, Jas. B., Eaton Rapids.
Brady, John. Grand Rapids.
Brainerd, I. M.. Alma.
Breakey, W. F.. Ann Arbor.
Breakey, Jas. F., Ann Arbor.
Bulson, A. E., Jackson.
Burgess, J. M., Northville.
Burr, C. B., Flint.
Burrell, R. H., Manistique.
Burley, D. H., Almont.
Burtless, W. B., St. Clair.
Burwell, A. G., Byron Centre.
Butler, G. F., Alma.
Byington, J. F., Battle Creek.
Calkins, H. T., Petoskey.
Campbell, Oliver B., Ovid.
Campbell, Gertrude D., Mason.
Carnes, Geo. D., Southt Haven.
Carpenter, W. T., Iron Mountain.
Carrow, F., Ann Arbor.
Case, H. R., Grand Blanc.
Catlin, S. Jr., Tecumseh.
Chamberlain, G. L., Newberry.
Chamberlain, G. V., Flint.
Chapin, A. B., Mt. Clemens.
Chapman, Harvey S., Pontiac.
Chapman, E. A., Walled Lake.
Chapman, W. E.. Cheboygan.
Chadwick, H. J., Grand Rapids.
Christian, E. A.. Pontiac.
Clawson, Emma L., Battle Creek.
Conn, C. E., Battle Creek.
Connery, W. S., East Saginaw.
Cope, C. S., Ionia.
Corcoran, J. Sylvester, Ubly.
Chrouch, Geo. W., Shaftsburg.
Crane, Augustus W., Kalamazoo.
Cronin, M. C., Bangor.
Cruse, I. E.. Quinnesee.
Dagg, T. L.. West Bay City.
Dalese, O. L., Grand Rapids.
Darling, Cyrenus G.. Ann Arbor.
Davis, E. W., Saginaw.
Dellenbaugh, C. C., Portland.
De Spelder, Elias, Drenthe.
De Vore, J. A., Grand Rapids.
Dewey, C. R.. Keeley.
Dickinson, W. L., Saginaw.
Dock, George, Ann Arbor.
Dodge, Wm. T., Big Rapids.
Dougan, W. T.. Niles.
Drake, A. P.. Hastings.
Duffield, S. D., Dearborn.
Dunlap, Harley M., Battle Creek.
Earle, G. W., Hermansville.
Elliott, J. M., Hickory Corners.
Ellis, E. J. C., Benzonia.
Elwood, C. R., Menominee.
Felch, Theo. A., Ishpeming.
Fischer, A. F., South Lake Linden.
Florentine, F. B.. Saginaw.
Florentine, E. A., Saginaw.
Forsyth, R. S.. Gladstone.
French, S. S.. Battle Creek.
Fuller, Wm., Grand Rapids.
Fuller, D. E.. Hastings.
Fulton, D., Battle Creek.
Galbraith, F. B., Pontiac.
Gamber, W. P., Stanton.
Gardner, Elmer D., Hancock.
Garvin, W. C., Millington.

Gates, W. C., Rockland.
Gauntlett, J. C., Elk Rapids.
Godfrey, B. B., Holland.
Graves, S. C., Grand Rapids.
Grawn, F. A., Munising.
Grarybrll, A. G., Caledonia.
Grenter, T., Gould City.
Greene, J. H., Marshall.
Greene, D. M., Grand Rapids.
Green, Mary E., Charlotte.
Green, G. W., Battle Creek.
Greenshields, Wm., Romeo.
Griffin, O. A., Ann Arbor.
Griswold, Leavitt S., Big Rapids.
Griswold, J. B., Grand Rapids.
Groner, F. J., Grand Rapids.
Grove, Fred, Fraser.
Habernicht, H. A., Battle Creek.
Hafford, G. C., Albion.
Harison, B. D., Sault Ste. Marie.
Haughey, Wm. H., Battle Creek.
Hauxhurst, J. W., West Bay City.
Hazelwood, A., Grand Rapids.
Herman, C. B., Grand Rapids.
Herdman, W. J., Ann Arbor.
Hoffman, A., Petoskey.
Holden, W. B., Battle Creek.
Howell, G., Tecumseh.
Huber, C. G., Ann Arbor.
Hume, A. M., Owowsso.
Inches, J. W., St. Clair.
Jensen, P. C., Manistee.
Jenkins, J. F., Tecumseh.
Jewet, W. E., Adrian.
Johnson, G. K., Grand Rapids.
Johnston, C. H., Grand Rapids.
Johnston, R., Milford.
Jones, J. H., Dowagiac.
Joy, L. S., Marshall.
Keating, J. W., Ann Arbor.
Kellogg, J. H., Battle Creek.
King, J. A., Manistee.
Kinne, H. J., Frankfort.
Kirkpatrick, Clifford, Adrian.
Knowles, L. D., Three Rivers.
Kremers, H., Holland.
LaCrone, O. A. Kalamazoo.
Lamb, B. E., Republic.
Lamb, D. H., Owosso.
Lang, A. B., Sault Ste. Marie.
Lawbaugh, A. J., Calumet.
Lawrence, R. R., Hartford.
LeBaron, R., Pontiac.
Lindsey, Kate, Battle Creek.
Loope, G. L., Bessemer.
Loveland, H. H., Michigamme.
Lowry, G. W., Hastings.
Lupinski, H., Grand Rapids.
Lynds, Jas. G., Ann Arbor.
McClintock, C. T., Detroit.
McCall, H., Lapeer.
McDonald, Thos. E., Holly.
McDonnell, Otto, Lowell.
McKain, C. H., Vicksburg.
McLaren, J. L., Saginaw.
McLeay, D., Prairieville.
McMullen, B. H., Cadillac.
McPherson, J. A., Grand Rapids.
MacRae, John, Calumet.
Mabbs, Jas. A., Holland.
Marsh, W. C., Albion.
Martin, C. M., Greenville.
Martin, J. N., Ann Arbor.
Miller, Carroll E., Cadillac.
Mills, H. R., Port Huron.
Moore, J. Wm., Atlantic Mine.
Moore, M. T., Richmond.
Morden, W. S., Macon.
Munson, J. D., Traverse City.
Murray, R. N., Flint.
Myers, F. C., Kalamazoo.
Narcrede, C. B., Ann Arbor.
Neff, Irwin H., Pontiac.
North, G. L., Tecumseh.
Oosting, J., Muskegon.
Olsen, A. B., Battle Creek.
Osborne, H. B., Kalamazoo.
Oven, Arthur G., Petoskey.
Palmer, E. A., Hartford.
Parmeter, E. L., Albion.
Parmeter, R. L., Albion.
Perkins, J., Owosso.
Phelps, O. S., Battle Creek.
Phippen, L. S. C., Owosso.
Pierce, F. S., Beaverton.
Pierce, Della P., Kalamazoo.
Platt, J. S., Port Huron.
Pleasner, Louis, Bay City.
Pollard, J. W., St. Johns.
Pomeroy, E. H., Calumet.
Pratt, Foster, Kalamazoo.
Price, A., Almont.
Rand, H. T., Battle Creek.
Randall, I. E., West Bay City.
Ranney, G. E., Lansing.
Reed, W. F., Cheboygan.
Reed, J. H., Battle Creek.
Rhodes, Leslie G., South Haven.
Richmond, P. B., Mt. Pleasant.
Riecke, J. W., Grand Rapids.
Robnson, Wm. J., Lapeer.
Robinson, F. W., Sturgis.
Rodi, C. H., Calumet.
Rogers, Arthur S., Saginaw.
Roller, L. A., Grand Rapids.
Root, P. S., Monroe.
Rossiter, F. M., Battle Creek.
Ruggles, F. E., Bay City.
Rutherford, F. A., Grand Rapids.
Ryno, W. Benton Harbor.
Sahin, M., Centreville.
Sample, C. H., East Saginaw.
Sawyer, W. H., Hillsdale.
Scallon, J. E., Hancock.
Schaberg, H. H., Kalamazoo.
Schurtz, P., Grand Rapids.
Schemer, E., Fowler.
Sheldon, H. W., Negaunee.
Shillito, Fred, Marcellus.
Shotwell, A. N., Mt. Clemens.
Small, S. I., Saginaw.
Smith, Mary C., Grand Rapids.
Smith, H. S., Negaunee.
Smith, S. K., Port Huron.
Smith, R. R., Grand Rapids.
Snook, J. M., Kalamazoo.
Snyder, A. F., Escanaba.
Southworth, C. T., Monroe.
Spencer, C. E., Port Huron.
Spencer, R. H., Grand Rapids.
Starr, L. W., Battle Creek.
Stealey, A. R., Charlotte.
Stevens, S., Dowagiac.
Stewart, P., Hadley.
Stockwell, C. B., Port Huron.
Stone, F., Bay City.
Stone, G. W., Metamora.
Strangways, W. F., Flint.
Saylandt, C. G., Gladwin.
Swaney, H. N., Eagle.
Swift, E. P., Norway.
Taylor, James E., Ovid.
Thompson, F. C., East Tawas.
Towsley, F. A., Midland.
Turner, T. J., Coldwater.
Upjohn, W. E., Kalamazoo.
Van der Laan, J., Muskegon.
Vandeventer, Jos., Ishpeming.
Vaughan, V. C., Ann Arbor.
Van Horn, A. L., Otsego.
Vaughan, O. M., Covert.
Wade, DeWitt C., Holly.
Walker, Zelpha G., Benton Harbor.
Wallace, W. B., Manton.
Watson, Chas. S., Breckinridge.
Welsh, D. E., Grand Rapids.
Wessinger, J. A., Ann Arbor.
White, John E., Kalamazoo.
Whitmarsh, T. R., Copper Falls Mine.
Wilbur, C. T., Kalamazoo.
Wilbur, C. L., Lansing.
Wiley, H. H., Utica.
Williams, H., East Saginaw.
Williamson, T. M., Saginaw.
Willson, James C., Flint.
Wilson, W. D., Mt. Clemens.
Willson, Mortimer, Port Huron.
Work, Samuel A., Vandalia.
Wright, W. C., Unionville.
Yates, James, Roseville.
Yates, O. E., Holland.
Young, W. H., Nashville.

MINNESOTA.

Abbott, A. W., Minneapolis.
Adair, J. H., Owatonna.
Adams, W. T., Elgin.
Adams, Arthur S., Rochester.
Aldrich, A. G., Anoka.
Aldrich, Flora L., Anoka.
Allen, H. B., Cloquet.
Anderson, J. D., Minneapolis.
Andrews, J. W., Mankato.
Appleby, T. E. W., St. Paul.
Archibald, O. W., St. Paul.
Armitage, T. L., Princeton.
Ancker, Arthur A., St. Paul.
Bacon, L. C., St. Paul.
Barber, J. P., Minneapolis.
Bass, G. W., Minneapolis.
Bates, S., Virginia.
Beard, R. O., Minneapolis.
Beebe, W. L., St. Cloud.
Beise, C. J., Fergus Falls.
Bell, J. W., Minneapolis.
Benjamin, A. E., Minneapolis.
Blackmer, F. A., Albert Lea.
Boeckmann, E., St. Paul.
Boehm, J. C., St. Cloud.
Bracken, H. M., Minneapolis.
Bradley, C. H., Minneapolis.
Brandenberg, F. D., Mankato.
Brooks, D. F., St. Paul.
Brown, E. J., Minneapolis.
Burns, F. W., Stewartville.
Burnside, I. T., West Duluth.
Campbell, G. E., Wykoff.
Carter, J. A., Ellsworth.
Catlin, T. J., Delano.
Chamberlin, Wm. A., Waseca.
Chamberlin, J. W., St. Paul.
Chapman, O. S., Minneapolis.
Chilton, E. Y., Howard Lake.
Chilgren, G. A., Sauk Rapids.
Clay, E. M., Oronoco.
Claydon, Leonard E., Mazeppa.
Cobb, W. F., Lyle.
Cockburn, J. C., Minneapolis.
Colins, H., Duluth.
Cooley, C. O., Madelia.
Conley, A. T., Cannon Falls.
Courtenay, Walter, Brainerd.
Crewe, J. E., Zumbrota.
Cressy, F. J., Granite Falls.
Crume, G. P., Minneapolis.
Daniels, Asa W., St. Peter.
Darling, W. H., St. Peter.
Davis, H., St. Paul.
Donaldson, C. A., Minneapolis.
DuBois, J. A., Sauk Center.
Dugan, R. C., Eyota.
Dunn, J. H., Minneapolis.
Dunning, A. W., St. Paul.
Dunsmoor, F. A., Minneapolis.
Earl, R. O., St. Paul.
Eitel, G. G., Minneapolis.
Faucett, C. E., Stewartville.
Foote, Lucius F., Minneapolis.
Fulton, J. F., St. Paul.
Fullerton, W. S., Minnesota Lake.
Gammell, H. N., Madison.
Gates, Jos. A., Kenyon.
Giere, E. O., Madison.
Golden, A. J., Minneapolis.
Gould, J. B., Minneapolis.
Graham, R., Duluth.
Graham, D., West Duluth.
Graves, Carlton, Aitkin.
Greeley, L. Q., Duluth.
Greene, C. L., St. Paul.
Hall, W. A., Minneapolis.
Hand, W. R., Elbow Lake.
Harrington, C. D., Minneapolis.
Harwood, W. E., Eveleth.
Hatch, T. L., Owatonna.
Head, G. D., Minneapolis.
Hegge, Olaf H., Austin.
Hendrickson, H. W., Montevideo.
Hewitt, C. N., Red Wing.
Hill, R. J., Minneapolis.
Hill, C., Pine Island.
Hoftoe, O. T., New London.
Hunter, C. H., Minneapolis.
Jackson, G. E., Chatfield.
Jacobs, A. C., Elmore.
Johnson, T. H., St. Paul.
Johnson, H. P., Fairmount.
Jones, Talbot, St. Paul.
Jones, D. N., Gaylord.
Jones, W. A., Minneapolis.
Kelsey, C. A., Minneapolis.
Kelly, W. D., St. Paul.
Keyes, B. D., Winona.
Kimball, H. H., Minneapolis.
Laliberte, T. L., Minneapolilis.
Lane, N. S., Winona.
Lankester, H., St. Paul.
Laton, W. S., Minneapolis.
Lewis, Jas. B., St. James.
Lewis, E. J., Sauk Center.
Little, J. W., Minneapolis.
Lucas, H. E., Wabasso.
Lundholm, E. M., St. Paul.
Lynch, Robert F., Monticello.
McAuliffe, J., Duluth.
McDavitt, T., St. Paul.
McEwan, S. W., Alexandria.
McGaughey, J. B., Winona.
McLaren, A., St. Paul.
McMichael, O. H., Vernon Center
Magee, W. H., Duluth.
Mayo, W. J., Rochester.
Muercklein, O. C., Adams.
Merritt, G. F., St. Peter.
Millspaugh, J. G., Little Falls.
Moore, J. E., Minneapolis.
Moore, C. W., Eveleth.
Morley, G. A., Crookston.
Morton, Howard M., Minneapolis.
Murphy, G., Garden City.
Nelson, H. S., Minneapolis.
Norred, C. H., Minneapolis.
Odendahl, F. H., St. Paul.
Ohage, J., St. Paul.
Patton, F. J., Duluth.
Pease, G. R., Redwood Falls.
Pine, O. S., Minnehaha.
Pineo, W. B., Minneapolis.
Porteous, W. N., Minneapolis.
Quinn, J. A., St. Paul.
Ransom, S. W., Dodge Center.
Reamer, E. F., Minneapolis.
Reynolds, M. H., St. Anthony Park.
Riggs, C. E., St. Paul.
Ritchie, Parks, St. Paul.
Roberts, C. B., Minneapolis.
Robbins, C. P., Winona.
Rochford, W. E., Minneapolis.
Rogers, A. C. Faribault.
Rogers J. T., St. Paul.
Rosser, J. C., Crookston.
Rothenburg, J. C., Springfield.
Rowe, W. H., St. James.
Schadle, J. E., St. Paul.
Schmauss, L. P., Mankato.
Schwyzer, A., St. Paul.
Scott, J. W., St. Charles.
Senkler, A. E., St. Paul.
Sheppard, P. E., Hutchinson.
Shipman, C. G., Ely.
Shrader, J. S., Delano.
Slagle, C. G., Minneapolis.
Smart, G. J., Blue Earth City.
Smith, W. S., St. Clair.
Sneve, Haldor, St. Paul.
Sohlberg, O., St. Paul.
Staples, Franklkin, Winona.
Stewart, J. C., Minneapolis.
Stewart, A. B., Owatonna.
Stephenson, W. J., Walker.
Stone, A. J., St. Paul.
Strickley, O. C., New Ulm.
Strout, E. S., Minneapolis.
Sweeney, A., St. Paul.
Sweetser, H. B., Minneapolis.
Taylor, H. L., St. Paul.
Tefft, N. S., Plain View.
Tessler, M., St. Paul.
Tictin, A. J., Maynard.
Titcomb, J., Duluth.
Todd, F. C., Minneapolis.
Tomlinson, H. A., St. Peter.
Triplett, N. M., Dawson.
Tufty, J. M. O., Duluth.
Tweedy, G. J., Winona.
Van Slyke, F. W., St. Paul.
Vanderherck, M. P., Minneapolis.
Voight, Wm. C., Stillwater.
Walsh, E. F., St. Paul.
Walrath, Belle M., St. Paul.
Walker, A. E., Duluth.
Walling, P. A., Park Rapids.
Warner, C. F., Mankato.
Wedge, A. C., Albert Lea.
Welcome, T. W. B. Sr., Sleepy Eye.
Westbrook, F. F., Minneapolis.
Wheaton, C. A., St. Paul.
Whittemore, N. K., Elk River.
Witherstine, H. H., Rochester.

MISSOURI.

Kansas City.

Beattie, T. J., Kansas City.
Brown, R. J., Kansas City.
Campbells, W. L., Kansas City.
Cathcart, C. P., Kansas City.
Clausen, Jas. J., Kansas City.
Coffin, G. O., Kansas City.
Coleman, H. B., Kansas City.
Cordier, A. H., Kansas City.
Crow, A. M., Kansas City.
Crowell, H. C., Kansas City.
Drake, Nelson A., Kansas City.
Egelston, J. C., Kansas City.
Frick, Wm., Kansas City.
Griffith, J. D., Kansas City.
Hall, C. Lester, Kansas City.
Halley, George, Kansas City.
Harrelson, N. O., Kansas City.
Horigan, J. A., Kansas City.
Hyde, B. C., Kansas City.
Jackson, J. M., Kansas City.
James, S. C., Kansas City.
Jerowitz, H. D., Kansas City.
King, Willis P., Kansas City.
Lester, C. H., Kansas City.
Lewis, E. R., Kansas City.
Lewis, Nannie P., Kansas City.
Logan, J. E., Kansas City.
Mathis, C. E., Kansas City.
Mott, J. S., Kansas City.
Murphy, F. E., Kansas City.
Pearce, H. E., Kansas City.
Perkins, J. W., Kansas City.
Pettijohn, N. J., Kansas City.
Phillips, E. T., Kansas City.
Porter, David R., Kansas City.
Punton, J., Kansas City.
Rathbone, F. W., Kansas City.
Ridge, I. M., Kansas City.
Ritter, C. A., Kansas City.
Robinson, J. L., Kansas City.
Rogers, J. C., Kansas City.
Rogers, D. F., Kansas Citiy.
Schauffler, E. W., Kansas City.
Schultz, M. H., Kansas City.
Sexton, W. P., Kansas City.
Short, J. L., Kansas City.
Singleton, J. M., Kansas City..
Sloan, R. T., Kansas City.

Thompson, J. H., Kansas City.
*Thompson, W., Kansas City.
*Tiffany, F. B., Kansas City.
Van Eman, J. H., Kansas City.
Wainright, C. F., Kansas City.
Wall, A. H., Kansas City.
Ward, M. B., Kansas City.
Wedding, C. V., Kansas City.
Wedding, E. V., Kansas City.
Wilson, A. M., Kansas City.
Wilson, Dora G., Kansas City.

St. Louis.

Amerland, J. H., St. Louis.
Ball, Otho F., St. Louis.
Ball, J. M., St. Louis.
Barck, Carl, St. Louis.
Bock, A. F., St. Louis.
Bogie, M. A., St. Louis.
Borck, E., St. Louis.
Boogher, J. L., St. Louis.
Brewer, L., St. Louis.
Brokin, A. V. L., St. Louis.
Browne, Geo. W., St. Louis.
Chaddock, C. G., St. Louis.
Chancellor, Eust, St. Louis.
Crandall, G. C., St. Louis.
Crossen, H. S., St. Louis.
Dalton, H. C., St. Louis.
Delany, J. O. F., St. Louis.
Dickerson, W. L., St. Louis.
Dorsett, W. B., St. Louis.
Finley, R. H., St. Louis.
Fisch, Carl, St. Louis.
Fischel, W. E., St. Louis.
French, P., St. Louis.
Funkhouser, R. M., St. Louis.
Furney, B. E., St. Louis.
Glasgow, F. A., St. Louis.
Gradwohl, R. B. H., St. Louis.
Graves, W. W., St. Louis.
Grayson, W. H., St. Louis.
Greer, E. O., St. Louis.
Gregory, E. H., St. Louis.
Harris, R. C., St. Louis.
Henderson, F. L., St. Louis.
Hennerich, J. P., St. Louis.
Hickman, Henry, St. Louis.
Hill, R., St. Louis.
Hopkins, M. J., St. Louis.
Hughes, C. H., St. Louis.
Hypes, B. M., St. Louis.
Jennings, M. D., St. Louis.
Jennings, J. E., St. Louis.
Keir, Wm. F., St. Louis.
Kieffer, A. R., St. Louis.
Kolbenheyer, F., St. Louis.
Kuhn, D., St. Louis.
Laidley, L. H., St. Louis.
Lemoine, E. S., St. Louis.
Lanphear, E., St. Louis.
Lemen, J. R., St. Louis.
Lee, Edward Wallace, St. Louis.
Loeb, H. W., 3536 Olive st., St. Louis.
Love, I. N., St. Louis.
McCandless, W. A., St. Louis.
McClure, J., St. Louis.
McCullers, E. H., St. Louis.
McLean, Mary H., St. Louis.
Marks, H., St. Louis.
Mayfield, W. H., St. Louis.
Meisenbach, A. H., St. Louis.
Miller, John J., St. Louis.
Moore, J. W., St. Louis.
Morris, C. C., St. Louis.
Mudd, H. G., St. Louis.
Nicholson, C. M., St. Louis.
Ohmann-Dumesnil, A. H., St. Louis.
O'Reilly, P. S., St. Louis.
O'Reilly, Robert J., St. Louis.
Outten, W. B., St. Louis.
Owen, D. W. C., St. Louis.
Pollak, S., St. Louis.
Pollman, L. P., St. Louis.
Porter, Wm., St. Louis.
Post, M. H., St. Louis.
Prewitt, T. F., St. Louis.
Ravold, Amand, St. Louis.
Rice, D. F., St. Louis.
Riley, C. M., St. Louis.
Ring, Frank, St. Louis.
Rohlfing, C. G., St. Louis.
Rowe, S. B., St. Louis.
Rumbold, T. F., St. Louis.
Sander, Enno, St. Louis.
Saunders, E. W., St. Louis.
Schlosstein, A., St. Louis.
Shields, W. B., St. Louis.
Smith, E. Jr., St. Louis.
Smith, J. W., St. Louis.
Spiegelhalter, J., St. Louis.
Steer, Justin, St. Louis.
Steele, A. J., St. Louis.
Stoffel, R. J., St. Louis.
Suggett, O. L., St. Louis.
Summa, H., St. Louis.
Sutter, O., St. Louis.
Taussig, A. E., St. Louis.
Tuholske, H., St. Louis.
Valle, J. F., St. Louis.
Vaughan, J. W., St. Louis.
Walbridge, L. P., St. Louis.
Wesseler, T. W., St. Louis.
Whelpley, H. M., St. Louis.
Wilson, R. E., St. Louis.

Alford, R. L., Vandalia.
Allee, W. S., Olean.
Allee, G. D., Lamar.
Allen, J. M., Liberty.
Arnold, P., Wellsville.
Avery, D., Lebanon.
Baskett, J. N., Hannibal.
Bell, W. T., Stoutsville.
Bennett, G. W., Blue Springs.
Bottom, M., Breckenridge.
Boulware, T. C., Butler.
Brainard, B. F., Martin City.
Bradsher, A. J., Clifton Hill.
Bronson, I. T., Sedalia.
Brosius, W. L., Gallatin.
Brown, Tinsley, Hamilton.
Brown, S. M., Monroe City.
Brown, R. A., Stockton.
Brown, A. C., Moselle.
Brummall, J. D., Salisbury.
Bryant, J. Jr., Independence.
Buren, C. R., Modena.
Bynum, John C., Stewartsville.
Cale, G. W., Springfield.
Campbell, E. T., Willow Springs.
Campbell, J. F., Callao.
Carpenter, S. F., St. Joseph.
Cave, B. S., Mexico.
Chandler, H. S., Glen Allen.
Chapman, A. W., Charleston.
Coffee, J. Turner, Steelville.
Corley, H. N., St. Paul.
Damour, F., Bolckow.
DeVilbiss, Frank, Spring Garden.
Dice, H. F., Joplin.
Douglas, W. H., Rush Hill.
Doyle, T. H., St. Joseph.
Dukes, E. C., Lookout.
Dyer, J. H., St. Peters.
Elam, W. T., St. Joseph.
Ellis, T. B., Bethany.
Enloe, John S, Sedalia.
Evans, W. H., Sedalia.
Ewing, F. C., Webster Grove.
Fassett, C. W., St. Joseph.
Findley, P. A., Ozark.
Foreman, J. M., Jonesburg.
Freeman, A. B., Joplin.
Fulherson, P. S., Lexington.
Fulton, F. H., Holt.
Gant, J. O. K., Plattsburg.
Gehrung, E. C., St. Louis.
Geiger, J., St. Joseph.
Goins, G. W., Breckinridge.
Goodrich, C. F., New Haven.
Gore, David C., Marshall.
Graham, A. W., Warrenton.
Griffin, J. M., Millville.
Haire, R. D., Clinton.
Haley, R., Brookfield.
Hall, L. T., Potosi.
Hall, Jos. R., Marshall.
Harrison, William, Marshall.
Hawkins, A. S., Monett.
Heaton, E. E., Coatsville.
Heddens, J. W., St. Joseph.
Henderson, R. T., Jackson.
Highsmith, G. R., Carrollton.
Holman, R. S., Booneville.
Isbell, J., Washington.
Jackson, T. B., Altamount.
Jermane, P. L., Grandin.
Johnson, H. C., Meadville.
Jermane, P. L., Grandin.
Jones, L. J., Linden.
Kelso, R. S., Joplin.
Kemp, W. P., Hale.
Latham, H. W., Latham.
Leeper, C. C., Braymer.
Leonard, P. I., St. Joseph.
Lockwood, W. D., St. Joseph.
McCown, T. B., Windsor.
McDonald, H. A., Pisgah.
McNay, A. L., Gray Summit.
Magee, C. H., Unionville.
Marsh, J. T., Liberty.
Matthews, L. I., Joplin.
Melvin, J. M., Cole Camp.
Metcalf, W. A., Steelville.
Michie, T. A., Cooter.
Miller, Geo. W., Joplin.
Miller, A. B., Macon.
Miller, U. G., Union.
Mitchell, D. L., Cassville.
Mitchell, C. A., Blythedale.
Mitchell, W. F., Lancaster.
Norton, J. J., Monroe City.
Nowlin, D., Montgomery City.
Owen, T. P., Brookfield.
Overstreet, W. C., Sedalia.
Parrish, J. E., Memphis.
Pickel, J. W., Crystal City.
Piper, J. D., Joplin.
Poppenhuser, H. A. C., Union.
Postlewait, J. A., Tarkio.
Powell, I. W., Holcomb.
Redman, Spencer, Platte City.
Rosenthal, M., Kenneth.
Rowell, Haynie, Kearney.
Rusk, J. A., Villa Ridge.
Russell, J. W., Longtown.
Shawhan, R. C., Hale.
Sherman, G. L., St. Joseph.
Shuttee, H. C., West Plains.
Spears, R. S., West Plains.
Standly, Z. T., Laclede.
Stratton, C. D., Rothville.
Sutton, N. E., Blue Ridge.
Tainter, Jos., Warrenton.
Taylor, H. H., Joplin.
Tefft, J. E., Springfield.
Thatcher, J. P., Bunceton.
Trippeer, Bert, Purdin.
Trumbower, M. R., Monett.
Van der Vaart, S., Milo.
Van Note, E., Hamilton.
Waterman, J. A., Breckinridge.
Welch, J. F., Salisbury.
Wilson, W. B., Cape Girardeau.
Willson, G. C., Nevada.
Witmer, C. M., Marble Hill.
Wood, J. B., Marshall.
Wood, E. A., Sedalia.
Woodson, C. R., St. Joseph.
Yates, Martin, Fulton.

MISSISSIPPI.

Alford, J. M., Fernwood.
Barnhill, R. Y., Corinth.
Barr, W. H., Agricultural College
Baskin, J. L., Itta Bena.
Berry, Jos. T. B., Brandon.
Cook, I. H. C., Hattisburg.
Christmas, H., Tchula.
Culley, B. L., Jackson.
Dickerson, L. D., McComb City.
Duncan, B. A., Columbus.
Dunn, S. R., Greenville.
Ewing, C. C., Aberdeen.
Featherston, J. S., Macon.
Gant, H. A., Water Valley.
Gilbert, J. W., Corinth.
Gray, J. W. Jr., Clarkdale.
Greene, W. S., Aberdeen.
Hall, J. C., Anguilla.
Heath, T. A., Shiloh Landing.
Henderson, C. R., Deasonville.
Howard, R. E., Durant.
Hughes, W. P., St. Elmo.
Jagoe, A. J., Hernando.
Jones, R. E., Crystal Springs.
Kell, W. R., Scranton.
Lester, S. P., Batesville.
Lowry, M. J., Meridian.
Moore, J. P., Yazoo City.
Pease, John B. Sr., Gunnison.
Perkins, K. P., Batesville.
Pinault, N. J., Pass Christian.
Potter, W. D., Senatobia.
Price, J. W., Boonville.
Quin, O. B., McComb.
Rape, J. N., Moss Point.
Redus, Wm. D., Port Gibson.
Robertson, A. R., Pass Christian.
Rowland, P. W., Oxford.
Shackelford, J. A., Greenville.
Shinkel, J. N. D., Friars Point.
Taylor, W. A., Rienzi.
Turner, R. L., Meridian.
Unger, J. W., West Point.
Walker, W. E., Pass Christian.
Whitehead, N. E., Greenwood.
Williams, D. J., Ellisville.

MONTANA.

Atkisson, F., Fort Benton.
Buckley, J. J., Missoula.
Campbell, W. H., Kalispell.
Campbell, D., Butte.
Chambliss, C. M., Bozeman.
Cole, Chas. K., Helena.
Craig, Jas., Columbus.
Dodds, E. F., Deer Lodge.
Ford, L. C., Lima.
Gordon, P. R., Great Falls.
Grigg, T. A., Butte.
Hammond, J. S., Butte.
Hopkins, C. F., Chinook.
Jordan, A. J., Marysville.
King, G. W., Marysville.
Leahy, M. M., Anaconda.
Longway, A. F., Great Falls.
MacNevin, M. G., Butte.
McCrimmon, F. W., Butte.
McCullough, G. T., Missoula.
McKay, D. McH., White Sulphur Springs.
Miller, C. B., Helena.
Mills, W. P., Missoula.
Murray, T. J., Butte.
Owings, J. H., Deer Lodge.
Rightenour, Geo. W., Sheridan.
Southmayd, Le Roy, Great Falls.
Sweat, John A., Great Falls.
Treacy, Wm., Helena
Vidal, C. E. K., Belt.
Walker, M. A. Melrose.
Wells, G. R., Livingston.
Wells, G. H., Butte.
Whitefoot, R. M., Bozeman.
Wilson, E. M., Twin Bridges.

NEBRASKA.

Aiken, J. M., Omaha.
Allison, C. C., Omaha.
Anderson, A. B., Pawnee City.
Anderson, C. A., Stromsburg.
Arthur, Mattie L., Omaha.
Artz, C. V., Hastings.
Baker, A. J., Columbus.
Beede, S. C., David City.
Bell, H. S., Kearney.
Benton, E. A., Central City.
Boardman, E. O., Overton.
Borom, S. C., Chapman.
Bowman, L. M., Alliance.
Boyden, H. D., Grand Island.
Breuer, C. H., David City.
Bridges, W. O., Omaha.
Brink, C. A., Ord.
Brother, Fred. Beatrice.
Brownrigg, W. J., Omaha.
Bryant, D. C., Omaha.
Bullard, J. W., Pawnee City.
Bush, J. C. F., Wahoo.
Bush, R. D., Ceresco.
Butler, F. A., Harvard.
Carter, J. O., Lincoln.
Carter, M. D., Tobias.
Christie, W. H., Omaha.
Clark, A. J., Albion.
Cloyd, A. D., Omaha.
Coffin, C. E., Asylum.
Coffman, V. H., Omaha.
Conwell, W. F., Neligh.
Cook, S. E., Lincoln.
Crummer, B. F., Omaha.
Davies, Wm. J., Fremont.
Davis, B. B., Omaha.
Davis, J. C., Omaha.
Dawson, J. O., Lincoln.
Dayton, Wm. L., Lincoln.
Dayton, J. H., Lincoln.
Demaree, H. C., Roca.
Doan, Ira, North Bend.
Drummond, P. K., Wymore.
Earel, A. M., Lincoln.
East, J. H., Rising City.
Evans, C. D., Columbus.
Evans, Morris H., Emerson.
Everett M. H., Lincoln.
Fall, C. P., Beatrice.
Fletcher, E. R., St. Paul.
Francis, H. W., Bancroft.
Fulkerson, W. C., Blue Hill.
Gafford, C. C., Wymore.
Gage, W. V., McCook.
Garten, M. H., Lincoln.
Gay, B. F., Tilden.
Geer, F. H., Columbus.
Gifford, H., Omaha.
Gilmore, G. H., Murray.
Green, J. L., University Place.
Grotham, Ole, St. Paul.
Guttery, J. D., Valparaiso.
Haldeman, F. D., Ord.
Hamilton, H. P., Omaha.
Harris, W. J., Beatrice.
Hasemier, J. A., Louisville.
Haughey, I. W., Hampton.
Henry, W. O., Omaha.
Hildreth, M. C., Lyons.
Hoge, W. B., Grand Island.
Hollister, T. C., Louisville.
Hostetter, A. H., Douglas.
Hungate, J. B., Weeping Water.
Hunt, W. N., Central City.
Jonas, A. F., Omaha.
Kauffman, E., Hardy.
Keller, A., Falls City.
Kern, W. B., Wood River.
Key, Walter, Pilger.
Lavender, W. R., Omaha.
Lee, D. R., Arcadia.
Leisenring, H. G., Wayne.
Link, H., Millard.
Livingston, T. P., Plattsmouth.
Lockard, J. A., Gothenburg.
Long, F. A., Madison.
Loper, A. N., College View.
Lord, J. P., Omaha.
Lowry, H. B., Lincoln.
McClanahan, H. M., Omaha.
McConaughy, Robt., York.
McDonald, R. C., Fremont.
McKeeby, Fred E., Superior.
McKinley, Jerome C., Humphrey.
McKinnon, A. I., Havelock.
McMahan, D. B., Newman Grove.

Main, A. S., Loup City.
Malater, R. M., Stromsburg.
Miller, J. T., Holdrege.
Minnich, C. S., Palmer.
Minton, E. W., Oakdale.
Mitchell, A. R., Lincoln.
Moore, J. E., Alliance.
Moore, R. C., Omaha.
Mooning, J. F., Yutan.
Morris, F. S., McCool Junction.
Moyer, C. C., Lincoln.
Muir, D. H., Lincoln.
Nesbitt, A. D., Tekamah.
Newbecker, Minerva M., Asylum.
O'Connell J. M., Ponca.
Owen, F. S., Omaha.
Packard, F. A., Kearney.
Parchen, H. W., Snyder.
Peabody, J. H., Omaha.
Percival, J. P., Prague.
Pickett, I. N., Odell.
Pollard, J. A., Nehawka.
Porter, I. W., Omaha.
Pritchett, G. L., Fairbury.
Proudfoot, C. P., Liberty.
Quincy, M. A., Ashland.
Quinn, John H., Gothenburg.
Riley, A. W., Omaha.
Robinson, W. C., Clarks.
Roeder, Geo., Grand Island.
Rogers, D. R., Ragan.
Ross, W. L., Omaha.
Rowse, R. Q., Wakefield.
Schaufelberger, J. F., Hastings.
Searles, Mrs. Libbie M., Lincoln.
Shidler, G. W., York.
Shreck, W. A., Bertrand.
Shields, W. D., Holdrege.
Slabaugh, W. H., South Omaha.
Smith, L. B., Fremont.
Somers, A. B., Omaha.
Spaulding, S. K., Omaha.
Stone, R. M., Omaha.
Stout, John, Pender.
Summers, John E., Jr., Omaha.
Sumney, H. C., Omaha.
Sutherland, J. L., Grand Island.
Tilden, Geo., Omaha.
Verpoorten, M. H., Omaha.
Von Mansfelde, A. S., Ashland.
Watson, C., Nebraska City.
White, W. S., South Omaha.
Wilkinson, A. D., Lincoln.
Wilson, H. B., Omaha.
Winnett, H. J., Lincoln.
Wiser, F. C., Falls City.
Wisner, W. O., Hooper.
Woodward, T. H., Lincoln.
Zellers, M. T., Hooper.

NEVADA.

Bergstein, H., Reno.
Campbell, J. D., Pioche.
Guinan, Jas., Carson City.
Hood, C. J., Elko.
Manson, Peter, Virginia City.
Olmsted, A. C., Wells.
Pickard, J. E., Virginia City.
Townsend, S. J., Cherry Creek.

NEW HAMPSHIRE.

Adams, Daniel S., Manchester.
Aldrich, W. H., Marlboro.
Bell, E. L., North Woodstock.
Blairsdell, F., Goffstown.
Blaisdell, G. C., Contoocook.
Blaylock, Ella, Nashua.
Bradford, H. W., Wolfboro.
Carbee, S. P., Haverhill.
Carvelle, H. D. W., Manchester.
Cook, Geo., Concord.
Conn, G. P., Concord.
Currier, E. H., Manchester.
Cutler, G. I., West Swanzey.
Dean, Elmer E., Lebanon.
Drake, C. B., West Lebanon.
Evans, Earl, Winchester.
Fowler, J. N., Meriden.
Fritz, E., Manchester.
Goodhue, P. D., West Springfield.
Goss, O. W., Lakeport.
Gould, Chas. R., Tilton.
Graves, E. E., Penacook.
Greeley, J. T., Nashua.
Harrington, C. W., Peterboro.
Hills, Rosco, Epsom.
Holbrook, H. C., Penacook.
Holt J D., Berlin.
Houghton, E. F., Tilton.
Hoyt, J. Elizabeth, Concord.
Knapp, L. V., Danbury.
Lunnoaette, J. E. A., Manchester.
McQuestin, E. E., Nashua.
Neal, J. H., Rochester.
Oliver, R. F., Alstead.
Parsons, J. W., Portsmouth.
Phipps, A. G., Milan.
Robinson, J. F., Manchester.
Shedd, J. Z., North Conway.
Smith, H. O., Hudson Center.
Smith, W. T., Hanover.
Sullivan, D. E., Concord.
Sullivan, M. B., Dover.
Sweeney, H. L., Kingston.
Taylor, Jos., Bedford.
Thompson, A. V., Snowville.
Wallace, A. S., Nashua.
Walker, C. R., Concord.
Watson, Irving A., Concord.
Weymouth, H. A., Andover.

NEW JERSEY.

Abbott, B. T., Ocean City.
Adams, C. F., Trenton.
Adams, O. H., Vineland.
Allen, U., Jersey City Heights.
Anderson, C., Madison.
Applegate, J. C., Bridgeton.
Ard, F. C., Plainfield.
Armstrong, S. E., Rutherford.
Arnold, J. P., Trenton.
Ashcroft, S. F., Mullica Hill.
Baer, J. S., Camden.
Bailey, C. H., Bloomfield.
Baker, E. M., Jersey City.
Baldwin, H. R., New Brunswick.
Balleray, G. H., Paterson.
Bartow, G. W., Three Bridges.
Barwis, Elmer, Trenton.
Barnes, W. M., Atlantic City.
Baumann, J. J., Jersey City.
Bayles, G., Orange.
Beale, P. W., Camden.
Beatty, Henry M., Trenton.
Bebout, T. W., Stirling.
Benjamin, D., Camden.
Bennett, C. D., Newark.
Bennett, F. W., Atlantic City.
Bickle, S. D., Atlantic City.
Blanchard, O. R. B., Jersey City.
Bleyle, H. C. Newark.
Blundell, Wm. Paterson.
Borden, P., Paterson.
Bowyer, F. F. Jersey City.
Boysen, T. H., Egg Harbor City.
Brien, W. M., Orange Valley.
Brinkerhoff, H.H.,Jr., Jersey City
Bruyere, John, Trenton.
Bull, E. L., Jersey City.
Burd, W. J., Belvidere.
Burns, E. L., Newark.
Bushey, S. G., Camden.
Carman, J. H., Plainfield.
Carpenter, A. E., Boonton.
Carpenter, W. H., Salem.
Carroll, W. E., Newark.
Chambers, T. R., Jersey City.
Chandler, W. J., South Orange.
Chew, E. C., Atlantic City.
Clark, W. A., Trenton.
Clements, J., Nutley.
Closson, E. W., Lambertville.
Coles, J. A., Scotch Plains.
Cooke, H. G., New Brunswick.
Condict, I., Dover.
Condict, A. W., Dover.
Corwin, T. W., Newark.
Corwin, F. M., Bayonne.
Corrigan, J. E., Jersey City.
Corson, F. F., Bargaintown.
Craig, B. P., Jersey City.
Crowell, G. M., Hammonton.
Cummins, G. W., Belvidere.
Currie, D. A., Englewood.
Curts, R. M., Paterson.
Cuscaden, A. D., Atlantic City.
Dallas, A., Bayonne City.
Davis, W. A., Camden.
Darnall, Wm. E., Atlantic City.
Davis, T. G., Bridgeton.
Day, S. Thos., Port Norris.
Day, G. E., Millville.
DeMund, J. T., Ridgewood.
Dennis, J., Newark.
Dickinson, G. K., Jersey City.
Disbrow, W. S., Newark.
Donges, J. W., Camden.
Donohue, L. F., Bayonne.
Donohue, F. M., New Brunswick.
Draton, H. S., Jersey City.
Edwards, J. G., Williamstown.
Edge, B., Jersey City.
Elmer, M. K., Bridgeton.
Elmer, H. W., Bridgeton.
Elmer, Wm., Trenton.
Endicott, G. W., Plainfield.
English, D. C., New Brunswick.
Evans, Britton D., Morris Plains.
Ewen, Warren L., Alloway.
Exton, J. A., Arlington.
Faber, J., Jersey City.
Ferguson, B. W., Beemerville.
Fitch, T. S. P., East Orange.
Fithian, J. W., Camden.
Flagge, F. W., Rockaway.
Flitcroft, Wm., Paterson.
Flynn, J. J., Mount Holly.
Forman, A. C., Bayonne.
Francis, R. P., Montclair.
Fyfe, G. D., Jersey City.
Gage, R. S., Newark.
Gaston, Mary E., Somerville.
Gauntt, F., Burlington.
Godfrey, E. L. B., Camden.
Good, W. T., Quinton.
Goodwin, W. M., Newark.
Graves, W. B., East Orange.
Gray, F. D., Jersey City.
Green, J. S., Elizabeth.
Grim, F. S., Baptisttown.
Grier, E. B., Elizabeth.
Griffith, J. H., Phillipsburg.
Gross, O. B., Camden.
Haley, J. J., Gloucester City.
Halsey, L. M., Williamstown.
Hamill, E. H., Newark.
Hand, L. L., Leesburg.
Harris, P. A., Patterson.
Harrison, J. B., Westfield.
Harvey, T. W., Orange.
Hayden, J. H., Newark.
Hecht, J. P., Raritan.
Hedges, E. W., Plainfield.
Helfer, S. A., Hoboken.
Henry, J. P., Jersey City.
Heritage, C. S., Glassboro.
Herold, H. T., Newark.
Hill, C. D., Jersey City.
Hinkley, L. S., Newark.
Hirst, L. B., Camden.
Hoagland, B. W., Woodbridge.
Hodges, Wm. M., Atlantic City.
Hollingshead, E., Pemberton.
Hollister, L. E., Newark.
Horning, F. L., Camden.
Hough, H. Page, Rahway.
Howard, J. T. D., Shiloh.
Hunt, A. C., Metuchen.
Ill, C. L., Newark.
Ill, Ed. J., Newark.
Ireland, W. H., Camden.
Irwin, A., Camden.
Iszard, W. H., Camden.
Jackson, A. J., Matawan.
James, H. C., Mays Landing.
James, W. H., Pennsville.
Janney, F. S., Riverton.
Jarrett, H., Camden.
Johnson, W. B., Paterson.
Johnson, C. R., Atlantic City.
Jones, Wm. S., Camden.
Joy, J. A., Atlantic City.
Kelchner, W. J., Camden.
Kent, G. R., Newark.
Kinch, F. A., Westfield.
Kip, H., Paterson.
Kirkbride, M. F., Spring Lake Beach.
Koroemann, H. A., Newark.
Kyte, C. F., Jersey City.
Lake, W. A., Cold Spring.
Lalor, W. S., Trenton.
Lambert, F. E., Jersey City.
Laws, G. A., Paulsboro.
LeFevre, A. L., Blackwood.
LeMoyne, F., Point Pleasant.
Leavitt, J. F., Camden.
Leal, J. L., Paterson.
Lippincott, A. H., Camden.
Long, Isaac, Freehold.
Lucas, H. H., Paterson.
Luther, C. V., South Orange.
McAlister, Alexander, Camden.
McCormick, H. D., Verona.
McCoy, J. C., Paterson.
McFadden, G. H., Hackensack.
McGalliard, B. W., Trenton.
McGee, W. H., Belvidere.
McGill, J. D., Jersey City.
MacKintosh, M. A., Paterson.
McLean, T. N. Elizabeth.
MacFarland, B. W., Bordentown.
Mackenzie, T. H., Trenton.
Mack, W. A. M., Elizabeth.
Marcy, F. W., Camden.
Marcy, A., Jr., Riverton.
Marvel, Philip, Atlantic City.
Marvel, E., Atlantic City.
Mead, Sarah B., Newark.
Mecray, P. M., Camden.
Megaro, P., Newark.
Melcher, W. P., Mt. Holly.
Merrill, J. R., Paterson.
Miller, H. G., Millville.
Millspaugh, D. T., Paterson.
Mitchell, Henry, Trenton.
Moore, R. H., Trenton.
Moore, E. H., Whitehouse Station.
Moore, G. R., Trenton.
Morrison, E., Newton.
Myers, C. F. W., Paterson.
Nash, A. V., Newark.
Neer, H. C., Park Ridge.
Neer, Wm., Paterson.
Nevin, John, Jersey City.
Newall, W. L., Millville.
Newton, R. C., Montclair.
Nichols, H. D., Atlantic City.
Nicholson, J. L., Camden.
North, J., Atlantic City.
Oliphant, N. B., Trenton.
Osmun, M. M., Camden.
Osmun, L. C. Hackettstown.
Palm, H. F., Camden.
Parsons, R. H., Mt. Holly.
Parsons, J. C., Jersey City.
Peck, G., Elizabeth.
Pellett, J. B., Hamburg.
Pennington, B. C., Atlantic City.
Pettitt, A., Elizabeth.
Pierson, Wm., Orange.
Phillips, C. B., Hurffville.
Pollard, W. M., Atlantic City.
Powell, W. M., Atlantic City.
Powell, Wm. R., Camden.
Presley, Sophia, Camden.
Price, Franklin C., Imlaystown.
Price, T. T., Tuckerton.
Probasco, John B., Plainfield.
Purdy, C. H., Jersey City.
Quinn, S. T., Elizabeth.
Randolph, J. M., Rahway.
Reading, G. E., Woodbury.
Reed, E. L., Atlantic City.
Read, J. W., Newark.
Reed, T., Atlantic City.
Reed, T. K., Atlantic City.
Reed, B., Hammonton.
Reilly, John P., Elizabeth.
Reiley, E. A., Atlantic City.
Reynolds, W., Atlantic City.
Ridge, J. M., Camden.
Risk, J. B., Summit.
Roden, H. P., Newark.
Rogers, A. W., Paterson.
Rolerfort, G. W., Newark.
Romine, G. T., Lambertville.
Rosenkrans, J. H., Hoboken.
Rundle, G. L., Passaic.
Ryerson, J. G., Boonton.
St. John, D. B., Hackensack.
Scribner, C. H., Paterson.
Seidler, W. F., Newark.
Seidman, M., Newark.
Senseman, Theodore, Atlantic City.
Sexsmith, G. H., Bayonne.
Sharp, E. S., Atlantic City.
Shaw, J. B., Trenton.
Shepard, C., Trenton.
Sheppard, J., Bridgeton.
Sherk, H. H., Camden.
Shipps, Wm. H., Bordentown.
Sinclair, R. R., Westfield.
Skinner, D. M., Belleville.
Small, A. H., Riverside.
Smith, D. W., Newark.
Sommer, G. N. J., Trenton.
Somers, M. L., Atlantic City.
Spencer, H., Jersey City.
Sproul, O. H., Flemington.
Stewart, F. E., East Orange.
Stewart, J. M., Paterson.
Stewart, W. B., Atlantic City.
Stillwell, A. L., Somerville.
Stilwagon, P. E., Gloucester.
Stockton, Chas. S., Newark.
Stock, Jacob F., Camden.
Stout, Harry A., Wenonah.
Stokes, J., Moorestown.
Straley, S. B., Newton.
Stanger, S. F., Harrisonville.
Strock, D., Camden.
Stroud, Frank G., Moorestown.
Sutphen, T. Y., Newark.
Taylor, H. G., Camden.
Terry, J. W., Englewood.
Vail, H. B., Belleville.
Van Gaasbeck, H. D., Deckertown.
Van Horn, A. F., Plainfield.
Van Syckle, A. C., Hackettstown.
Van Vranken, G., Passaic.
Vroom, W. L., Ridgewood
Voorhees, C. H., New Brunswick.
Wade, J. W., Millville.
Waddington, B. A., Salem.
Wainwright, J. B., Manasquan.
Ward, J. W., Trenton.
Ward, Arthur, Newark.
Washington, W. S., Newark.
Way, Eugene, Dennisville.
Webster, J. Bart, Atlantic City.
Weeks, Henry M., Skillman.
Wheeler, H. S., Whippany.
Wigg, C., Boonton.
Wilson, C. W., Vineland.
Wilson, H. A., Woodbury.
Wilson, S. M., Bridgeton.
Wolfe, W. J., Chatham.
Woolley, S. J., Long Branch.
Wyler, Max, Fort Lee.
Young, C., Newark.
Zeglio, P. J., Plainfield.

NEW MEXICO.

Bailey, W. C., Las Vegas.
Easterday, G. S., Albuquerque.
Elder, J. W., Albuquerque.
Gilbert, B., Silver City.
Hope, W. G., Albuquerque.
Joyner, W. T., Roswell.
McConnell, J. F., Las Cruces.
Nichols, C. B., Fort Wingate.
Palmer, F., Cerillot.
Perkins, D. S., Las Vegas Hot Springs.
Rolls, J. A., Watrous.
Shaw, E. B., E. Las Vegas.
Slack, J. C., Clayton.
Tipton, W. R., Las Vegas.
Van Cleave, A. H., Silver City.
Waldschmitt, C. H., Alamogordo.
Wruhel, Solomon; Las Vegas.

NEW YORK.

Brooklyn.

Ager, L. C., Brooklyn.
Arrowsmith, H., Brooklyn.
Bahrenburg, L. P. H., Brooklyn.
Baldwin, L. G., Brooklyn.
Bierwirth, J. C., Brooklyn.
Bishop, H. M., Brooklyn.
Bodkin, D. G., Brooklyn.
Brown, T. E., Brooklyn.
Brush, A. C., Brooklyn.
Bryn, H., Brooklyn.
Brundage, Albert H., Brooklyn.
Byrne, J., Brooklyn.
Burge, J. H. H., Brooklyn.
Campbell, W. F., Brooklyn.
Coffin, L., Brooklyn.
Conway, J. F., Brooklyn.
Cook, C. D., Brooklyn.
Deazigethy, C. C., Brooklyn.
Eccles, R. G., Brooklyn.
Ford, A. W., Brooklyn.
Fowler, Geo. R., Brooklyn.
Gildersleeve, C. P., Brooklyn.
Gulick, C. R., Brooklyn.
Hopkins, G. G., Brooklyn.
Ingalls, J. W., Brooklyn.
Jenkins, J. A., Brooklyn.
Judd, A. M., Brooklyn.
Kene, J. A., Brooklyn.
Kennedy, J. C., Brooklyn.
Lester, J. C., Brooklyn.
Little, F., Brooklyn.
Lloyd, T. M., Brooklyn.
Lundgren, C. E., Brooklyn.
McCollum, Wm., Brooklyn.
Magilligan, F. J., Brooklyn.
Malone, J. W., Brooklyn.
Mayne, Earl H., Brooklyn.
Milbury, F. S., Brooklyn.
Murphy, J. P., Brooklyn.
North, N. L., Brooklyn.
O'Connell, J. F., Brooklyn.
Oatman, E. L., Brooklyn.
Ostrander, G. A., Brooklyn.
Polak, J. O., Brooklyn.
Pray, Susan R., Brooklyn.
Raynor, F. C., Brooklyn.
Reynolds, Edwin, Brooklyn.
Rushmore, J. D., Brooklyn.
Shepard, C. H., Brooklyn.
Sheppard, J. E., Brooklyn.
Sherwell, S., Brooklyn.
Squibb, E. R., Brooklyn.
Squibb, E. H., Brooklyn.
Sullivan, J. D., Brooklyn.
Walton, T. C., Brooklyn.
Waterworth, Wm., Brooklyn.
Wight, J. S., Brooklyn.
Williams, W. H., Brooklyn.
Wright, J., Brooklyn.
Wunderlich, F. W., Brooklyn.
Wyckoff, R. M., Brooklyn.
Yerdon, C. F., Brooklyn.

Buffalo.

Allen, T. G., Buffalo.
Benedict, A. L., Buffalo.
Bennett, A. G., Buffalo.
Brecht, F. E. L., Buffalo.
Briggs, A. H., Buffalo.
Burrows, Lorenzo, Buffalo.
Buswell, H. C., Buffalo.
Coakley, J. B., Buffalo.
Congdon, C. E., Buffalo.
Cott, G. F., Buffalo.
Fowler, J., Buffalo.
Frederick, C. C., Buffalo.
Fritz, W. C., Buffalo.
Fronczak, Francis E., Buffalo.
Green, Stephen S., Buffalo.
Grosvenor, J. W., Buffalo.
Harrington, D. W., Buffalo.
Hayd, H. E., Buffalo.
Howard, C. F., Buffalo.
Howe, Lucien, Buffalo.
Hubbell, A. A., Buffalo.
Ingraham, H. D., Buffalo.
Jones, A. A., Buffalo.
Mynter, H., Buffalo.
Nichell, H., Buffalo.
Park, Roswell, Buffalo.
Phelps, W. G., Buffalo.
Rochester, D., Buffalo.
Starr, Elmer G., Buffalo.
Stockton, C. G., Buffalo.
Thornton, W. H., Buffalo.
Twohey, J. J., Buffalo.
Ullman, J., Buffalo.
Wall, Chas. A., Buffalo.
Wasdin, E., Buffalo.
Wende, Ernest, Buffalo.
Wyckoff, C. C., Buffalo.

New York City.

Abraham, J. H., New York.
Adler, I., New York.
Allen, T. H., New York.
Anderson, R. H., New York.
Anderton, W. B., New York.
Asch, J. H., New York.
Ashmead, A. S., New York.
Austin, D. P., New York.
Bache, J. H., New York.
Bangs, L. B., New York.
Barstow, D. M., New York
Barksy J, New York.
Barnes, G. E., New York.
Bates, W. H., New York.
Bayley, Russell, New York.
Beck, Carl, New York.
Benedict, C. S., New York.
Bermingham, E. J., New York.
Biggs, H. M., New York.
Bilhoefer, A. J., New York.
Bishop, Louis F., New York.
Bissell, J. B., New York.
Boldt, H. J., New York.
Bosworth, F. H., New York.
Brayton, W. D., New York.
Brothers, S. F., New York.
Brown, J. M., New York.
Bryant, J. D., New York.
Bulkley, L. D., New York.
Burrell, F. A., New York.
Burckhalter, T. D., New York.
Burtenshaw, J. H., New York.
Callan, P. A., New York.
Campbell, J. R., New York.
Carter, C. B., New York.
Carter, De Lancy, New York.
Carr, W., New York.
Chetwood, C. H., New York.
Child, C. G. Jr., New York.
Claiborn, J. H. Jr., New York.
Cleaves, M. A., New York.
Clemens, J. B., New York.
Cocks, E. L., New York.
Cocks, G. H., New York.
Coley, W. B., New York.
Concannon, J. J., New York.
Coughlin, J. H., New York.
Curtis, G. L., New York.
Curtis, H. H., New York.
Curran, M. W., New York.
Cutter, E., New York.
Cutter, J. A., New York.
Dawbarn, R. H. M., New York.
Dalton, W. R. I., New York.
Dawson, D. H., New York.
Davis, J. G., New York.
De Garmo, Wm. B., New York.
De La Roche, C. P., New York.
Delphey, Eden V., New York.
Dench, E. B., New York.
Denison, C. E., New York.
Denig, R., New York.
Denison, E., New York.
Drayton, H. S., New York.
Dudley, A. P., New York.
Dunham, E. K., New York.
Ende, L. A., New York.
Eastman, R. W., New York.
Eichberg, L. R., New York.
Einhorn, M., New York.
Elezarian, M. K., New York.
Eliott, E., New York.
Erdmann, J. F., New York.
Eynon, W. G., New York.
Ferguson, F., New York.
Fischer, Louis, New York.
Fite, C. C., New York.
Flint, Austin, New York.
Fordyce, J. A., New York.
Foerster, F., New York.
Frauenthal, H. W., New York.
Franklin, D., New York.
Freudenthal, W., New York.
Fridenberg, Edward, New York.
Gahagan, W. L., New York.
Gallant, A. E., New York.
Gant, S. G., New York.
Gibney, Virgil P., New York.
Gleitsmann, J. W., New York.
Goelet, A. H., New York.
Goffe, J. R., New York.
Goldan, S. O., New York.
Goldstein, S., New York.
Goldstein, D. D., New York.
Gottheil, W. S., New York.
Gottlieb, J. A., New York.
Gouley, J. W. S., New York.
Grad, H., New York.
Graber, S. S., New York.
Greene, R. H., New York.
Green, N. W., New York.
Guiteras, R., New York.
Hanks, H. T., New York.
Hart, E. H., New York.
Harris, E. E., New York.
Harrison, G. T., New York.
Harrison, G., New York.
Hatch, H. D., New York.
Heuel, E., New York.
Hotchkiss, L. C., New York.
Haynes, I. S., New York.
Heller, I. M., New York.
Henry, N. H., New York.
Hepburn, N. J., New York.
Hillis, T. J., New York.
Hinton, J. H., New York.
Hodgman, A., New York.
Holden, T. N., New York.
Holder, O. H., New York.
Hubbard, E. V., New York.
Huddleston, J. H., New York.
Hymanson, A., New York.
Illoway, H., New York.
Imperatori, Carlo, New York.
Irwin, W. J., New York.
Jackson, V. H., New York.
Jamison, M. W., New York.
Janvrin, J. E., New York.
Janaway, E. G., New York.
Jarvis, N. S., New York.
Jennings, W. B., New York.
Jenkins, W. T., New York.
Judson, A. B., New York.
Jurin, T., New York.
Kalish, R., New York.
Kelly, H. T., New York.
Kelly, T., New York.
Kempner, S. H., New York.
Kenefick, T. A., New York.
Kerrison, P. D., New York.
Klotz, Walter C., New York.
Knight, Chas., New York.
Knipe, G., New York.
Knopf, S. A., New York.
Koles, Henry M., New York.
Kubin, W. K., New York.
Korn, A., New York.
Leale, Charles A., New York.
Lee, Elmer, New York.
Leszynsky, W. M., New York.
Leviseur, F. Y., New York.
LeWald, Leon T., New York.
Lewis, R., New York.
Lippincott, A. C., New York.
Lombard, G. D., New York.
Loomis, H. P., New York.
Louis, I., New York.
Lovis, H. C., New York.
Ludlow, O. C., New York.
Lynch, P. J., New York.
McAlpin, D. H., New York.
McAuliffe, G. B., New York.
McCosh, A. J., New York.
McDonald, Denis J., New York.
McCroskery, J., New York.
MacKenzie, J. C., New York.
McKew, J. J., New York.
McNicholl, T. A., New York.
Maduro, M. L., New York.
Maher, J. J. E., New York.
Manley, T. H., New York.
Marple, W. P., New York.
Mason, E. G., New York.
Maas, F., New York.
Maury, J. W. D., New York.
Maupin, E. G., New York.
Mayer, Emil, New York.
Merrigan, T. D., New York.
Messenger, J. E., New York.
Meyer, Willy, New York.
Minor, S. Carington, New York.
Morris, R. T., New York.
Moore, A. A. Jr., New York.
Moore, J. B., New York.
Morrissey, J. J., New York.
Moran, Jas., New York.
Meuer, S. H., New York.
Munn, J. P., New York.
Murray, P., New York.
Murtland, S., New York.
Myles, R. C., New York.
Nagle, J. T., New York.
Nammack, C. E., New York.
Newman, R., New York.
Newell, O. K., New York.
Noll, J. J., New York.
Noyes, H. D., New York.
Noyes, W. B., New York.
O'Brien, M. C., New York.
O'Neill, R. T., New York.
Oppenheimer, H. S., New York.
Oppenheimer, S., New York.
Outerbridge, P., New York.
Paepke, Jacob G., New York.
Palmer, E. J., New York.
Park, W. H., New York.
Payne, S. M., New York.
Peterson, F., New York.
Phelps, C., New York.
Plasse, Louis de, New York.
Pooler, H. A., New York.
Porter, W. E., New York.
Power, W. B., New York.
Prentiss, J. H., New York.
Pritchard, W. B., New York.
Pryor, W. R., New York.
Purple, S. S., New York.
Quinlan, Francis J., New York.
Quimby, C. E., New York.
Randolph, M. E., New York.
Rhein, M. L., New York.
Richard, M. R., New York.
Robinson, A. R., New York.
Robinson, F. C., New York.
Ruggles, A. D., New York.
Sayre, R. H., New York.
Schoonover, W., New York.
Seaman, L. L., New York.
Sell, E. H. M., New York.
Sharp, J. R., New York.
Sherrill, A. L., New York.
Shrady, J., New York.
Shultz, P. D., New York.
Shufelt, W. A., New York.
Silver, H. M., New York.
Silver, L. M., New York.
Simpson, W. P., New York.
Smith, E. F., New York.
Spaulding, W. C., New York.
Stedman, T. L., New York.
Steger, R. W., New York.
Stern, H., New York.
Stevens, Geo. T., New York.
Stevens, C. W., New York.
Stewart, F. E., New York.
Stowe, B., New York.
Strong, Cyrus J., New York.
Studdiford, W. E., New York.
Syms, P., New York.
Taylor, T. M., New York.
Terriberry, W. S., New York.
Thomas, T. G., New York.
Townsend, W. R., New York.
Trimble, W. B., New York.
Tucker, C. P., New York.
Tull, E. E., New York.
Tuttle, J. P., New York.
Valentine, F. C., New York.
Vineberg, H. N., New York.
Wackerbarth, H. J., New York.
Wainright, J. W., New York.
Walsh, J. J., New York
Wandless H W., New York.
Warden, A. W., New York.
Watkins, R., New York.
Webb, Z. Swift, New York.
Weeks, J. E., New York.
West, W. E., New York.
Whitmore, B. T., New York.
Whitney, C. A., New York.
Wiggin, F. H., New York.
Williams, J. J., New York.
Witthaus, R. A., New York.
Woodward, J. H., New York.
Wurm, C., New York.
Wyeth, J. A., New York.

Abrams, H. C., Newtonville.
Acker, T. J., Croton on Hudson.
Ainsworth, H. R., Addison.
Akin, W., Troy.
Arnold, J. N., Clyde.
Ayling, W. J., Syracuse.
Ayres, D., Fort Plain.
Bacon, C. G., Fulton.
Baker, B. N., Rhinebeck.
Baldwin, E. R., Saranac Lake.
Banister, J. M., West Point.
Baright, H. E., Clifton Springs.
Barton, L. G., Willsboro.
Barton, S. T., Lestershire.
Bassett, M. Imogene, Cooperstown.
Bayley, G. C., Poughkeepsie.
Bayley, N. B., Haverstraw.
Beahan, A. L., Canandaigua.
Bellows, G. A., Waterloo.
Bemus, W. M., Jamestown.
Biggs, C. P., Ithaca.
Birdsall, G., N. Brookfield.
Blair, L. P., McDonough.
Bontecou, R. B., Troy.
Boyd, James P., Albany.
Brinkman, A., Central Valley.
Brownell, Mary A., Newark.
Brown, J. W., Mottville.
Brown, John P., Nunda.
Brown, U. H., Syracuse.

Brush, E. F., Mt. Vernon.
Burrell, D. R., Canandaigua.
Burbeck, C. H., Troy.
Burhyte, O. W., Brookfield.
Cahill, J. T., Hoosick Falls.
Campbell, A. J., Syracuse.
Carpenter, H. W., Oneida.
Clark, W., Utica.
Colvin, D., Clyde.
Comstock, G. F., Saratoga Springs.
Comfort, C. V. C., Rochester.
Contant, R. B., Tarrytown.
Conner, M. C., Middletown.
Creveling, J. P., Auburn.
Culver, C. M., Albany.
Darrow, C. E., Rochester.
Davis, J. C., Rochester.
Dennis, F. W., Unionville.
DeWitt, Byron, Oswego.
Didama, H. D., Syracuse.
Didama, E. A., Cortland.
Dodge, A. P., Oneida.
Dolley, Sarah R. A., Rochester.
Doyle, G., Syracuse.
Dudley, Dwight, Maine.
Dunn, B. S., Ardsley on Hudson.
Eastman, H. A., Jamestown.
Eastman, R. D., Berkshire.
Edwards, G. A., Syracuse.
Edwards, A. S., Syracuse.
Eiseline, D. A., Shortville.
Ellinwood, A. G., Attica.
Farrington, J. M., Binghamton.
Fenno, Henry M., Rochester.
Ferguson, E. D., Troy.
Fielding, F. G., Glens Falls.
Fisher, J. C., Elmira.
French, S. H., Amsterdam.
Fritts, C. E., Hudson.
Day, Mary Gage, Kingston on Hudson.
Garlock, Wm. D., Little Falls.
Gibbons, P. J., Syracuse.
Gilbert, Horatio, Hornellsville.
Glidden, C. H., Little Falls.
Goff, I. N., Cazenovia.
Goler, G. W., Rochester.
Goodwin, H. T., Stapleton.
Gordinier, H. C., Troy.
Gow, F. F., Schuylerville.
Granger, W. D., Bronxville.
Greene, Cordelia A., Castile.
Greenley, T. W., Loon Lake.
Guy, J. D., Chenango Forks.
Hagey, J. M., Mt. Morris.
Handler, L., Rochester.
Harnden, R. S., Waverly.
Hart, J. A., Geneva.
Hart, I. F., Elmira.
Haynes, J. U., Cohoes.
Head, A. D., Syracuse.
Heimstreet, T. B., Troy.
Hendricks, H. C., McGraw.
Higgins, F. W., Cortland.
Houston, D. W., Troy.
Hovey, B. L., Rochester.
Howk, Loron W., Rochester.
Hubbard, C. G., Hornellsville.
Humphrey, J. F., Saratoga.
Hunt, W. J., Glens Falls.
Hupp, F. L., Lake George.
Hulette, G. S., Arcade.
Jackson, A. P., Oakfield.
Jacobson, N., Syracuse.
Jamison, J. S., Hornellsville.
Jewett, J. N., Canandaigua.
Johnson H. W., Hudson.
Jones, Geo. H., Fowlerville.
Julian, J. M., Pleasant Valley.
Kelley, J. G., Hornellsville.
Kemper, J. J., Rochester.
Kenyon, Frank, Scipio.
King, J. K., Watkins.
Kindrel, J. J., Astoria, L. I.
Kittinger, M. G., Lockport.
Landon, N. E., Newark.
Leaning, J. K., Cooperstown.
Le Roy, I. D., Pleasant Valley.
Lindsay, W., Huntington.
Lockwood, J. W., Philmont.
Lounsberry, R. L., Binghamton.
Lukens, Anna, Pelham.
Lusk, Z. J., Warsaw.
Lyon, E. M., Plattsburg.
McBlaine, T. J., Niagara Falls.
MacDonalds, M. G., Albany.
McGann, Thos., Wells.
Mann, C. C., Warsaw.
Martin, J. H., Binghamton.
Martine, Godfrey R., Glens Falls.
Mercer, A., Syracuse.
Miller, A. B., Syracuse.
Miller, J. B., Batavia.
Mitchell, Samuel, Hornellsville.
Moore, E. M., Rochester.
Morton, T. S. K., Honnedaga.
Moriata, D. C., Saratoga.
Morris, J. W., Jamestown.
Nichols, C. E., Troy.
Noxon, D. C., Bloomingburg.
Nutten, W. F., Newark.
O'Hare, Thos. A., Rochester.
Orton, J. G., Binghamton.
Osterhout, E. R., Trumansburg.
Palmer, C. N., Lockport.
Palmer, H. C., Utica.
Parkhill, C. S., Hornersville.
Parent, Jos. S., Birchton.
Parsons, John, Kings Bridge.
Payne, C. S., Liberty.
Porteous, J. L., Yonkers.
Preston, B. I., Rochester.
Pultz, M. T., Stanfordville.
Rabuck, S. H., Bloomville.
Ransom, J. B., Dannemora.
Redfield, Chas. I., Middletown.
Reese, F. D., Cortland.
Reid, Wm. B., Rome.
Richmond, C. H., Livonia.
Richards, C. H., Dunkirk.
Roe, J. O., Rochester.
Rogers, H. R., Dunkirk.
Rosseau, Z., Troy.
Sands, N. J., Port Chester.
Schmid, H. E., White Plains.
Scott, G. T., Davenport.
Seymour, W. W., Troy.
Sheffield, J. W., Binghamton.
Shulman, A., Arverne.
Small, J. W., North Tarrytown.
Smith, Homer Erastus, Norwich.
Smith, S., Skaneateles.
Spaulding, F. W., Clifton Springs.
Spratling, W. P., Sonyea.
Stanton, Wm., Varysburg.
Stearns, B. W., Long Eddy.
Stebbins, F. L., Geneva.
Still, D. W., Johnstown.
Stockwell, J. K., Oswego.
Stockschlneder, P., Rochester.
Stoner, G. W., Stapleton, S. I.
Stowe, Wm. H., Cross River.
Stubbert, J. E., Liberty.
Straight, A. B., Perry.
Strong, T. D., Westfield.
Strong, O. C., Colden.
Suiter, A. Walter, Herkimer.
Swan, W. E., Saratoga Springs.
Taylor, J. H., Holley.
Taylor, R. A., Otisville.
Tefft, Chas. B., Utica.
Thayer, C. C., Clifton Springs.
Theisen, C. F., Albany.
Thissell, J. A., Tupper Lake.
Townsend, M. W., Bergen.
Tozier, L. L., Batavia.
Tripp, C. H., Clinton Corners.
Vanderveer, A., Albany.
Van Ettan, C. S., Rhinebeck.
Von Hoevenberg, H., Kingston.
Varney, M. E., Saratoga Springs.
Wales, T. A., Elmira.
Walker, J. E., Hornellsville.
Ward, R. H., Troy.
Ward, John J., Ellenville.
Warner, J. W., Saratoga.
Watson, W. S., Fishkill on the Hudson.
Webster, W. B., Schuylerville.
Wenz, J., Lancaster.
West, C. B., East Onondaga.
Wiggins, H., Elbridge.
Wilson, Thos., Hudson.
Wilson, M. J., Warsaw.
Wilkin, J. H., Rushville.
Witter, G., H. Wellsville.
Williams, G. O., Greene.
Woodruff, E. H., Auburn.
Woodruff, R. A., Philmont.
Woodsworth, T. F., Kinderhook.
Zeh, M. J., Watervliet.

NORTH CAROLINA.

Adams, M. R., Statesville.
Ambler, C. P., Asheville.
Anderson, T. E., Statesville.
Bagwell, W. H., Greenville.
Battle, S. W., Asheville.
Brown, J. S., Salisbury.
Brown, G. A., Bear Poplar.
Burroughs, J. A., Asheville.
Cheeseborough, T. P., Asheville.
Cobb, H. H., Goldsboro.
Ellis, R. C., Shelby.
Fletcher, M. H., Asheville.
Gibbon, R. L., Charlotte.
Gill, R. J., Henderson.
Gladmon, E., Southern Pines.
Goelet, E. P., Saluda.
Glenn, E. B., Asheville.
Haight, T. D., Fayetteville.
Harris, F. R., Henderson.
Highsmith, J. F., Fayetteville.
Hilliard, W. D., Asheville.
Houck, A., Lenoir.
Hunter, L. W., Sardis.
Jones, Wm. J., Goldsboro.
Kernodle, J. L., Elon College.
Kirkpatrick, W. L., Crab Tree.
Laird, E. C., Hot Springs.
Long, G. W., Graham.
Lumsden, Wm. J., Elizabeth City.
Maxwell, C. S., Mt. Olive.
Meriwether, F. T., Asheville.
Minor, C. L., Asheville.
Morris, E. R., Asheville.
Munroe, J. P., Davidson.
Nisbet, W. O., Charlotte.
O'Hagan, C. J., Greenville.
Paquin, Paul, Asheville.
Parrott, J. M., Kinston.
Pearson, C. L., Asheville.
Peavy, J. F., Asheville.
Perry, T. B., Wilmington.
Prioleau, W. H., Highlands.
Reagan, J. A., Weaverville.
Reynolds, C. V., Asheville.
Royster, H. A., Raleigh.
Von Ruck, Karl, Asheville.
Sawyer, J., Asheville.
Stafford, W. G., Burlington.
Stringfield, T., Waynesville.
Walton, J. C., Reidsville.
Way, J. Howell, Waynesville.
Weaver, H. B., Asheville.
Williams, J. H., Asheville.

OHIO.

Adams, E. P., Cincinnati.
Agin, Charles Clinton, Cincinnati.
Alcorn, J. B., Gallipolis.
Alban, D. R., Ironton.
Albl, M. A., Cleveland.
Aldrich, D. B., Ashtabula.
Alexander, Wm. S., Oxford.
Alford, Judson, B., Grand Rapids.
Allard, L. D., Portsmouth.
Allen, S. E., Cincinnati.
Allen, Dudley P., Cleveland.
Allen, G. M., Cincinnati.
Alley, E. H., Toledo.
Alter, F. W., Toledo.
Alwood, R. R., Montpelier.
Anderson, J., Salem.
Anderson, Lewis C., Greenville.
Andre, O. C., Waverly.
Andrews, R., East Liverpool.
Archer, J. D., Holgate.
Armentrout, L. W., Mt. Vernon.
Arner, W. P., Fowler.
Arnold, Geo. B., Madisonville.
Arndt, H. W., Lore City.
Axline, J. D., Shawnee.
Axline, Chas. Z., Fultonham.
Ayres, S. C., Cincinnati.
Backus, L. C., Fayette.
Bain, F. D., Kenton.
Baker, A. R., Cleveland.
Baldwin, J. F., Columbus.
Ballinger, J. B., Webster.
Barrett, J. E., Wooster.
Barnhill, J. U., Columbus.
Barrere, D. M., Dayton.
Barnes, B. Frank, Hemlock.
Bates, Fred L., Lima.
Beardsley, C. E., Ottawa.
Bean, G., Rutland.
Bean, Lewis C., Gillopolis.
Beck, John S., Dayton.
Becker, B., Toledo.
Becker, W. H., North Industry.
Beebe, B. F., Cincinnati.
Beetham, A. C., Bellaire.
Beers, A. M., Newcomerstown.
Beery, G. O., Lancaster.
Beery, J. E., Columbus.
Beeson, H. A., Leesburg.
Begg, W. H., Columbus Grove.
Belt, W. A., Kenton.
Bennett, J. H., Youngstown.
Bennett, P. R., Urbana.
Bennett, W. C., Mt. Gilead.
Benner, C. T., Tiffin.
Berry, J. S., Peebles.
Bessey, J. M., Toledo.
Bettman, H. W., Cincinnati.
Biechele, Robert A., Canton.
Bigham, J. G., Millersburg.
Binder, Albert, Ottoville.
Bird, Edward A., Dupont.
Birchard, A. D., Cincinnati.
Bishop, S. P., Delta.
Blankenhorn, H., Orrville.
Blackburn, A. M., Steubenville.
Blair, B. H., Lebanon.
Blake, F. W., Columbus.
Bliss, H. C., Cleveland.
Bodman, L. H., Toledo.
Boerstler, G. W., Lancaster.
Boggess, E. M., Washington C.H.
Bohl, J. Sr., Watertown.
Bohl, Jacob, Marietta.
Bonifield, Chas. L., Cincinnati.
Bonner, H., Dayton.
Bonner, C. A., Dayton.
Bonnet, A. O., Columbus.
Booth, C. C., Youngstown.
Bowen, Arthur Hosmer, Columbus.
Boyd, J. P., Akron.
Bramble, D. D., Cincinnati.
Brant, A. C., Canton.
Brant, E. D., Canton.
Brent, C. P., Cincinnati.
Briggs, Eldorado, Wilmington.
Brigham, O. S., Toledo.
Brockett, A. J., Cleveland.
Brown, J. E., Columbus.
Brown, J. A., Germantown.
Brown, Wm. G., Lewisburg.
Bruner, Wm. Evans, Cleveland.
Brunning, F., Cincinnati.
Brundage, A. H., Xenia.
Bruhl, G., Cincinnati.
Brush, E. C., Zanesville.
Buckner, James H., Cincinnati.
Buechner, W. L., Youngstown.
Bunts, F. E., Cleveland.
Bundy, D. B. Jr., Middletown.
Bunce, Wm. C., Oberlin.
Bunn, J. W., West Union.
Burke, T. A., Cleveland.
Burrows, S. S., Geneva.
Burns, Katherine, Canton.
Burton, E. G., Lima.
Buttemiller, J. C., Cincinnati.
Byall, H. M., Montpelier.
Cable, T. B., Pemberton.
Caldwell, C. E., Cincinnati.
Caldwell, J. S., Cincinnati.
Campbell, O. B., Cleveland.
Campbell, Elizabeth, Cincinnati.
Carnes, W. S., Pierce.
Carnes, U. M., Canton.
Carmichael, W. A., Loveland.
Carpenter, Julia W., Cincinnati.
Carpenter, E. G., Columbus.
Carter, J. L., West Carrollton.
Cartwright, J. W., Payne.
Case, C. E., Ashtabula.
Case, Freeman D., Ashtabula.
Castle, C. H., Cincinnati.
Caywood, J. Robert, Lockington.
Chadwick, L. S., Cleveland.
Chapman, Lee Jackson, Columbus.
Chapman, W. C., Toledo.
Chapman, Byron, Copley.
Chamberlin, C. S., Kinsman.
Chisholm, H., Marion.
Clark, M. S., Youngstown.
Clark, J. F., Toledo.
Clark, J. A., Glencoe.
Clark, C. F., Columbus.
Clay, W. P., Mendon.
Cleaver, Jos. V., Akron.
Cleveland, John L., Cincinnati.
Clouse, G. M., Columbus.
Coates, B. O., Cleveland.
Cobb, F. A., Toledo.
Cochrass, J. L., Ironton.
Cogan, J. E., Cleveland.
Cole, C. C., Bridgeport.
Cole, W. N., Columbus.
Cole, Alfred P., Ironton.
Cole, C. B., Grand Rapids.
Coleman N R., Columbus.
Coleman, J. A., Toledo.
Coleman, W., Troy.
Collins, B. F., Youngstown.
Collins, Milton H., South Charleston.
Collins, E. F., Mt. Sterling.
Collamare, G. A., Toledo.
Colton, J. G., Cleveland.
Colville, Robt. W., Mt. Vernon.
Conklin, Samuel A., Canton.
Conrad, G. R., New Vienna.
Cone, J. E., Youngstown.
Conner, P. S., Cincinnati.
Conklin, W. J., Dayton.
Cook, J. E., Cleveland.
Cook, G. F., Oxford.
Cook, A. F., Sandusky.
Cook, A. J., Cleveland.
Cook, L. E., Cincinnati.
Cook, R. Harvey, Oxford.
Cooper, A., Columbus.
Cooperrider, C. A., Columbus.
Cope, E. C., Barton.
Corson, O. M., Middletown.
Cori, H. E., Middle Branch.
Corlett, W. T., Cleveland.
Cosgrove, T. M., Toledo.
Costolo, J. W., Sidney.
Cotton, J. D., Marietta.
Cotton, D. B., Portsmouth.
Courtright, G. S., Lithopolis.
Courtright, D. V., Circleville.
Cowan, F., Ashland.
Cozad, Henry Irving, Akron.
Crane, A. M., Marion.
Crane, W. H., Cincinnati.
Crane, C. A., Canton.

Crile, Geo. W., Cleveland.
Cromer, P. E., Piqua.
Crooks, R. L., Convoy.
Culbertson, J. C., Cincinnati.
Culler, J. F., Lucas.
Cullen, G. J., Cincinnati.
Dale, J. E., Yellow Springs.
Dandridge, N. P., Cincinnati.
Darby, F. H., Columbus.
Davis, J. L., Cincinnati.
Davis, J. I., Shawnee.
Davis, C. W., Cincinnnati.
Davidson, J. F., North Amherst.
Davidson, N. P., Hilliard.
Davenport, A. B., Columbus.
Davisson, J. A., Dayton.
Davy, J. O., Springfield.
Day, H. M., Pandora.
Death, H. J., Franklin.
Denison, J. M., Blatchford.
Denman, W. C., Marion.
Deuschle, Wm. D., Columbus.
De Vilbiss, E., Toledo.
DeWitt, J P., Canton.
DeWitt, Wm. H., Cincinnati.
Dick, W. L., Columbus.
Dickes, Philip, Greenville.
Dickey, T. A., Middletown.
Dickey, W. A., Toledo.
Dine, C. L., Minster.
Dissinger, H., Canal Fulton.
Diven, A. W., Martins Ferry.
Dixon, M. T., Columbus.
Dorman, H. W., Harbor.
Dotterweich, F. V., Ashland.
Duncan, A. M., Bucyrus.
Duncan, J. A., Toledo.
Dunham, J. M., Columbus.
Dunham, Wm. H., Cincinnati.
Dunn, O. B., Ironton.
Dutton, C. F., Cleveland.
Eakins, Jehu, Patriot.
Early, L. M., Columbus.
Eddy, Chas. W., Marietta.
Eddy, Isaac P., Newport.
Edmiston, W. E., Columbus.
Eichberg, Joseph, Cincinnati.
Elliott, James T., East Liverpool
Ely, J. D., Toledo.
Emerick, E. J., Columbus.
Entriken, F. B., Findlay.
Erwin, M. B., Gibsonburg.
Erwin, A. J., Mansfield.
Evans, A. E., Columbus.
Evans, G. B., Dayton.
Evans, O., Franklin.
Everhard, N. S., Wadsworth.
Everts, O., College Hill.
Eyman, H. C., Massillon.
Faber, C. A., Toledo.
Fackler, G. A., Cincinnati.
Fausett, R. C., Geneva.
Fauster, J. U., Archibald.
Feil, G. R., Cleveland.
Ferguson, J. W., West Salem.
Finch, R. W., Defiance.
Finley, W. H., Xenia.
Firestone, W. W., Wooster.
Fisher, H., Lebanon.
Fitzpatrick, T. V., Cincinnati.
Fletcher, M. H., Cincinnati.
Floyd, J. C. M., Steubenville.
Focht, Wm. H., Tiffin.
Foltz, T. H., Lima.
Foshay, P. M., Cleveland.
Foster, G. F., Kingston Center.
Foster, E. M., Portsmouth.
Fowler S. W., Delaware.
Fox, J. F., New Philadelphia.
Fox, C. L., Kingsville.
Francis, Albert W., Ripley.
Frail, N. I., Cincinnati.
Fraunfelter, J., Canton.
French, J. M., Cincinnati.
Freiberg, A. H., Cincinnati.
Friedman, I., Cleveland.
Friedander, A., Cincinnati.
Gable, W. F., Columbus.
Gaither, A., Cincinnati.
Gale, G. T., Newport.
Gallagher, J. V. Cleveland.
Gardner, D. S., Massillon.
Gardner, G. E., Doylestown.
Gardiner, W. G., Toledo.
Gardiner, A. M., Toledo.
Gaugler, R. S., Dayton.
Gehrette, T. M., Deshler.
Gentsch, C., Cleveland.
Geyer, H. R., Zanesville.
Gibbon, H. B., Tiffin.
Gibson, R. D., Youngstown.
Gifford, W. R., Toledo.
Gillette, W. J., Toledo.
Gilfillan, A., Russellville.
Gilliam, David Tod, Columbus.
Glenn, W. W., Hillsboro.
Goebel, Anna M., Lima.
Goode, B. P., Cincinnati.
Goodhue, G., Dayton.
Gorden, P. A., Junction City.
Gores, F. C., Cincinnati.
Goss, C. W., Lancaster.
Graefe, C., Sandusky.
Grant, J. G., Akron .
Gray, F. C., Dayton.
Gregg, Melvin, Knoxville.
Greene, L. M., Wilmington.
Greenamyer, P. S., Orville.
Groves, J. E., Uhrichsville.
Grosh, Lawrence C., Toledo.
Grosvenor, A. W., Piqua.
Gutermuth, W. C., Versailles.
Hahn, H. H., Youngstown.
Haine, W. J., West Farmington.
Haines, W. D., Cincinnati.
Halderman, S. S., Portsmouth.
Hall, Clayton T., Mason.
Hall, R. B., Cincinnati.
Hall, W. A., Chillicothe.
Hall, Joe A., Cincinnati.
Hamanu, C. A., Cleveland.
Hamilton, W. D., Columbus.
Hamilton, C. S., Columbus.
Hamer, W. W., Bellefontaine.
Hanley, Joseph M., Chillicothe.
Haney, J. Coleman, Dalton.
Hane, C. L., Florida.
Hanna, C. U., Zanesville.
Hanuum, E. S., Mantua.
Hardy, Neal, Overton.
Hartmann, G. W., Wauseon.
Hart, B. F., Marietta.
Hardy, Irene, Massillon.
Hart, Samuel, Marietta.
Hart, H. A., Wooster.
Hartinger, D. S., Middleport.
Harris, W. C., Cincinnati.
Harris, J. M., Yellow Springs.
Harrison. E. B., Napoleon.
Harmon, Julian, Warren.
Hasencamp, Oscar, Toledo.
Hathaway, H., Toledo.
Hatch, C. A., Newark.
Hatton Edgar M., Columbus.
Hattery, J. E., Celina.
Havlicek, F. J., Cleveland.
Hawley, W. H., College Corner.
Hahn, Enos, Leetonia.
Hayes, J. D., Somerset.
Heady, Jas. F., Glendale.
Heaton, C. A., McCulchenville.
Hecker, E. A., New Madison.
Heckler, Frank A., Columbus.
Hedges. J. S., Mansfield.
Hedges, W. B., Delaware.
Heffner, G. W., Circleville.
Heidingsfeld, M. L., Cincinnati.
Heise, O. N., Cincinnati.
Held, Chas. E., Akron.
Hellman, F. F., Cincinnati.
Hendley, F. W., Cincinnati.
Hendrixson, H., Columbus.
Henderson, D. W., Marysville.
Hendrixson, O. P., Yellow Springs.
Hendrixon, Ola S., Columbus.
Henderson, R., Urbana.
Henry, R. H., Columbus.
Henry, A. G., North Baltimore.
Herr, A. W., Cleveland.
Herrick, H. J., Cleveland.
Herrick, H. B., Cleveland.
Hersh, E. J., McComb.
Herbst, Edward, Columbus.
Heston, Joseph Z., Amesville.
Heston, E. N., Thurston.
Hickey, Wm. H., Leipsic.
Hiestand, E. B., Kenton.
Higgins, C. H., Sonora.
Higbie, J. L., Jenera.
Hill, E. W., Sitka.
Hill, A. J., Minerva.
Hillkowitz, W., Cincinnati.
Hiner, S. B., Lima.
Hitchcock, Salathial A., Elida.
Hixson, Manford M., Continental
Hobart, J. P., Cincinnati.
Hobson, J. F., Cleveland.
Hoeltge, A., Cincinnati.
Hoff, J. W., Pomeroy.
Holliday, Wm. Wallace, Cleveland.
Holliday, B. W., Cleveland.
Hollister, G. A., Toledo.
Holston, J. G. F., Zanesville.
Holmes, C. R., Cincinnati.
Holmes, A. F., Lee.
Holt, O. P., Cincinnati.
Holman, A. W., Circleville.
Holdren, G. W., Bloomingburg.
Holcombe, C. B., Corning.
Hoover, T. C., Columbus.
Hoover, C. F., Cleveland.
Hoover, L. S., Laura.
Hoppe, H. H., Cincinnati.
Hosick, W. A., Cleveland.
Hough, W. S., Cuyahoga Falls.
Hough, C. A., Lebanon.
Hous, A. F., Cleveland.
Hous, G. W., Clayton.
House, L. F., Sinking Spring.
Howells, J. O., Bridgeport.
Howard, A. B., Cuyahoga Falls.
Howell, J. M., Dayton.
Hubbard, T., Toledo.
Hudson, J. F., Canton.
Huth, Frank C., Woodsfield.
Huffman, D. C., National Military Home.
Hughes, D. E., Delaware.
Hughes, D. C., Findlay.
Hughes, E. E., Oak Hill.
Hughey, J. W., Washington C. H.
Hulin, O. W., Greenford.
Hulick, J. W., Springfield.
Humphrey, W. H., Yellow Springs.
Humiston, W. H., Cleveland.
Hunt, A. H., Wooster.
Hurd, F. H., Dexter City.
Huyck, Emory B., Oak Harbor.
Hyde, Albert F., Shelby.
Hyde, W. H., Cleveland.
Hyndman, J. G., Cincinnati.
Ikirt, G. P., East Liverpool.
Jacobson, J. H., Toledo.
Jacobs, W. C., Akron.
Jameson, Geo. C., Oberlin.
Jamison, John Ross., Apple Creek
Jennings, G., West Milton.
Jenner, H. G., Dayton.
Jewett, H. S., Dayton.
Jewett, Geo. F., West Jefferson.
Johnson, F. L., Worthington.
Johnson, J. A., Cincinnati.
Johnstone, Alice M., Columbus.
Johnstone, A. W., Cincinnati.
Jones, I. D., Cincinnati.
Jones, Frank S., Medina.
Jones, R. E., Comer.
Jones, J. D., Cleveland.
Jones, D. J., Girard.
Judkins, W., Cincinnati.
Judkins, C. P., Cincinnati.
Junkerman, G. S., Cincinnati.
Judy, C. S., Miamasburg.
Kaestlen, S. E., Cleveland.
Kahle, R. E., Lima.
Kahler, J. F., Canton.
Kahn, Louis, Columbus.
Kefauver. C. A., Stoutsville.
Keller, T. F., Tiffin.
Keller, Lester, Ironton.
Kelley, S. W., Cleveland.
Kemp, Lucia, Bucyrus.
Kendig, E. V., Hayesville.
Kendig, W. C., Carthage.
Kent, F. M., Spring Valley.
Kerns, J. T. W., Bellaire.
Kiester, W. H., Arcanum.
King, E. Y., Richwood.
Kinnaman, Robert C., Ashland.
Kinsman, D. N., Columbus.
Kirkley, C. A., Toledo.
Kirkpatrick, O. B., Cherry Fork.
Knapp, Charles C., Zanesville.
Knight, Wm., Cincinnati.
Knight, A. L., Madisonville.
Knowlton, W. A., Cleveland.
Koehler, Max, Cincinnati.
Kofron, Joseph Vaclav, Cleveland.
Krauss, L. S., West Carrollton.
Kreider, C. L., Monroeville.
Krieger, G. L., Madisonville.
Lambert, O. A., Marietta.
Lambright, S., Lees Creek.
Landon, C. P., Westerville.
Landman, Otto, Toledo.
Larimore, F. C., Mt. Vernon.
Larkin, J. C., Hillsboro.
Lash, J. W., Chillicothe.
Lathrop, A. B., Swanton.
Latimer, J. P., Newark.
Latta, Allen F., Graysville.
Laudick, L. F., Lima.
Lawrence, Florus F., Columbus.
Lawless, J. F., Toledo.
Le Barre, J. H., Pavonia.
Leahy, M., Tiffin.
Leatherman, Frank P., Outville.
Lee, H. J., Cleveland.
Lehman, C. W., Eaton.
Lenhart, W. C., Columbus.
Linhart, Christopher P., Columbus.
Lenhart, P. J., Wauseon.
Lenhart, C. M., Zanesville.
Leonard, W. W., Akron.
Leonard, B. S., West Liberty.
Lerch, A. V., Pleasantville.
Leslie, J. M., Chillicothe.
Lewis, W. E., Cincinnati.
Lewis, Willis G., Rushville.
Lewis, Wm. C., Rushville.
Lewis, J. M., Cleveland.
Lewis, Robt. C. M., Marion.
Lichty, Milton J., Alliance.
Light, Frank, Ottawa.
Lightner, S. B., Sabina.
Lindsay, J. A., Salineville.
Lippitt, B. F., Columbus.
Lisle, John M., Columbus.
Long, John W., Bryan.
Longsworth, M. J., St. Marys.
Loney, W. Bruce, West Union.
Lorimer, Hugh F., Fair Haven.
Lottridge, W. M., Portsmouth.
Loughridge, W. E., Mansfield.
Loving, Starling, Columbus.
Love, M. T., Shelby.
Lowe, J. W., Mentor.
Lower, J. D., Bakersville.
Lower, W. E., Cleveland.
Lowry, J. W., Ironton.
Loyer, A. E., New Washington.
Lucas, A. O., New Washington.
Lyman, C. N., Wadsworth.
Lyle, B. F., Cincinnati.
McArthur, J. A., Mansfield.
McBride, D. W., Rainsboro.
McBurney, E., Jackson Center.
McCassey, J. H., Dayton.
McClellan, B. R., Xenia.
McClain, Jesse, Coshocton.
McClung, J. C., Leipsic.
McCurdy, John, Youngstown.
McCollum, E. J., Tiffin.
McCollum, J. O., Uhrichville.
McCoy, C. D., Kenton.
McCullough, J. A., Steubenville.
McCormick, G. D., Wamsley.
McClure, James Albert, Columbus
McCreary, Henry. New Concord.
McCullough, A. H., Mansfield.
McDougall, C. S., Athens.
McDougal, John G., New Lexington.
McGee, J. B., Cleveland.
McGlen, J. Averill, Mt. Pleasant.
McKim, Frank E., Marietta.
McKee, E. S., Cincinnati.
McMurray, A. B., Marion.
McOscar, J. R., Waterville.
Macready, Jas., Monroe.
Maerker, A. E. H., Napoleon.
Magers, Charles F., Tiffin.
Magruder, J. J., Columbus.
Malsbary, G. E., Cincinnati.
Martin, J. C., Findlay.
Martin, G. E., Anna.
Martin, T. C., Cleveland.
Markley, Lee, Georgetown.
Marsh, M. I., Cedarville.
Marshall, Geo. M., Columbus.
Marshall, D. M., Toledo.
Marquart, O. M., Osborn.
Martin, Franz S., Napoleon.
March, Edgar J., Canton.
Marchand. J. F., Canton.
Mathews, David J., Zanesville.
Mattoon, F. N., Plain City.
May, John B., New Holland.
Means, W. J., Columbus.
Means, C. S., Columbus.
Melick, W. A., Zanesville.
Merriman, M. B., Centerburg.
Meyers, C. H., Cincinnati.
Miles, F. T., Salem.
Millikin, M., Hamilton.
Millikin, B. S., Cleveland.
Miller, J. F., Port Jefferson.
Miller, M. F., Wadsworth.
Miller, Wm., Vinton.
Miller, N. C., Fostoria.
Miller, D. H., Newark.
Mills, Chas. H., Toledo.
Mills, J. T., Columbus.
Mills, D. C., New Lebanon.
Miner, A. G., Warren.
Minor, C. L., Springfield.
Mitchell, E. W., Cincinnati.
Mitchell, Giles S., Cincinnati.
Mitchell, Geo., Mansfield.
Moloney, L. A., Cincinnati.
Monosmith, O. B., Lorain.
Moninger, James H., Columbus.
Moody, M. M., Chatham.
Moore, Virgil Owen, Toledo.
Moore, C. A., Cambridge.
Moore, Wm., Lisbon.
Moore, D. L., Columbus.
Moore, T. M., Willoughby.
Moots C. W. Delphos.
Morris Frank, Columbus Grove.
Morrow, E. O., Canton.
Morrow, Edw. P., Canton.
Morehouse, G. W., Sparta.
Moss, W. F., Maineville.
Mosgrove, J. M., Urbana.
Mount, J. L., Morrow.
Morgan, J. F., Jackson.
Moxley, N. K., Ironton.
Mullen, Thos. J., New Richmond.
Mundhenk, L. R., West Alexandria.
Mundhenk, W. S., Brookville.
Murray, L. S., Medina.
Murphy, J. W., Cincinnati.
Murbach, A. J., Archibald.

Myers, J. A., Shelby.
Myers, J. E., Springfield.
Myers, N., Springfield.
Myers, Elmer G., Canton.
Nash, W. H. H., Columbus.
Neville, W. L., Roundhead.
Nell, A., Columbus.
Nelson, H. W., Steubenville.
Nessley, G. B., Grove City.
Nincehelser, O. A., Mechanicsburg.
Noble, H. E., Toledo.
Norrick, J. H., Fredericktown.
Norris, T. B., Alton.
Norris, C. E., Akron.
Nungesser, J. J., Cleveland.
Ohlmacher, A. P., Gallipolis.
Oliver, J. C., Cincinnati.
Olmstead, D. S., Millersburg.
Orr, G. B., Cincinnati.
Orton, J. J., Randolph.
Oster, L. W., Cleveland.
Page, H. M., Hiram.
Pankake, I., Frankfort.
Parker, C. B., Cleveland.
Parker, E. W., Gallipolis.
Parrish, H., Youngstown.
Paulin, N. O., Cleveland.
Pearce, Henry M., Urbana.
Pearce. E., Steubenville.
Peck, G. S., Youngstown.
Pedigo, S. E. G., Marshfield.
Pennell, W. W., Fredericktown.
Peskind, Arnold, Cleveland.
Petitt, R. R., Dayton.
Philips, W. S., Belle Centre.
Pierce, R. L., Columbus.
Platter, H. M., Columbus.
Pontius, Maria G., Canton.
Pontius, C. R., Fremont.
Poole, A. C., Cincinnati.
Potter, S. B., Fredericktown.
Powell, H. H., Cleveland.
Powell, W. S., Defiance.
Pratt, L. C., Bellefontaine.
Pressey, A. J., Cleveland.
Price, W. A., Cleveland.
Pritchard, L. W., Ravenna.
Probst, C. O., Columbus.
Pumphrey, Rezin J., Massillon.
Quinn, Allen T., Wilmington.
Quirk, H. W., Cleveland.
Rabe, J. W., Akron.
Rambo, C. M., Zanesville.
Ramsey, Wm. T., Cambridge.
Ranchous, Walter E. M., Columbus.
Rannells, D. A., Logan.
Ransohoff, J., Cincinnati.
Rardin, J. S., Portsmouth.
Ravogli, Aug., Cincinnati.
Ray, James B., Omega.
Resmy, Thad A., Stockton.
Read, J. M., Springfield.
Reason, J. W., Hilliards.
Reed, C. A. L., Cincinnati.
Reed, C. H., Toledo.
Reed, T. J., Massillon.
Reeve, J. C. Jr., Dayton.
Reinfrank, J. H., Perrysburg.
Reinhart, J. C., Toledo.
Reynolds, J. J., Defiance.
Rhodenbaugh, N. F., Barberton.
Rhu, Auguste, Marion.
Richards, G. H. C., Cincinnati.
Richardson, A. B., Massillon.
Ricketts, E. S., Cincinnati.
Ricketts, B. M., Cincinnati.
Rice, Robert H., Fremont.
Riggs, J. U., Bryan.
Riley, J. A., Cleveland.
Robb, H., Cleveland.
Robbins, G. E., Chillicothe.
Rodges, J. H., Springfield.
Rogers, Wm. K., Columbus.
Rohrs, Henry F., Napoleon.
Root, H. A., Toledo.
Rosenwasser, M., Cleveland.
Rosengrant, T. S., Barnesville.
Ross, C. C., Columbus.
Rousch, L. F., Pomeroy.
Ruedy, Robt. E., Columbus.
Russell, G. C., Cleveland.
Russell, J. E., Mt. Vernon.
Rush, A. W., Greenville.
Sabin, T. M., Warren.
Saflin, W., Carthage.
Sager, Joseph, Celina.
Salisbury, C. W., Dayton.
Samson, W. Stanley, Lancaster.
Sanz, G., Dayton.
Sattler, E. E., Cincinnati.
Sawyer, John P., Cleveland.
Schneller, Erwin W., Columbus.
Schooley, L., Belmont.
Scheibenzuber, D. A., Dayton.
Schrote, Jas. L., Vanlue.
Scott, B. B., Mt. Vernon.
Scott, N. S., Cleveland.
Scott, X. C., Cleveland.
Seidel, R. R., Bedford.
Sewell, S. G., Greenville.
Shaw, W. E., Cincinnati.
Shannon, R. M., Piqua.
Sharp, B. M., Sidney.
Sharp, W. J., Toledo.
Sharp, Henry J., London.
Sherman, H. G., Cleveland.
Sheldon, S. B., Five Mile.
Shelton, H. P., Georgetown.
Sherrick, Abram L., Ashland.
Shie, David P., Fredericksburg.
Shriner, P. D., Columbus.
Shrieves, Elizabeth, Wilmington.
Siegelstein, L. E., Cleveland.
Silbaugh, W. H., Ashville.
Sill, E. C., Hamilton.
Silver, D. R., Sidney.
Silbaugh, J. J., Lancaster.
Sipher, J. N., Cleveland.
Sisson, David, Middleport.
Slager, J. L., Paulding.
Slocum, C. E., Defiance.
Smallwood, Francis M., Chillicothe.
Smead, H. E., Toledo.
Smith, C. W., Cleveland.
Smith, H. A., Cincinnati.
Smith, E. O., Cincinnati.
Smith, F. K., Warren.
Smith, J. T., Collinwood.
Smith, W. G., Ravenna.
Smith, J. M., New Philadelphia.
Smith, Anna Groff, Toledo.
Smith, J. R., Cleveland.
Snodgrass, J., Kenton.
Snook, C. W., Clarksville.
Snyder, Chas., London.
Snyder, W. H., Toledo.
Snyder, D. J., Columbus.
Souders, S., Dean.
Southard, J. Q., Marysville.
Spahr, D. E., Clifton.
Spencer, E. R., Doylestown.
Spenzer, J. G., Cleveland.
Spurney, A. F., Cleveland.
Stamm, M., Fremont.
St. John, C. S., Bowling Green.
Stanley, E., Sandusky.
Stanton, Byron, Cincinnati.
Stark, S., Cincinnati.
Starr, Geo. L., Hudson.
Staub, G. S., Dayton.
Steele, Robt. G., Melmore.
Stevens, M. B., Defiance.
Stevens, J. L., Mansfield.
Stevenson, G. W., Cleveland.
Stevenson, Titus, Cherry Fork.
Steiner, D. W., Lima.
Stephenson, Y., Georgetown.
Stevenson, M. D., Akron.
Stewart, R. W., Cincinnati.
Stewart, T. H., Church Hill.
Stitt, John J., Rising Sun.
Stillman, F. L., Columbus.
Stimson, C. H., Newark.
Stockton, Geo., Columbus.
Storey, Wm., Castalia.
Straight, H. S., Cleveland.
Strain, A. J., London.
Stricker, L., Cincinnati.
Stueber, F. G., Lima.
Sulzer, Gustavus A., Portsmouth.
Swift, E. F., Pomeroy.
Taft, J., Cincinnati.
Tangeman, C. W., Cincinnati.
Tate, M. A., Cincinnati.
Tauber, B., Cincinnati.
Taylor, Jas. L., Wheelersburg.
Taylor, Wm. H., Cincinnati.
Taylor, C. M., Columbus.
Taylor, F. C., Cleveland.
Taylor, J. B., Broadway.
Taylor, Van Deveer, Cincinnati.
Thacker, L. G., Defiance.
Thomas, Bert E., St. Marys.
Thomas, B. A., Rushville.
Thomas, J. L., Columbus.
Thomas, G. F., Peebles.
Thompson, W. R., Troy.
Thompson, F. E., Marengo.
Thompson, C. A., Raymond.
Thompson, Chas. E., Urbana.
Thorne, S. S., Toledo.
Thrasher, A. B., Cincinnati.
Timberman, A., Columbus.
Titlow, B. D., Springfield.
Tobey, H. A., Toledo.
Todd, J. H., Wooster.
Todd, W. H., Columbus.
Torrence, J. E., Oxford.
Tower, B. M., Conneaut.
Tracy, J. L., Toledo.
Trimble, C. E., Crestline.
Trimble, R. T., New Vienna.
Trout, Julia F., Lancaster.
Trush, J., Cincinnati.
Tuckerman, L. B., Cleveland.
Turney, C. F., Columbus.
Twitchell, G. B., Cincinnati.
Tydings, O., Piqua.
Tyler, Geo. P., Ripley.
Tyrrell, Esther M., Canton.
Underwood, Edward S., Akron.
Upham, John H. J., Columbus.
Vail, J. B., Lima.
Vail, D. T., Cincinnati.
Vance, Allen H., Springfield.
Vandervoort, J. W., Harveysburg.
Van Fossen, J. A., Columbus.
Van Note, W. B., Lima.
Van Pelt, C. L., Toledo.
Van Winkle, N. B., Blanchester.
Van Winkle, J. Alvin, Bourneville.
Vorhes, B. C., Albany.
Waggoner, Geo. J., Ravenna.
Waite, Jas. E., Lodi.
Walker, Edw. W., Cincinnati.
Walker, A. B., Canton.
Walker, Della M., Salem.
Walker, W. O., Cincinnati.
Walter, O., Bethany.
Wallace, Abram H., Avondale.
Wanzer, C. M., Zanesfield.
Ward, W. A., Conneaut.
Wardlow, Y., Columbus.
Warner, Frank, Columbus.
Warner, O. J., Wooster.
Waters, G. M., Columbus.
Weaver, J. M., Dayton.
Weber, W. C., Cleveland.
Weeks, O. W., Marion.
Weitz, J. A., Montpelier.
Wellons, J. W., Barnesville.
Welty, C. F., Cleveland.
Wendel, H. C., Cincinnati.
Wenning, Wm. H., Cincinnati.
West, J. P., Bellaire.
Westbrook, A. E., Ashley.
Westrick, J. D., Defiance.
Wetherill, I. R., Bluffton.
Whitacre, Horace J,. Cincinnati.
Whitacre, Henry W., Columbus.
Whitehead, Howard, Columbus.
Whittington, R. H., West.
Wickerham, James O., Youngsville.
Wilcox, S. S., Columbus.
Willard, G. P., Tiffin.
Wilbur, A. M., West Unity.
Wilkins, J. A., Delta.
Williams, B. O., Martin's Ferry.
Williams, Thomas B., Cleveland.
Williamson, A. M., Dayton.
Williams, C. C., Niles.
Williams, W. E., Jackson.
Wilson, A. C., Youngstown.
Wilson, DeWitt C., Ironton.
Wilson, Edward J., Columbus.
Wilson, Edwin F., Columbus.
Wilson, Sam S., Xenia.
Winders, F., Columbus.
Winn, J. J., Norwood.
Wintermute, G. J. C., Celina.
Wire, G. W., Wilmington.
Wirt, Wm. H., Cleveland.
Wirt, W. H., Londonville.
Wise, S. P., Millersburg.
Wiseman, J. S. Beaver.
Wissinger, T. K., Columbus.
Withrow, John M., Cincinnati.
Woessner, N. E., Huron.
Wolfe, A. C., Columbus.
Wolfstein, D. I., Cincinnati.
Woods, E., Toledo.
Woodruff, L., Columbus.
Woodward, W. R., Cincinnati.
Woodworth, W. H., Delaware
Workman, J. C., Uniontown.
Wren, W. G., Columbus.
Wright, J. W., Columbus.
Wright, S. J., Akron.
Wright, T. M., Troy.
Wright, J. H., New Lexington.
Wright, J. B., Convoy.
Wright, J. A., Toledo.
Youmans, T. G., Columbus.
Young, J. P., Empire.
Zenner, P., Cincinnati.
Zimmerman, H., Youngstown.
Zinke, E. G., Cincinnati.
Zopfi, W. J., Findlay.

OKLAHOMA TERRITORY.

Arnold, C. D., El Reno.
Bacon, J. E., Enid.
Bobs, C. S., Norman.
Capshaw, M. T. J., Norman.
Collelmo, U. A. D., Watonga.
Ezell, W. D., New Kirk.
Fagaines, H. M., Chandler.
Hamilton, B. F., Shawnee.
Harriman, B. F., Chandler.
Hues, C. P., Choctaw.
McKeeby, G. E., Guthrie.
McMurtry, Milton, Oklahoma City.
Michael, L. F., Ponca City.
Morton, G., Oklahoma City.
Nisbett, B. F., Eason.
Perisho, J. A., Luther.
Reilly, L. A., Oklahoma City.
Rolater, J. B., Oklahoma City.
Shoemaker, F., Ft. Sill.
Smith, L. T., Lexington.
Stone, I. G., Kingfisher.
Thacker, R. E., Lexington.
Wallace, J. S., Hawley.

OREGON.

Amos, W. F., Portland.
Anderson, E. M., Sumpter.
Bailey, F. A., Hillsboro.
Beckman, O. H., Astoria.
Belknap, V. C., Prairie City.
Binswanger, O. S., Portland.
Boys, Wm., Portland.
Brosius, F. C., Hood River.
Byrd, W. H., Salem.
Coe, H. W., Portland.
Cornelius, C. W., Portland.
Connell, E. DeWitt, Portland.
Crockett, E. W., Portland.
Doane, O. D., The Dalles.
Dodson, O. M., Baker City.
Ebert, R. G., Portland.
Fell, J. H., John Day.
Fenton, J. D., Portland.
Geary, E. P., Portland.
Geisendorfer, J. A., The Dalles.
Hall, C. H., Salem.
Higgs, A. K., Long Creek.
Hines, Chas., Portland.
Hollister, O. C., Portland.
Humphrey, T. C., Portland.
Jefferson, G. O., Portland.
Kirkpatrick, M., Portland.
Koehler, G. F., Portland.
Linklater, S. T., Hillsboro.
Logan, H., The Dalles.
McDaniel, E. B., Baker City.
MacKinzie, A. D., Portland.
Molliher, N., La Grande.
Maston, G. W., Albany.
McCormac, J. T., Marshfield.
Mackenzie, A. D., Portland.
Miracle, W. T., Richland.
Moore, A. W., Portland.
Moore, J. S., Grants Pass.
Maxwell, W. E., Portland.
Marsden, W. L., Barns.
Parson, J. S., Ashland.
Pickel, Elijah B., Medford.
Rand, D. H., Portland.
Robertson, C. H., Salem.
Rockey, A. E., Portland.
Smith, C. J., Pendleton,
Smith, A. C., Portland.
Stott, John S., Gervais.
Strong, Curtis, Portland.
Tower, C. W., Marshfield.
Wait, J. B., Medford.
Wall, Geo., Cottage Grove.
Whitney-Cardwell, Mae H., Portland.

PENNSYLVANIA.

Philadelphia.

Abbott, A. C., Philadelphia.
Adams, Jeannie S., Philadelphia.
Adler, L. H. Jr., Philadelphia.
Allis, O. H., Philadelphia.
Allen, M. E., Philadelphia.
Allyn, H. B., Philadelphia.
Anders, H. S., Philadelphia.
Anders, J. M., Philadelphia.
Angney, W. M., Philadelphia.
Appledorn, E. F., Philadelphia.
Ash, H. St. Clair, Philadelphia.
Ashhurst, J., Jr., Philadelphia.
Ashton, T. G., Philadelphia.
Ashton, W. Easterly, Phila.
Atkinson, W. B., Philadelphia.
Baer, B. F., Philadelphia.
Baker, Geo. Fales, Philadelphia.
Baldy, J. M., Philadelphia.
Baldwin, Kate W., Philadelphia.
Balliet, T. M., Philadelphia.
Banes, S. I., Philadelphia.
Barton, J. M., Philadelphia.
Barker, T. R., Philadelphia.
Bauer, Chas., Philadelphia.
Baxter, H. F., Philadelphia.
Beates, H., Jr., Philadelphia.
Belber, M. M., Philadelphia.
Bemis, R. W., Philadelphia.
Benner, H. D., Philadelphia.
Bennett, W. H., Philadelphia.
Bernardy, E. P., Philadelphia.
Bernheim, A., Philadelphia.
Bergey, D. H., Philadelphia.
Berens, B., Philadelphia.
Bloom, H. C., Philadelphia.
Bochroch, M. H., Philadelphia.
Bodamer, Geo. A., Philadelphia.
Boger, J. A., Philadelphia.
Boston, L. N., Philadelphia.
Bowen, C. L., Philadelphia.

Boyd, G. M., Philadelphia.
Brady, F., Philadelphia.
Bradford, T. H., Philadelphia.
Bready, C. R., Philadelphia.
Brick, J. C., Philadelphia.
Brinton, J. H., Philadelphia.
Brinkmann, L., Philadelphia.
Brown, J. M., Philadelphia.
Burke, J. J., Philadelphia.
Burns, R. B., Philadelphia.
Burr, C. W., Philadelphia.
Cadwallader, C. E., Philadelphia.
Campbell, H. T., Philadelphia.
Carpenter, J. T., Jr., Phila.
Cattell, H. W., Philadelphia.
Chase, R. H., Philadelphia.
Chance, B. K., Philadelphia.
Chestnut, J. H. W., Philadelphia.
Clark, L. S., Philadelphia.
Clark, G. G., Philadelphia.
Clark, J. G., Philadelphia.
Claxton, C., Philadelphia.
Codman, C. A., Philadelphia.
Cohen, S. Solis, Philadelphia.
Cohen, J. Solis, Philadelphia.
Coley, T. L., Philadelphia.
Cooper, J. C., Philadelphia.
Corson, G. R. S., Philadelphia.
Crandall, T. V., Philadelphia.
Croskey, J. W., Philadelphia.
Cruice, R. B., Philadelphia.
Cryer, M. H., Philadelphia.
Curtin, R. G., Philadelphia.
Custer, D. D., Philadelphia.
DaCosta, John C., Philadelphia.
DaCosta, J. Chalmers, Philadelphia.
Daland, Judson, Philadelphia.
Davis, G. G., Philadelphia.
Davis, E. P., Philadelphia.
Dean, H. J., Philadelphia.
Deaver, H. C. Philadelphia.
Deaver, Jno. Blair, Philadelphia.
Dercum, F. X., Philadelphia.
Dercum, Clara T., Philadelphia.
DeSchweinitz, G. E., Phila.
Donahay, Dewitt S., Phila.
Dick, J. W., Philadelphia.
Donnellan, P. S., Philadelphia.
Dorland, W. A. W., Philadelphia.
Downes, A. J., Philadelphia.
Drysdale, Thos. M., Philadelphia.
Duer, E. L., Philadelphia.
Dulles, C. W., Philadelphia.
Dunmire, G. B., Philadelphia.
Dunglison, R. J., Philadelphia.
Eckman, P. N., Philadelphia.
Egbert, S., Philadelphia.
Elder, F. H., Philadelphia.
Ely, T. C., Philadelphia.
Erck, T. A., Philadelphia.
Eshner, A. A., Philadelphia.
Faries, R., Philadelphia.
Farr, W. W., Philadelphia.
Feldstein, A., Philadelphia.
Fenton, T. H., Philadelphia.
Fisher, F., Philadelphia.
Fisher, Mary, Philadelphia.
Fisher, J. M., Philadelphia.
Fleisher, Rebecca, Philadelphia.
Flexner, Simon, Philadelphia.
Forbes, W. S., Philadelphia.
Fox, L. Webster, Philadelphia.
Fox, W. W., Philadelphia.
Frankish, John K., Philadelphia.
Franklin, M., Philadelphia.
Franklin, C. P., Philadelphia.
Frazier, C. H., Philadelphia.
French, M. S., Philadelphia.
Freeman, Walter J., Phila.
Freund, H. H., Philadelphia.
Fricke, A., Philadelphia.
Fribis, Geo., Philadelphia.
Fulton, T. C., Philadelphia.
Fussell, M. H., Philadelphia.
Getchell, F. H., Philadelphia.
Gibb, Jos. S., Philadelphia.
Gibbens, J. H., Philadelphia.
Gillespie, J. S., Philadelphia.
Gittelson, S. J., Philadelphia.
Gleason, E. B., Philadelphia.
Goebel, G., Philadelphia.
Goodwin, A. Helena, Philadelphia.
Gould, George M., Philadelphia.
Grayson, C. P., Philadelphia.
Graham, E. E., Philadelphia.
Greenwald, D. F., Philadelphia.
Grier, M. J., Philadelphia.
Griffith, J. P. C., Philadelphia.
Groff, C. A., Philadelphia.
Grove, J. H., Philadelphia.
Hale, G., Philadelphia.
Hammond, L. J., Philadelphia.
Hammond, F. C., Philadelphia.
Hamill, S. M., Philadelphia.
Hansell, H. F., Philadelphia.
Hare, Hobart A., Philadelphia.
Harlan, G. C., Philadelphia.
Harris, H. F., Philadelphia.
Harte, R. H., Philadelphia.
Hartzell, M. B., Philadelphia.
Hearne, W. J., Philadelphia.
Hearn, C. S., Philadelphia.
Heisler, J. C., Philadelphia.
Henry, F. P., Philadelphia.
Herbert, J. F., Philadelphia.
Hewson, A., Philadelphia.
Hickman, N., Philadelphia.
Higbee, W. S., Philadelphia.
Hill, G. A., Philadelphia.
Hinkle, A. G. B., Philadelphia.
Hinsdale, Guy, Philadelphia.
Hirst, Barton C., Philadelphia.
Holland, J. W., Philadelphia.
Holt, J. F., Philadelphia.
Holmes, E. W., Philadelphia.
Hollopeter, W. C., Philadelphia.
Hopkins, W. B., Philadelphia.
Horwitz, O., Philadelphia.
Horner, C. W., Philadelphia.
Howard, E. C., Philadelphia.
Hughes, G. M., Philadelphia.
Hughes, D., Philadelphia.
Hughes, W. E., Philadelphia.
Hughes, D. E., Philadelphia.
Hulshizer, A. H., Philadelphia.
Jacob, A. N., Philadelphia.
Jones, E. C., Philadelphia.
Jump, H. D., Philadelphia.
Juriat, L., Philadelphia.
Kalteyer, F. J., Philadelphia.
Keely, R. N., Philadelphia.
Keen, W. W., Philadelphia.
Kelly, J. V., Philadelphia.
Kelly, A. O. J., Philadelphia.
Kelsey, Ernest W., Philadelphia.
Kempton, A. F., Philadelphia.
Kirby, E. R., Philadelphia.
Ketcham, S. R., Philadelphia.
Kirkpatrick, A. B., Philadelphia.
Klapp, W. P., Philadelphia.
Klein, A., Philadelphia.
Knight, T. H., Philadelphia.
Koch, I. M., Philadelphia.
Kollock, Katherine, Philadelphia.
Kreass, S. S., Philadelphia.
Krusen, W., Philadelphia.
Kyle, D. B., Philadelphia.
Kynett, H. H., Philadelphia.
Laplace, E., Philadelphia.
Latta, S. W., Philadelphia.
Lautenbach, L. J., Philadelphia.
Law, W. V., Philadelphia.
Le Conte, R. G., Philadelphia.
Lee, B., Philadelphia.
Lee, B. R., Philadelphia.
Leeman, H., Philadelphia.
Leopold, I., Philadelphia.
Leonard, C. L., Philadelphia.
Levi, I. V., Philadelphia.
Lewis, Bertha, Philadelphia.
Linn, R. B., Philadelphia.
Litch, W. F., Philadelphia.
Lockrey, S. H., Philadelphia.
Loder, P. E., Philadelphia.
Longaker, D., Philadelphia.
Longenecker, C. B., Philadelphia.
Loux, H. R., Philadelphia.
Love, L. F., Philadelphia.
MacBride, I., Philadelphia.
McAllister, Anna M., Philadelphia.
McClellan, G., Philadelphia.
McClelland, C., Philadelphia.
McConnell, J. W., Philadelphia.
McKelway, G. I., Philadelphia.
Maier, F. H., Philadelphia.
Makuen, G. H., Philadelphia.
Mann, J. P., Philadelphia.
Marmion, R. A., Philadelphia.
Marshall, G. M., Philadelphia.
Marshall, Clara, Philadelphia.
Martin, Edward, Philadelphia.
Masland, H. C., Philadelphia.
Massey, G. B., Philadelphia.
Mays, T. J., Philadelphia.
Mills, Chas. K., Philadelphia.
Minich, A. K., Philadelphia.
Mitchell, J. K., Philadelphia.
Modell, D. A., Philadelphia.
Montgomery, E. E., Philadelphia.
Moorhead, W. W., Philadelphia.
Moore, C. C., Philadelphia.
Morris, E. J., Philadelphia.
Morris, H., Philadelphia.
Morton, S. W., Philadelphia.
Morton, T. G., Philadelphia.
Morehouse, G. R., Philadelphia.
Muehleck, G. A., Philadelphia.
Musson, Emma E., Philadelphia.
Musser, John H., Philadelphia.
Nead, D. W., Philadelphia.
Neilson, T. R., Philadelphia.
Newcomet, W. S., Philadelphia.
Noble, C. P., Philadelphia.
Noble, W. H., Philadelphia.
O'Hara, M., Philadelphia.
Oliver, Chas. A., Philadelphia.
Ott, L., Philadelphia.
Owen, J. J., Philadelphia.
Packard, F. R., Philadelphia.
Packard, F. A., Philadelphia.
Parke, W. E., Philadelphia.
Patterson, F. D., Philadelphia.
Pearson, J. S., Philadelphia.
Pearce, F. S., Philadelphia.
Peltz, J., Philadelphia.
Pepper, Wm., Philadelphia.
Perkins, F. M., Philadelphia.
Perrine, E. K., Philadelphia.
Porter, W. G., Philadelphia.
Posey, W. C., Philadelphia.
Potts, B. H., Philadelphia.
Potts, C. S., Philadelphia.
Price, Mordacai, Philadelphia.
Price, Joseph, Philadelphia.
Purnell, C. M., Philadelphia.
Pyle, W. L., Philadelphia.
Ramsay, A., Philadelphia.
Randall, B. A., Philadelphia.
Rea, S. L., Philadelphia.
Reber, W., Philadelphia.
Reckfus, C. H., Jr., Philadelphia.
Regar, H. L., Philadelphia.
Rehfuss, E. G., Philadelphia.
Richardson, Ida E., Philadelphia.
Riesman, D., Philadelphia.
Ring, G. O., Philadelphia.
Risley, S. D., Philadelphia.
Roberts, J. B., Philadelphia.
Robertson, W. E., Philadelphia.
Robinson, W. D., Philadelphia.
Rodman, W. L., Philadelphia.
Rosenthal, E., Philadelphia.
Ross, Geo. G., Philadelphia.
Roussell, A. E., Philadelphia.
Salinger, J. L., Philadelphia.
Sartain, P. J., Philadelphia.
Schetky, Martha G. K., Philadelphia.
Schoales, C. B., Philadelphia.
Schneideman, T. B., Philadelphia
Schaffer, C., Philadelphia.
Schamberg, J. F., Philadelphia.
Schwenk,, P. N. K., Philadelphia.
Scott, J. A., Philadelphia.
Scull, W. B., Philadelphia.
Seiss, R. W., Philadelphia.
Seltzer, C. M., Philadelphia.
Sharpless, Anna P., Philadelphia.
Shimwell, B. T., Philadelphia.
Shoemaker, J. V., Philadelphia.
Shober, J. B., Philadelphia.
Shumway, E. A., Philadelphia.
Shute, H. A., Philadelphia.
Sinkler, W., Philadelphia.
Slocum, H. A., Philadelphia.
Smith, J. R., Philadelphia.
Smith, A. D., Philadelphia.
Smith, S. MacCuen, Philadelphia.
Smock, L. P., Philadelphia.
Snively, I. N., Philadelphia.
Somers, L. S., Philadelphia.
Spencer, G. W., Philadelphia.
Spiller, W. G., Philadelphia.
Stahl, B. F., Philadelphia.
Stellwagen, T. C., Philadelphia.
Stelwagon, H. W., Philadelphia.
Stengel, A., Philadelphia.
Stein, M. J., Philadelphia.
Steinbach, L. W., Philadelphia.
Stewart, D. D., Philadelphia.
Stewart, W. S., Philadelphia.
Stout, Geo. C., Philadelphia.
Strouse, F. M., Philadelphia.
Strawbridge, G., Philadelphia.
Strittmatter, I. P., Philadelphia.
Strobel, John, Philadelphia.
Stubbs, G. E., Philadelphia.
Sweet, W. M., Philadelphia.
Talley, J. E., Philadelphia.
Taylor, C. F., Philadelphia.
Taylor, W. J., Philadelphia.
Taylor, A. E., Philadelphia.
Taylor, J. J., Philadelphia.
Teller, W. H., Philadelphia.
Thomson, Wm., Philadelphia.
Thomson, A. G., Philadelphia.
Thomas, C. H., Philadelphia.
Thorington, Jas., Philadelphia.
Thornton, E. Q., Philadelphia.
Tilton, H. R., ,Philadelphia.
Tull, M. G., Philadelphia.
Turner, J. B., Philadelphia.
Turnbull, C. S., Philadelphia.
Tyson, Jas., Philadelphia.
Updegrove, S., Philadelphia.
Van Buskirk, J., Philadelphia.
Van Sant, E. L., Philadelphia.
Veasey, C. A., Philadelphia.
Walker, J. B., Philadelphia.
Warder, W. H., Philadelphia.
Warder, C. B., Philadelphia.
Weintraub, S. Louise, Philadelphia.
Welch, W. M., Philadelphia.
Wells, W. H., Philadelphia.
Wentz, B. F., Philadelphia.
West, J. W., Philadelphia.
West, S. L., Philadelphia.
Wharton, H. R., Philadelphia.
White, J. W., Philadelphia.
White, Frank, Philadelphia.
Whiting, A. D., Philadelphia.
Wilson, H. A., Philadelphia.
Wilson, J. C., Philadelphia.
Wilson, S. M., Philadelphia.
Willard, De Forest, Philadelphia.
Wilson, W. Reynolds, Philadelphia.
Winder, W. G., Philadelphia.
Witmer, Albert, Philadelphia.
Wolfe, Samuel, Philadelphia.
Woldert, E. A., Philadelphia.
Wolff, L., Philadelphia.
Wooodbury, F., Philadelphia.
Wood, Alf C., Philadelphia.
Wood, H. C., Philadelphia.
Woods, W. V., Philadelphia.
Woods, D. F., Philadelphia.
Woods, M., Philadelphia.
Wray, W. S., Philadelphia.
Yeager, F. N., Philadelphia.
Ziegler, S. L., Philadelphia.
Ziegler, W. M. L., Philadelphia.
Zimmerman, M. W., Philadelphia
Zuill, W. L., Philadelphia.

Pittsburg.

Allison, R. W., Pittsburg.
Asdale, W. J., Pittsburg.
Ankrim, L. F., Pittsburg.
Ayres, S., Pittsburg.
Beach, W. M., Pittsburg.
Beatty, R. C., Pittsburg.
Blachly D. L., Pittsburg.
Blumberg, A., Pittsburg.
Borland, E. B., Pittsburg.
Boyce, J. W., Pittsburg.
Burroughs, H. S., Pittsburg.
Cameron, M. C., Pittsburg.
Chessrown, A. V., Pittsburg.
Christy, T. C., Pittsburg.
Clarke, R. C., Pittsburg.
Cunningham, Daken W., Pittsburg.
Daly, W. H., Pittsburg.
Davis, T. D., Pittsburg.
Duft, J. Milton, Pittsburg.
Dunn, J. C., Pittsburg.
Eaton, P. J., Pittsburg.
Ellsworth, T. A. Rex, Pittsburg.
English, W. T., Pittsburg.
Ewing, W. Brown, Pittsburg.
Emmerling, K., Pittsburg.
Finkelpearl, H., Pittsburg.
Foster, W. S., Pittsburg.
Gardner, E. Roy, Pittsburg.
Green, J. J., Pittsburg.
Hallock, Wm. E., Pittsburg.
Hersman, C. C., Pittsburg.
Herron, R. G., Pittsburg.
Hiett, G. W., Pittsburg.
Hopkins, A. J., Pittsburg.
Hoffman, J. H., Pittsburg.
Huselton, W. S., Pittsburg.
Jackson, C. Q., Pittsburg.
Johnston, J. I., Pittsburg.
Kelly, G. M., Pittsburg.
Kerr, J. P., Pittsburg.
Kirk, Wm. H., Pittsburg.
Kniffler, O., Pittsburg.
Koeller, F., Pittsburg.
Koenig, A., Pittsburg.
Lange J. Chris, Pittsburg.
Lewin, A. L., Pittsburg.
Lichty, J. A., Pittsburg.
Lippincott, J. A., Pittsburg.
Litchfield, L., Pittsburg.
Look, H. A., Pittsburg.
Macfarlane, J. W., Pittsburg.
McCandless, J. G., Pittsburg.
McCurdy, S. L., Pittsburg.
McKennan, T. M. T., Pittsburg.
McKelvey, W. H., Pittsburg.
McKibben, S. H., Pittsburg.
McLenahan, T. M., Pittsburg.
McNeil, G. W., Pittsburg.
Mayer, Edward E., Pittsburg.
Milligan, J. D., Pittsburg.
Montgomery, E. S., Pittsburg.
Morrow, J. C., Pittsburg.
Munford, J. R., Pittsburg.
Norris, W. J., Pittsburg.
O'Brien, W. D., Pittsburg.
Patterson, S., Pittsburg.
Petit, Albert, Pittsburg.
Pollock, W. F., Pittsburg.
Poole, Richard E., Pittsburg.
Rahauser, G. G., Pittsburg.
Ryall, T. M., Pittsburg.
Sahm, W. K. T., Pittsburg.
Sanes, K. I., Pittsburg.
Shaw, W. C., Pittsburg.
Small, E. H., Pittsburg.
Snively, W., Pittsburg.
Spencer, J. A., Pittsburg.
Sterrett, J. K., Pittsburg.
Sterrett, J. P., Pittsburg.
Stewart, R. W., Pittsburg.

Stieren, E., Pittsburg.
Stone, W. L., Pittsburg.
Sweeney, G. B., Pittsburg.
Thomas, J. D., Pittsburg.
Veeder, A. T., Pittsburg.
Vincent, J. R., Pittsburg.
Ward, M. R., Pittsburg.
Weber, W H., Pittsburg.
Werder, X. O., Pittsburg.
Williamson, J. H., Pittsburg.
Williams, Roger, Pittsburg.
Willetts, Jos. E., Pittsburg.

Adams, W. H., Danville.
Adams, C. M., Williamsport.
Adair, W. G., Allegheny.
Albright, J. W., Muncy.
Alexander, H. M., Marietta.
Alison, Robt. H., Ardmore.
Ambrose, J. T., Ligonier.
Anderson, Jos. W., Ardmore.
Ansley, W. B., Saltsburg.
Apple, S. S., Easton.
Arment, S. B., Bloomsburg.
Arnold, H. A., Ardmore.
Armstrong, R., Lock Haven.
Atwell, J. C., Butler.
Bacon, W. F., York.
Bacon, John, Andalusia.
Backenstoe, M. J., Emaus.
Bachman, C. W., Reading.
Bahn, G. W., Spring Forge.
Bailey, W. J., Leisenring.
Balmer, A. F., Brookville.
Ball, F. P., Lock Haven.
Ball, M. V., Warren.
Banks, C. W., Huntingdon.
Bankes, C. W., Middleport.
Barkey, P., Erie.
Barney, Delbert, Wilkesbarre.
Barr, G. W., Titusville.
Bartho, B. F., Mt. Carmel.
Barker, Perley N., Troy.
Barr, J. C., Mars.
Barr, J. A., McKees Rocks.
Bates, E., Lancaster.
Batton, J. A., Uniontown.
Batten, J. M., Downingtown.
Baugh, A. W., Paoli.
Beaver, D. B. D., Reading.
Becker, J. W., Reading.
Beddoe, B. G., Scranton.
Bell, G. Franklin, Newberry.
Berlin, J. O., Bath Postoffice.
Bernstein, A. H., Scranton.
Berntheiz, G. W., Columbia.
Bertolet, J. M., Reading.
Bevier, A. B., Ridgway.
Beyer, W. F., Punxsutawney.
Bickell, S. E., Jersey Shore.
Biddle, J. C., Fountain Springs.
Biehn, A. C., Richland Centre.
Bill, G. E., Harrisburg.
Birdsall, S., Susquehanna.
Birch, T. J., Port Carbon.
Bishop, W. T., Derry Station.
Bishop, S. S., Carlisle.
Bitzer, N. E., Lancaster.
Bittinger, J. H., Hanover.
Blairsdell, I. C., Wilmore.
Blaisdell, W. S., Punxsutawney.
Blackburn, J. P., McKeesport.
Bleiler, C. A., Frackville.
Blose, J. U., Altoona.
Boal, G. Y., Baden.
Bockius, S. A., Columbia.
Boggs, J. C., Allegheny.
Boggs, A. N., Abington.
Bolenius, R. M., Lancaster.
Bonnaffon, S. A., Williamsport.
Bonbrake, H. N., Chambersburg.
Born, R. H., Montoursville.
Borst, G. C., Newville.
Botkin, L. C., Burgettstown.
Boneck, A. J., Allegheny.
Bovard, F. J., Tionesta.
Bower, J. L., Reading.
Bowman, A. G., Lancaster.
Bowman, J. W., Lemoyne.
Boyd, G. J., Ellwood City.
Brendle, G. F., Mahanoy City.
Brenholtz, W. S., Lancaster.
Brown, Ellen E., Chester.
Brown, G. C., Dunmore.
Bronson, A. F., Girardville.
Brotherlin, H. H., Hollidaysburg.
Brumbaugh, A. B., Huntingdon.
Bruner, J. W., Bloomsburg.
Bucher, J. R., Lebanon.
Bucher, H., Reading.
Buckman, E. U., Wilkesbarre.
Buehler, W. S., Wernersville.
Burket, G. W., Tyrone.
Burns, R., Scranton.
Byles, F. G., Fredonia.
Caldwell, J. R., Marcus Hook.
Callen, J. S., Shenandoah.
Campbell, C., Petersburg.
Campbell, W. St. Clair, Rochester Mills.
Carmany, H. S., Roxborough.
Carrell, J. B., Hatboro.
Cass, J. T., West Lebanon.
Cassel, G. L., Lancaster.
Cawley, M. F., Allentown.
Chaapel, V. P., Newberry.
Channell, J. C., Wrightsville.
Chaffee, Francis, Towanda.
Chamberlain, J. W., Wyalusing.
Cherry, E. T., Altoona.
Chritzman, H. G., Welsh Run.
Christian, J. L., Lopez.
Clagett, L. S., Blairsville.
Clover, W. M., Knox.
Coble, J. W., Tamaqua.
Cochran, J. L., Star Junction.
Coffman, John J., Scotland.
Connell, A. J., Scranton.
Cooper, W. R., Point Pleasant.
Coope, A. F., Oil City.
Cope, Thomas, Nazareth.
Coover, E. H., Harrisburg.
Coover, F. W., Harrisburg.
Corson, B. M., Norristown.
Corson, P. H., Plymouth Meeting
Corson, J. M., Chatham Run.
Cort, J. C., Evans City.
Conklin, G., Orwell.
Coulter, O. W., Oil City.
Councill, M. S., Bryn Mawr.
Cox, A. P., Coraopolis.
Craig, Alex, Columbia.
Craig, Alex R., Columbia.
Crawford, John K., Cooperstown.
Crawford, S. N., Columbia.
Crewitt, J. A., Newtown.
Crombie, J. B., Allegheny.
Cross, G. D., Chester.
Crossman, E. O., Markleton.
Culp, J. F., Steelton.
Curwen, John, Warren.
Dale, J. Y., Lemont.
Dalton, W. R. I., Delaware Water Gap.
Daubenspeck, C. F., Cochranton.
Davis, A. C., Creighton.
Davis, F. F., South Oil City.
Davis, M. L., Lancaster.
Davis, David R., Lansford.
Davis, S., Milton.
Davidson, J. H., Perryopolis.
De Venney, J. C., Harrisburg.
Dean, G. E., Scranton.
De Laney, W. E., Slate Run.
Dennis, D. N., Erie.
Detweiler, B. H., Williamsport.
Detweiler, Thos. C., Lancaster.
Devilbiss, H. C., Chambersburg.
Dice, Laura J., York.
Dickinson, B. T., Steelton.
Diltz, H. C., Derry Station.
Donaldson, J. B., Canonsburg.
Dougherty, M. M., Mechanicsburg.
Dougherty, A. F., Ashley.
Drake, H. H., Norristown.
Dudley, W. H., Easton.
Dunn, I. J., Erie.
Dunder, A. R., Reading.
Eastman, T. N., Uniontown.
Edwards, H. T., South Bethlehem.
Egbert, J. C., Wayne.
Ehler, J. A., Lancaster.
Eisenberg, P. Y., Norristown.
Eisenberg, J. L., Norristown.
Elgin, W. F., Glenolden.
Ellenberger, J. W., Harrisburg.
Emery, B. A., Dunningville.
Engle, O. C., New Sheffield.
Erdman, W. B., Macungie.
Erdman, W. S., Buckingham.
Ermentrout, S. C., Reading.
Estes, W. L., South Bethlehem.
Evans, W. K., Chester.
Eves, J. S., New London.
Ewing, R. B., West Grove.
Farquhar, Q. C., California.
Faulds, W. H., Luzerne.
Fay, John, Altoona.
Feick, J. F., Reading.
Feltwell, A. L., Altoona.
Ferguson, F. U., Gallitzin.
Fetter, W. H., Scottdale.
Findley, W. M., Altoona.
Flener, L. A., Delano.
Forrester, J., Erie.
Forster, Wm., Oil City.
Foringer, H. H., Erie.
Forwood, J. L., Chester.
Foster, W. R., Crafton.
Foster, C. E., Honesdale.
Foss, W. B., Ashley.
Foulke, R. C., New Hope.
Frank, Geo. S., Millheim.
Frankhauser, W., Reading.
Free, S. M., Du Bois.
Frentz, O. H., Quakertown.
Frey, C. L., Scranton.
Fronfield, J. H., Media.
Frontz, H. C., Huntingdon.
Fulkerson, B. J., Tyrone.
Fulton, J., New London.
Funk, D. S., Harrisburg.
Fussell, L. L., Media.
Gable, I. C., York.
Gaddis, L. S., Uniontown.
Gale, Constantine, New Brighton.
Gallagher, G. W., New Haven.
Gallager, H., Glenolden.
Garthwaite, I. S., Webster Mills.
Garey, H., Berlin.
Gardiner, H. D., Scranton.
Gardner, E. R., Montrose.
Garvey, J. B., Dunmore.
Gass, Jas., Sheffield.
Gates, L. M., Scranton.
Gemmill, J. M. Jr., Tyrone.
Gerhard, J. Z., Harrisburg.
Gerlack, Ella M., Huntingdon.
Getters, J. P., Belleville.
Gibbs, L. H., Hyde Park.
Gibbons, R. H., Scranton.
Gifford, U. G., Avondale.
Gillford, R. H., Allegheny.
Gilbert, S. F., Elysburg.
Gloninger, A. B., Lebanon.
Glover, J. P., Altoona.
Gordon, J. M., Bellevernon.
Gray, S. G., Landisville.
Grayson, T. W., Washington.
Graydon, A., Homestead.
Greenfield, Robert N., Penn Line.
Green, E. M., Easton.
Groff, J. W., Harleysville.
Groff, J. E., Doylestown.
Groom, E. J., Bristol.
Guilford, W. M., Lebanon.
Guiher, H. B., Smithfield.
Guth, M. S., Warren.
Guthrie, G. W., Wilkesbarre.
Hackney, J. S., Uniontown.
Hadfield, E. J., Phoenixville.
Hagenbuch, J. H., Mahanoy City.
Halberstadt, A., Pottsville.
Hall, F. L., Erie.
Hamilton, B. G., Emlenton.
Hamilton, H., Harrisburg.
Hammer, Robt. B., Greensburg.
Hamaker, W. D., Meadville.
Hanna, D. B., Stoneboro.
Harding, I. L., Blairsville.
Harmon, G. G., Huntingdon.
Hartsell, W. H., Allentown.
Harnish, C. A., Alexandria.
Harvey, E. M., Media.
Harvey, O. F., Wilkesbarre.
Hartman, G. F., Port Kennedy.
Haskin, H. P., Williamsport.
Hassenplug, H. G., Lancaster.
Haughwout, B., Portland.
Headland, M. E., Butler.
Heffner, O. C., Pottstown.
Heilman, S. P., Heilman Dale.
Helm, C. E., Bart.
Henry, Wm. P. S., Everett.
Hermany, P., Mahanoy City.
Herr, M. L., Lancaster.
Herr, A. J., Lancaster.
Herr, W. H., Lancaster.
Herrmann, M. E., Dushore.
Hill, S. S., Wernersville.
Hillis, R. J., Altoona.
Hinkle, F., Columbia.
Hiltzrot, H. W., McKeesport.
Hoffman, J. Y., Reading.
Hoffman, C. I., Morea Colliery.
Hogue, J. H., Altoona.
Holtzapple, G. E., York.
Holcomb, J. T., Athens.
Hope, R. M., Mercer.
Horne, J. A., Mauch Chunk.
Horner, M. W., Mt. Pleasant.
Hornbeck, J. L., Catasauqua.
Howell, J. T., Wilkesbarre.
Huff, S. M., Milesburg.
Hughes, J. W., Latrobe.
Hughes, C. W., Eleanor.
Hull, A. B., Montgomery Station.
Humphrey, W. J., Union City.
Hummel, C. C., Mechanicsburg.
Hunt, R. S., Brookville.
Hunter, W. L., Turtle Creek.
Hunsberger, J. N., S. Kippack.
Hunter, John R., Lewiston.
Huston, Jos. H., Clintondale.
Hyson, J. M., Red Lion.
Iams, J. T., Waynesburgh.
Irwin, W. U., Julian.
Irwin, T. S., Christiana.
Irwin, J. B., Washington.
Iseman, C. M., Ellwood City.
James, E. H., Harrisburg.
James, T.' A., Ashley.
Jefferis, D. W., Chester.
Jenkins, D. H., Scranton.
Jessop, R., York.
John, J. S., Bloomsburg.
Johnson, N. L., Williamsport.
Jones, W. H., Harrisburg.
Jones, H. H., Codorus.
Jones, F. C., Ebensburg.
Jones, M. O., Allegheny.
Kalbach, A. M., Lancaster.
Kane, J. J., Norristown.
Kane, T. L., Kane.
Kane, Evan O'Neil, Kane.
Kane, Elizabeth D., Kane.
Kauffman, Leslie M., Kauffman.
Kauffman, W. L., Lancaster.
Kay, T. W., Scranton.
Keath, J. W., Shaferstown.
Keim, C. J., Catsauqua.
Kelly, G. M., Washington.
Keller, D. H., Bangor.
Kendall, E. E., Waterford.
Kerchner, B. L., Dalmatia.
Kerr, C. S., Emlenton.
Kerr, E., Downington.
Kern, A. J., Slatington.
Kibler, C. B., Corry.
Kimble, Z. E., Williamsport.
Kimmell, H. S., Somerset.
Kinnard, J. W., Lancaster City.
Kistler, O. F., Wilkesbarre.
Kirk, J. A., Carrick.
Kline, W. J. K., Greensburg.
Kline, L. B., Catawissa.
Klingensmith, I. P., Blairsville.
Klinedinst J. F., ork.
Klump, J. A., Williamsport.
Knapp, C. P., Wyoming.
Kneedler, Geo. C., Ruffsdale.
Knerr, J. W. H., Easton.
Knipe, J. O., Norristown.
Knox, W. F., McKeesport.
Kohler, J. B., New Holland.
Koser, J. J., Shippensburg.
Kotz, A. L., Easton.
Kress, P. J., Allentown.
Kriebel, E. G., Worcester.
Krum, A. G., Erie.
Kunkel, H., Kingston.
LaClair, C. H., Uniontown.
Lacock, S. A., Canonsburg.
Langton, D. J., Shenandoah.
Langfitt, W. J., Allegheny.
Langsdorff, Hilda H., Carlisle.
Lanahan, F. P., Wilkesbarre.
Lathrop, W., Hazleton.
Laubach, F. M., Weaversville.
Leaman, B., Leaman Place.
Leadenham, J. W., Franklin.
Linebaugh, H. W., New Cumberland.
Lineaweaver, J. K., Columbia.
Linn, G. A., Monongahela City.
Linville, M., New Castle.
Little, G., Tamaqua.
Livingston, J. B., West Middlesex.
Livingston, T. M., Columbia.
Logue, Wm. Porter, Williamsport.
Lougshore, W. R., Audenried.
Longaker, D., Reading.
Long, Chas., Wilkesbarre.
Long, W. P., Weatherly.
Long, A. A., York.
Long, F. F., Chester.
Love, J. K., Yardley.
Lovett, H., Langhorne.
Lowman, W. B., Johnstown.
Lowman, N. B., Belle Vernon.
Lowrie, W. L., Tyrone.
Luckie, S. B., Chester.
Lynch, J. A., Cresson.
Mabon, J. S., Allegheny.
MacGowan, H., Harrisburg.
McAllister, J. B., Harrisburg.
McAllister, J. CC., Ridgwawy.
McBurney, C. F., Altoona.
McCafferty, G. W., Jr., Norristown.
McKenna, J. A., Lansdowne.
McClellan, R. P. Jr., Irwin.
McClenathan, J. C., Connelsville.
McConnell, H. S., New Brighton.
McConnell, C. W., Altoona.
McCormick, D. K., Lancaster.
McCormick, H. G., Williamsport.
McCready, R. J., Allegheny.
McElrath, J. B., Jackson Center.
McFaddin, C. J., Pittston.
McFarland, J., Germantown.
McHenry, M., Benton.
McHenry, R. F., Marion Center.
McIlhaney, W. H., S. Easton.
McIntire, Chas., Easton.
McKee, T. K., Chicora.
McKinnon, M. J., York.
McKee F. L., Plymouth.
McKean, J. A., Washington.
McKenzie, Wm., Conshohocken.
McMullen, U. H., Merrittstown.
McNaugher, Sam'l F., Allegheny.
Madlan, J. D., Reading.
Magoffin, M. M., Mercer.
Muhlenberg, W. F., Reading.
Mahon, J. B., Pittston.
Malson, R. S., Chester.
Mann, C. H., Bridgeport.
Martin, G., Conemaugh.

Martin, W., Bristol.
Martin, C. S., Allentown.
Marsh, E. B., Greensburg.
Marsh, F. L., Mt. Pleasant.
Marsh, W. A., Mt. Pleasant.
Marbourg, E. L. W., Johnstown.
Marshall, W. N., Aspinwall.
Maurer, J. M., Shamokin.
May, J. C., Manchester.
Means, C. S., Towanda.
Mears, D. W., Scranton.
Melsheimer, J. A., Hanover.
Michler, H. D., Easton.
Miesse, Kate D., Easton.
Miller, D. P., Huntingdon.
Miller, E. L., Johnstown.
Miller, A. M., Bird-in-Hand.
Miller, E. S., Altoona.
Miller, E. M., Beavertown.
Miller, DeWitt C. R., Mason and Dixon.
Miller, M. L., Susquehanna.
Miller, O. L., Allegheny.
Miller, Wm. G., Norristown.
Miller, E. J., Intercourse.
Miller, J. S., York.
Miller, C. D., Pottsville.
Miller, A. J., Portage.
Milliken, D. B., Landisburg.
Millikin, T. W., Waynesburg.
Miles, R. G., New Castle.
Mish, Geo. F., Middletown.
Mitchell-Green, Mary V., Swathmore.
Montgomery, P. B., Chambersburg.
Montgomery, Jas. R., Buck Horn.
Montelius, R. W., Mt. Carmel.
Monks, F. C., Kittanning.
Moon, A. S., Beaver Falls.
Moore, J. W. F., Butler.
Morrow, J. W., Tionesta.
Mowery, Henry A., Marietta.
Mowry, W. B., Allegheny.
Mullhaupt, A., St. Marys.
Murray, V. A., Patton.
Murray, J. A., Clearfield.
Murdock, J. M., Polk.
Musser, E. Chas., Aaronsburgh.
Musser, J. H., Lampeter.
Nason, W. A., Roaring Spring.
Neff, E. E., Altoona.
Newfield, M. A., Chester.
Nevins, J., Jersey Shore.
Nevling, F. S., Clearfield.
Newcome, W. C., Big Run.
Newton, F. G., Towanda.
Newlin, H. S., McKeesport.
Newman, O. A., Harrisburg.
Nicholson, Wm. A., Franklin.
Niles, J. S., Carbondale.
Reeve, J. C., Jr., Dayton.
Offutt, L., Greensburg.
Oburn, A. S., Altoona.
Oenslager, J. Jr., Harrisburg.
O'Neal, J. W. C., Gettysburg.
Orris, H. O., Newport.
Orth, H. L., Harrisburg.
Osborne, R. H., Morrisville.
Ott, C. H., Sayre.
Ott, J. J., Pleasant Valley.
Palmer, C. F., Chambersburg.
Palmer, W. R., Johnsonburg.
Park, J. W., Harrisburg.
Parker, Geo. A., Southampton.
Parker, A. G. B., Gap.
Patton, J. M., Neale.
Peck, D. J., Susquehanna.
Phillips, E., New Haven.
Pillow, R. H., Butler.
Pilcher, J. E., Carlisle.
Portzer, F. L., Greensburg.
Pownall, E. E., Richboro.
Pratt, U. M., Mt. Pleasant.
Preston, G. H., Kane.
Prevost, C. W., Pittston.
Pursell, M., Bristol.
Putnam, B. M., North East.
Putt, Maurice, Oberlin.
Pyle, W. T., Swissvale.
Rahter, C. A., Harrisburg.
Raker, F. D., Shamokin.
Ramsey, R. W., Chambersburg.
Rankin, D. N., Allegheny.
Randenbush, A. S., Reading.
Rea, C., York.
Read, C. Hubert, Tullytown.
Read, F. B., Osceola Mills.
Read, L. W., Norristown.
Reber, W. M., Bloomsburg.
Reeser, H. S., Reading.
Reel, Ida V., Coatesville.
Reichard, C. C., Brownsville.
Reilly, P. C., Williamsport.
Renn, P. H., Sunbury.
Retteu, D. P., Coatesville.
Reynolds, C. S., Kennett Square.
Rich, T. C., Williamsport.
Richard, P. L., Allentown.
Richards, Emma E., Norristown.
Richardson, Wm. L., Montrose.
Riddle, W. V., Burgettstown.
Riegel, H. H., Catasauqua.
Rigg, J. E., Wilkinsburg.
Riggs, E. S., Washington.
Ritchey, J. A., Oil City.
Roberts, C. J., Warren Tavern.
Robertson, W. M., Warren.
Rockwell, L. D., Union City.
Roebuck, P. A., Lititz.
Rogers, L. L., Kingston.
Roland, O., Lancaster.
Ross, J. D., Williamsburg.
Ross, J. F., Clarion.
Ross, E. G., Scranton.
Ross, W. S., Altoona.
Roth, V. T., Pottsville.
Rowe, J. W., Altoona.
Russ, E. J., St. Marys.
Russell, E. A., Fleming.
Russell, A. L., Midway.
Russell, W. J., Bradford.
Rutledge, A. T., Blairsville.
Rutherford, J. F., Bishop.
St. Clair, Jno. M., Indiana.
Saul, C. H., Steelton.
Schnabel, E. D., Bethlehem.
Schad, Edith Harris, Bellefonte.
Schaff, C. H., Media.
Schaeffer, C. D., Allentown.
Schoonmaker, I. R., Sayre.
Schill, F., Johnstown.
Schill, F., Jr., Johnstown.
Scott, S. H., Coatesville.
Scott, J. E., New Hope.
Seaman, J. K., Reading.
Seem, A. A., Bangor.
Seitz, J. L., Harrisburg.
Seibert, J. L., Bellefonte.
Seibert, Wm. H., Steelton.
Seiberling, Fred C., Allentown.
Seiple, S. C., Center Square.
Service, C. A., Bala.
Shartle, J. M., Millersville.
Sharpless, W. T., West Chester.
Sharpnack, T. H., Jefferson.
Shanor, J. D., Allegheny.
Shaffer, J. W., Cartwright.
Shaffer, O. H., Altoona.
Shearer, J. Y., Sinking Spring.
Shelly, D. W., Ambler.
Shellenberger, J. R., Germantown.
Shoemaker, G. E., Eaglesmere.
Shillitto, G. M., Allegheny.
Shope, E. L., Harrisburg.
Showalter, H. C. W., New Holland.
Schultz, C., Danville.
Shumaker, L. M., Elliottsburg.
Silliman, J. E., Erie.
Simpson, T. P., Beaver Falls.
Simpson, W. C., New Brighton.
Skinner, W. F., Chambersburg.
Slack, Julia H., Bristol.
Slifer, H. F., North Wales.
Small, J. F., York.
Smith, D. K., Altoona.
Smith, A. M., Beaver Springs.
Smith, J. E., Altoona.
Smith, S. S., Emporium.
Smith, W. C. J., St. Clair.
Smith, G. W., Hollidaysburg.
Snively, I. N., Waynesboro.
Snyder, A. E., New Milford.
Snyder, C. E., Greensburg.
Somerville, H., Chest Springs.
Spangler, H. A., Carlisle.
Spangler, C. F., Kane.
Sprowls, J. M., Claysville.
Srodes, J. L., Wilkinsburg.
Stamm, A. A., Mohns Store.
Statler, F. B., Johnstown.
Steele, B. P., Newton Hamilton.
Stemmetz, E. G., Hokendauqua.
Stever, J. C., Three Springs.
Stevens, C. L., Athens.
Stewart, S. C., Clearfield.
Stewart, J. G., Pitcairn.
Stewart, W. S., Wilkesbarre.
Stick, W. C., Glenville.
Stiles, G. M., Conshohocken.
Stockdill, T. F., Rural Valley.
Stout, A., Bethlehem.
Stoeckel, Louise M., Wilkesbarre.
Storer, H. V. H., Chester.
Strouss, U. S., Beaver.
Straight, A. M., Bradford.
Strickler, A. W., Scottdale.
Strickler, C. M., Lebanon.
Strickler, A. H., Waynesboro.
Strickland, D. H., Erie.
Stuart, G. E., Ivyland.
Sturgeon, W. H., Uniontown.
Styer, D. W., Churchtown.
Swing, E. V., Coatesville.
Swoyer, O. D., South Bethlehem.
Szlupas, J., Scranton.
Taggert, D., Frackville.
Taylor, L. H., Wilkesbarre.
Taylor, W. V. M., McKeesport.
Taylor, J. G., Overbrook.
Taylor, J. E., Rockland.
Teagarden, W. D., Washington.
Thayer, A., Erie.
Thomas, V. F., Baldwin.
Thomas, J. Q., Conshohocken.
Thompson, W. R., Washington.
Thompson, J. R., Pittston.
Thomson, C. E., Scranton.
Thorne, J. M., McKeesport.
Tidd, E. J., Clark.
Timmons, J. M., West Alexander.
Tomb, H. F., Johnstown.
Towler, S. S., Marienville.
Trabert, J. W., Annville.
Tracy, E. G., Troy.
Traver, S. N., Steelton.
Treichler, C. G., Honey Brook.
Troxell, T. S., Gallitzin.
Troxell, W. E., Gallitzin.
Turnbull, T. Jr., Allegheny.
Tweedle, J. B., Weatherly.
Twitmyer, J. H., Sharpsville.
Ullom, J. T., Waynesburg.
Ulrich, W. B., Chester.
Ulrich, Marion, Millersburg.
Umstad, J. R., Norristown.
Underwood, A. M., Lancaster.
Underwood, S. L., Pittston.
Urmson, A. W., New Castle.
VanCamp, J. E., Carlisle.
VanKirk, T. R., McKeesport.
VanKirk, B. H., West Newton.
VanVoorhis, J. S, Belle Vernon.
Vastine, G. H., Catawissa.
Vedder, W. D., Mansfield.
Wagoner, G. W., Johnstown.
Wagner, W. H., York.
Wagenseller, B. F., Selinsgrove.
Waid, J. M., Titusville.
Wakefield, A. A., Johnstown.
Walker, W. E., McKeesport.
Walker, W. J., Homestead.
Walter, H. B., Harrisburg.
Walton, L. S., Jenkintown.
Warren, Jos. W., Bryn Mawr.
Waterworth, S. J., Clearfield.
Watson, R. B., Lock Haven.
Weatherby, B. J., Wilkesbarre.
Weaver, J. K., Norristown.
Weaver, W. G., Wilkesbarre.
Weaver, S. J., Bethlehem.
Weageley, T. G., Marion.
Webb, C., Wellsboro.
Webb, Walter, Sharon Hill.
Wehlaw, L., Scranton.
Weidman, W. M., Reading.
Welch, J. C., Bellevue.
Welchaus, G. R., Lancaster.
Wenck, Mary M., Sunbury.
Wentz, A. C., Hanover.
Wentz, Wm. J., New Providence.
Wenger, M. L., Reading.
Wenrich, G. G., Wernersville.
Whann, W. L., Franklin.
Wheler, A. C., Leboeuf.
White, T. H., Connellsville.
Whitcomb, H. H., Norristown.
Wible, E. E., Munhall.
Wilson, A. S., Bristol.
Wilson, C. G., St. Marys.
Wilson, F. S. Jenkentown.
Wilson, J. H., Beaver.
Wilson, J. H., Bethlehem.
Wilson, W. S., McVeytown.
Wilson, J. G., Montrose.
Wilson, H. G., Laporte.
Willite, Mary, Norristown.
Wiley, S. N., Norristown.
Williams, W. L., Ridgway.
Williams, M. J., Scranton.
Williams, W. T., Mt. Carmel.
Williams, T. R., Punxsutawney.
Willetts, T. L., Harrisburg.
Wilhelm, E. T., S. Bethlehem.
Winger, F. W., Bradford.
Wirebeck, I. J., Monessen.
Witherspoon, J., Allegheny.
Wolford, M. L., Harrisburg.
Wolfe, L. E., Manheim.
Wolfe, R. W., Taylorstown.
Woodhead, H. L., Forksville.
Woodward, W. M., McKeesport.
Woodburn, S. M., Towanda.
Wood, C. B., Monongahela City.
Woods, G. B., Washington.
Worrell, J. W., Brownsville.
Wright, J. L., Erie.
Wright, J. W., Erie.
Wyant, J. B. F., Kittanning.
Wynn, C. A., Derry Station.
Yeilding, B. W., Starrucca.
Young, R. W., Slatington.
Youngman, C. W., Williamsport.
Zeigler, J. L., Mt. Joy.
Zell, J. W., Fairmount.
Ziegler, J. P., Mt. Joy.

RHODE ISLAND.

Baldwin, M. E., Newport.
Bellamy, R., Newport.
Black, T. F., Providence.
Briggs, Alex. B., Ashaway.
Buxton, G. E., Providence.
Capron, F. P., Providence.
Carver, R. H., Providence.
Champlin, Jno., Westerly.
Cheesebro, E. D., Providence.
Clarke, E. D., Woonsocket.
Collins, Geo. L., Providence.
Crooker, G. H., Providence.
Curley, P. F., Newport.
Day, F. L., Providence.
Davis, F. J., Newport.
Eldy, R. P., Jr., E. Providence.
Farrell, J. T., Providence.
French, Chas. H., Pawtucket.
Fuller, Frank B., Pawtucket.
Gardner, C. T., Providence.
Gardiner, H. K., Wakefield.
Gray, D. F., Providence.
Harrington, F. M., Pawtucket.
Harvey, N. D., Providence.
Hillard, W. A., Westerly.
Hunt, S., E. Providence.
Keene, Geo. F., Howard.
Kenyon, G. H., Providence.
McCaw, W. J., Providence.
MacKnight, A. S., Adamsville.
Mathews, G. S., Providence.
Mathews, A., Providence.
Metcalf, H., Wickford.
Miller, H. G., Providence.
Mitchell, J. W., Providence.
Morgan, J. H., Westerly.
Mowry, C., Providence.
Mowry, J. E., Providence.
Palmer, W. H., Providence.
Parks, N. O'D., Ashton.
Perkins, Jay, Providence.
Putnam, Helen C., Providence.
Remick, A., Providence.
Rice, Harriet, Newport.
Rogers, F. T., Providence.
Robinson, R. R., Wakefield.
Sherman, W. S., Newport.
Siegfried, C. A., Newport.
Smith, F. B., Washington.
Smith, R. M., Riverpoint.
Smith, R. B., Westerly.
Smith, T. J., Valley Falls.
Stimson, E. P., Tiverton.
Stover, Horatio R., Newport.
Swarts, G. T., Providence.
Taylor, V. O., Providence.
Taylor, P. K., Kingston.
Traver, W. H., Providence.
Weaver, H. V., Carolina.
Webb, J. A., Providence.
Wheatland, M. F., Newport.
White, W. R., Providence.
Winsor, John, Anthony.

SOUTH CAROLINA.

Allen, W. B., Little Rock.
Babcock, J. W., Columbia.
Baily, T. B., Georgetown.
Barbot, L., Charleston.
Black, W. C., Greenville.
Brodie, R. L., Charleston.
Burdell, W. J. Camden.
Cathcart, R. S., Charleston.
Corbett, J. W., Camden.
Crawford, T. A., Rock Hill.
Croft, T. G., Aiken.
Culbertson, J. R., Gray Court.
Dawson, J. L., Charleston.
Dean, G. R., Spartanburg.
DeSaussure, P. G., Charleston.
Dial, W. H., Laurens.
Duckett, J. P., Anderson.
Earle, T. T., Greenville.
Epting, R. B., Greenwood.
Evans, James, Florence.
Furman, D., Greenville.
Golden, J. P., Georgetown.
Harris, J. C., Anderson.
Henry, B. A., Anderson.
Henslee, C., Dillon.
Horlbeck, H. B., Charleston.
Houseal, W. G., Newberry.
Jervey, J. W., Greenville.
Kendall, F. D., Columbia.
Kollock, C. W., Charleston.
Lowman, W. R., Orangeburg.
Lunney, J., Darlington.
McGahan, C. F., Aiken.
McLeod, F. H., Florence.
Mayer, O. B., Newberry.
Memminger, A., Charleston.
Miller, J. R., Rock Hill.
Moore, A. A., Camden.
Munn, J. H., Hyman.
Napier, J. L., Blenheim.
Nardin, W. H., Anderson.
Orr, S. M., Anderson Ct. House.
Parker, E. F., Charleston.
Rhett, R. B., Charleston.
Rice, H. W., Columbia.
Simmons, M., Charleston.
Simons, T. G., Charleston.

Stephens, L. C., Greenville.
Stribbling, J. S., Seneca.
Taylor, B. W., Columbia.
Ware, J. R., Greenville.
Whaley, T. P., Charleston.
Wilhite, J. O., Anderson.
Witherspoon, R. G., Holland.
Wylie, Wm. D., Richburg.

TENNESSEE.

Allen, J. T., Brownsville.
Altman, J. T., Nashville.
Anderson, E. C., Chattanooga.
Atchison, W. A., Nashville.
Atchison, C. R., Nashville.
Barbee, J. T., Jackson.
Beauchamp, J. A., Nashville.
Biggs, V. A., Martin.
Blake, D. B., Nashville.
Blackman, J. A., Medina.
Boyd, John M., Knoxville.
Brandau, Jno. W., Clarksville.
Broyles, C. J., Johnson City.
Buist, John R., Nashville.
Campbell, M., Knoxville.
Carmichael, J. W., Knoxville.
Carroll, C. T., Jr., Marvin.
Carter, R. H., Lynnville.
Castles, W. S. A., Oakland.
Cates, B. B., Knoxville.
Chance, H. C., Tazewell.
Cheatham, Richard, Nashville.
Clack, J. M., Rockwood.
Clark, E. B., Chattanooga.
Cliffe, D. B., Jr., Franklin.
Cobleigh, E. A., Chattanooga.
Cole, J. D., Newbern.
Collins, E. E., Williamsport.
Cox, A. E., Milan.
Cox, J. B., Huntingdon.
Crawford, J. Y., Nashville.
Crockett, S. S., Nashville.
Crook, J. A., Jackson.
Crook, J. L., Jackson.
Crosthwaite, G. W., Florence Sta.
Curtis, W. E., McKenzie.
Deaderick, C., Knoxville.
Deutsch, J., Memphis.
Dietrich, W. A., Chattanooga.
Doak, W. H., Russellville.
Douglas, Richard, Nashville.
Douglas, J. P., Bolivar.
Edgerton, H. K., Lebanon.
Edwards, J. A., Columbia.
Edwards, G. P., Nashville.
Ellett, E. C., Memphis.
Eve, Duncan, Nashville.
Ewing, W. G., Nashville.
Faucett, J. T., Trenton.
Fain, S. W., Dandridge.
Fleming, J. L., Jacks Creek.
Foute, Wm. T., Lenoir City.
Fowler, S. B., Gainesboro.
Franklin, W. B., LaGrange.
Frey, J. H., Cheap Hill.
Gallion, T. W., Dandridge.
Gillespie, G. B., Covington.
Givan, G. C. G., Harriman.
Glenn, W. F., Nashville.
Gould, E. P., Chattanooga.
Graddy, L. B., Nashville.
Grainger, R. A., Paris.
Greenwood, T. M., McCays.
Griffin, J. F., Tiptonville.
Griffin, R. W., Martin.
Grivelly, H. F., Hohenwald.
Haggard, W. D., Jr., Nashville.
Handley, Jas. W., Nashville.
Hanner, Jas. P., Franklin.
Happel, T. J., Trenton.
Hardin, R. A., Savannah.
Harris, J. E., Nashville.
Harrison, W. B., Columbia.
Henning, B. G., Memphis.
Herman, M. B., Memphis.
Herron, J. T., Jackson.
Hoebstetter, E. R., Ridgedale.
Holtzclaw, C., Chattanooga.
Hope, W. T., Chattanooga.
Howell, J. L., Knoxville.
Hubbard, G. W., Nashville.
Jelks, J. L., Memphis.
Jolly, W. J., McMinnville.
Johnson, W. H., Sewanee.
Jones, James T., Jackson.
Jones, E. H., Murfreesboro.
Jones, F. A., Memphis.
Krauss, W., Memphis.
Lenoir, B. B., Lenoir.
McCall, J. W., Huntington.
McCord, W. A., Lewisburg.
McFall, R. J., Cumberland City.
McGannon, M. C., Nashville.
McRady, F. S., Petersburg.
McSwain, I. A., Paris.
Macon, A. L., Fredonia.
Maddin, T. L., Nashville.
Martin, J. B. S., Cookeville.
Marable, T. H., Clarksville.
Miller, W. J., Johnston City.
Miller, S. R., Knoxville.
Mitchell, R. W., Memphis.
Moody, G. W., Shelbyville.
Murfree, J. B., Sr., Murfreesboro.
Murfree, J. B., Jr., Murfreesboro.
Neely, J. J. Jr., Bolivar.
Neil, David R., Nashville.
Nelson, E., Chattanooga.
Omohundro, O. C., Nashville.
Pearce, D. M., Union City.
Peavler, G. M., Bristol.
Powell, T. K., Eurekaton.
Price, Geo. H., Nashville.
Ramsey, A. B., McMinnville.
Rathmell, J. R., Chattanooga.
Read, R. W., Blackman.
Rochelle, W. F., Jackson.
Rodgers, C. W., Como.
Ross, J. W., Peachers Mills.
Rucker, S. T., Chattanooga.
Runyon, F. J., Clarkville.
Sale, E. P., Memphis.
Sasser, J. A., Middleton.
Saunders, D. D., Memphis.
Savage, G. C., Nashville.
Scates, D. W., Martin.
Scott, W. S., Dickson.
Scruggs, A. D., Knoxville.
Sebastian, C. M., Martin.
Shannon, J. D., Greenfield.
Shannon, J. E., Sharon.
Sheddan, W. K., Columbia.
Sinclair, A. G., Memphis.
Slayden, C., Dickson.
Smith, M. M., Cedar Chapel.
Steele, N. C., Chattanooga.
Stonestreet, R., Flat Rock.
Tate, H. W., Bolivar.
Taylor, J. H., Knoxville.
Taylor, W. W., Memphis.
Thach, S., Decherd.
Thornton, G. B., Memphis.
Tittsworth, I. M., Mossy Creek.
Tomlinson, O. R., Tate Springs.
Travis, B. F., Chattanooga.
Trawick, A. N., Nashville.
Turner, B. F., Memphis.
Tyree, C. E., Trenton.
VanDeman, J. H., Chattanooga.
Vance, W. K., Bristol.
Walker, N. S., Dyersburg.
Walker, E. B., Savannah.
Warden, C. C., Nashville.
Warmuth, H. J., Smyrna.
Watkins, G. H., Hollow Rock.
Watson, F. W., Union City.
Weldon, A. J., Paris Landing.
Welburn, W. C., Nashville.
West, G. R., Chattanooga.
Winston, W. B., Memphis.
Witherspoon, J. A., Nashville.
Wood, Hilliard, Nashville.
Woolford, J. S. B., Chattanooga.
Wright, W. M., Huntingdon.
Yarbrough, L. A., Covington.
Young, A. H., Ripley.

TEXAS.

Adams, W. H., Crowell.
Anderson, Chas., Brownsville.
Archer, W. A., Houston.
Archer, Minnie C., Houston.
Ashton, L., Dallas.
Austin, J. H., El Paso.
Barham, J. H., Nacogdoches.
Barry, W. R., Campbell.
Beall, E. J., Ft. Worth.
Bell, T. J., Tyler.
Bindley, J. H., San Antonio.
Blalock, W. C., Kosse.
Boyd, F. D., Ft. Worth.
Braunagel, J., San Antonio.
Bandy, Z. T., Milford.
Burroughs, S. R., Buffalo.
Buster, O. C., Pilot Point.
Cantrell, C. E., Wolfe City.
Chilton, R. H., Dallas.
Coble, J. M., Dallas.
Cole, W. F., Waco.
Coleman, P. C., Colorado.
Conerly, T. W., San Angelo.
Cook, H. P., Galveston.
Cornick, B., Knickerbocker.
Cozby, J. A., Azle.
Cross, E., Del Rio.
Davis, E. P., Houston.
Devine, Jno. J., Tom Bean.
Dodson, J. E., Vernon.
Duncan, T. G., Victoria.
Duringer, W. A., Ft. Worth.
Eads, B. F., Marshall.
Evans, J. R., Devine.
Fallen, J. W., Wilmer.
FitzSimon, J. T., Castroville.
Ford, F. C., Nacogdoches.
Fouts, J. J., Gonzales.
Fowler, B. A., Brownwood.
Frazier, J. M., Belton.
Frick, E. B., Aransas Pass.
Garnett, J. W., Aransas Pass.
Garwood, A., New Braunfels.
Gibson, John E., McKinney.
Gilcreest, J. E., Gainesville.
Gillis, J. Angus, Buda.
Gist, V., Spanish Fort.
Gray, Wm., Caddo Mills.
Graves, M. L., San Antonio.
Grammer, R. B., Ft. Worth.
Hackler, G. M., Ennis.
Hall, F. J., Dallas.
Harrison, R. H., Columbus.
Harrison, J. T., San Antonio.
Hemphill, J. A., Whitewright.
Herff, F., San Antonio.
Hicks, F. M., San Antonio.
Hilgartner, H. L., Austin.
Hudson, S. E., Austin.
Inge, J. M., Denton.
Jenkins, A. B., Hubbard.
Johnstone, F. B., Anderson.
Jones, W. T., Georgetown.
Jones, J. C., Gonzales.
Jordan, J. D., Madisonville.
Kenney, J. W., San Antonio.
Kingsley, B. F., San Antonio.
Kirkpatrick, D. F., Lewisville.
Kuhn, Aug., Walburg.
LeGrand, G. F., Graham.
Link, E. W., Palestine.
McCarty, John, Briggs.
McCulstion, L. P., Paris.
McCullough, J. T., Quanah.
McKnight, W. B., Mansfield.
McLaughlin, J. W., Galveston.
McNew, H. L., Honey Grove.
McReynolds, J. O., Jr., Dallas.
Mathers, W. R., Rock Hill.
Mathews, W. J., Austin.
Mathewson, E. H., Keene.
Menefee, E. L., Granbury.
Milliken, S. E., Dallas.
Miller, R. E. L., Ft. Worth.
Montgomery, A. L., Tyler.
Morrison, M. M., Van Alstyne.
Mullen, J. A., Houston.
Murphy, W. A., Burns.
Neathery, E. J., Sherman.
Neel, J. McHenry, Bonham.
Nowierski, B. J., Yorktown.
Oldham, J. P., San Antonio.
Olive, N. A., Waco.
Paine, J. F. Y., Galveston.
Painter, F. W., Pilot Point.
Paschal, F., San Antonio.
Phillips, B. A., Hewitt.
Pickett, N. J., Milford.
Pope, E. D., Kontze.
Rawlings, J. A., El Paso.
Raysor, P. M., Bryan.
Red, S. C., Houston.
Sampson, J. H., Houston.
Sampson, A. F., Galveston.
Saunders, B., Ft. Worth.
Saunders, J., Orange.
Scott, R. T., Houston.
Scott, A. C., Temple.
Scott, M. M., Brownwood.
Sears, J. H., Waco.
Shaw, E. N., Cameron.
Shearer, T. W., Wallisville.
Sherrill, E. A., Hix.
Shropshire, W., Yoakum.
Smart, S. J., Junction City.
Smith, Q. C., Austin.
Smith, M. M., Austin.
Smith, A. D., San Antonio.
Smith, C. A., Tyler.
Spearman, Wm. C., Texarkana.
Spohn, A. E., Corpus Christi.
Spurlock, G. L., Gainesville.
Steiner, R., Austin.
Strayhorn, J. M., Bartlett.
Tainter, L. K., Fredericksburg.
Taylor, M. A., Austin.
Terry, W. G., Denison.
Veasey, Wm., Van Alstyne.
Wagely, T. J., Cleburne.
Walker, W. W., Schulenburg.
Weems, W. A., Columbia.
West, H. A., Galveston.
Williamson, J. A., Mineral Wells.
Wilson, J. T., Sherman.
Wolff, A. S., Brownsville.
Womack, C. W., San Antonio.
Wood, W. A., Hubbard.
Wood, H. A., Houston.
Wooten, J. S., Austin.
Yates, J. A., Weser.
Zachary, R. B., Bedford.

UTAH.

Adamson, E. A., Richmond.
Aird, J. W., Heber.
Allen, S. H., Provo.
Baker, G. W., Ogden.
Baldwin, S. C., Salt Lake City.
Bascom, F. S., Salt Lake City.
Behle, W. H., Salt Lake City.
Bower, A. S., Salt Lake City.
Brick, S. L., Ogden.
Critchlow, J. F., Salt Lake City.
Driver, John, Ogden.
Ellerbeck, W. S., Salt Lake City.
Ewing, A. C., Salt Lake City.
Ewing, S., Salt Lake City.
Fisner, R. W., Salt Lake City.
Fisher, M. O., Scofield.
Gordon, J. S., Ogden.
Hardy, M. H., Provo.
Harrison, J. N., Salt Lake City.
Hosmer, A. J., Salt Lake City.
Hosmer, C. S. Nephi.
Hough, C. P., Salt Lake City.
Jones, P. E., Salt Lake City.
Kerr, A. A., Salt Lake City.
Keogh, P. S., Salt Lake City.
King, J. C. E., Salt Lake City.
Lyons, I. A. E., Salt Lake City.
Maclean, A. C., Salt Lake City.
Mayo, H. N., Salt Lake City.
Niles, H. D., Salt Lake City.
Pike, W. R., Provo.
Plummer, C. G., Salt Lake City.
Powers, H. J., Ogden.
Rauscher, A., Murray P. O.
Silver, E. V., Salt Lake City.
Smart, G. L., Springville.
Viko, Eindred, Park City.
Wright, E. S., Salt Lake City.

VERMONT.

Albee, Elmore S., Bellows Falls.
Allen, J. M., St. Johnsburg.
Belden, G. W., Underhill.
Bingham, LeRoy M., Burlington.
Burnett, D. L., South Royalton.
Campbell, E. R., Bellows Falls.
Caverly C. S., Rutland.
Chandler, C. E., Montpelier.
Crain, M. R., Rutland.
Davenport, Geo., East Randolph.
Foster, G. S., Putney.
Gartland, T. F., White River Junction.
Gorham, Geo. H., Bellows Falls.
Gray, F. S., Troy.
Greene, L. M., Bethel.
Hamilton, J. H., Richford.
Hamilton, Jas. M., Rutland.
Hanrahan, J. D., Rutland.
Hawley, D. C., Burlington.
Hill, J. S., Bellows Falls.
Holcombe, L. C., Milton.
Holton, Henry D., Brattleboro.
Huntington, Wm. M., Rochester.
Jackson, J. H., Barre.
Jackson, F. K., Burlington.
Janes, Henry, Waterbury.
Kidder, F. T., Woodstock.
Lawton, S. E., Brattleboro.
Miller, A. I., Brattleboro.
Miner, A. L., Bellows Falls.
Morgan, F. C., Felchville.
Nichols, G. B., Barre.
Osgood, F. L., Townshend.
Pond, E. M., Rutland.
Pratt, C. S., Brattleboro.
Prime, W. R., Burlington.
Rudden, John T., Bellows Falls.
Scofield, C. S., Richford.
Sherwin, O. W., Woodstock.
Slayton, Wm. T., Hyde Park.
Staples, Hall, Grafton.
Stoddard, F. R., Shelburne.
Strobell, C. W., Rutland.
Tinkham, H. C., Burlington.
Upham, C. F., Randolph.
Wheeler, J. B., Burlington.

VIRGINIA.

Armstrong, T. E., South Boston.
Bagby, J. R., Newport News.
Beasley, W. S., Richmond.
Beckett, H. C., Scottsburg.
Blanton, C. A., Richmond.
Bosher, L. C., Richmond.
Boyd, P. W., Jr., Winchester.
Brock, C. W. P., Richmond.
Cannaday, C. G., Roanoke.
Cannaday, A. A., Roanoke.
Chapin, F. W., Hot Springs.
Charles, J., Newport News.
Christian, W. G., Charlottsville.
Coles, J. E., Alberene.
Copeland, J. E., Round Hill.
Crane, J. F., Richmond
Davis, W. Blackford, Ft. Meyer.
Davis, J. S., Charlottesville.
Davis, W. B., Ft. Meyer.
Davidson, J. P., Richmond.
Dibble, C. F., Claremont.
Dillard, J. W., Lynchburg.
Drake, G. W., Hollins.
Drewry, W. F., Petersburg.
Driver, W. E., Norfolk.

Edwards, Laudon B., Richmond.
Finch, A. T., Clarksville.
Gale, J. A., Roanoke.
Garcin, R. D., Richmond.
Gary, B. R., Newport News.
Gibson, Wm., Alexandria.
Gildersleeve, J. R., Tazewell.
Gordon, H. W., Madison.
Gray, A. L., Richmond.
Hall, W. I., Tazewell.
Harrison, V. W., Richmond.
Hartman, W. F., Swoope.
Harvie, L. E., Danville.
Harnsberger, S., Catlett.
Henkle, A. M., Staunton.
High, L. F., Danville.
Holladay, Lewis, Orange.
Hopkins, F., Hot Springs.
Horner, F., Marshall.
Johnston, G. B., Richmond.
Keel, C. W., Arvonia.
Keister, B. C., Roanoke.
Kent, J. L., Lynchburg.
Kuyk, D. A., Richmond.
Lankford, L., Norfolk.
Leigh, S., Norfolk.
Levy, H. H., Richmond.
Love, Wm. S., Winchester.
McCabe, W. O., Thaxton.
McGuire, H., Richmond.
McGuire, W. E., Richmond.
McGuire, H., Alexandria.
McGuire, H. H., Winchester.
MacLean, H. S., Richmond.
Martin, R. W., Lynchburg.
Mathews, W. P., Manchester.
Meeks, Wm. D., Massie's Mills.
Merrick, T. D., Richmond.
Moore, J. Hall, Richmond.
Nash, H. M. Norfolk.
Nichols, R. A., Richmond.
O'Brien, W. M., Alexandria.
Pole, H. S., Hot Springs.
Pratt, W. E., Buckingham C. H.
Preston, G. M., Lynchburg.
Preston, R. J., Marion.
Prioleau, W. H., Buffalo Lithia Springs.
Pritchett, C. W., Danville.
Purvis, W. R., Alexandria.
Pyle, W. T., Roanoke.
Quick, T. C., Falls Church.
Randolph, J., Arvonia.
Randolph, Anna M., Newport News.
Robinson, S. M., Wood Lawn.
Saffin, W., Carthage.
Sherrill, Z. V., Marion.
Sledge, J. T., Parksley.
Southall, P. T., Williamsburg.
Spaulding, B. D., Richmond.
St. Clair, C. T., Tazewell.
Stallard, N. W., Dungannon.
Stover, R. B., Richmond.
Taylor, H. M., Richmond.
Tipton, J. S., Roanoke.
Tompkins, Christopher, Richmond.
Turner, C. B., Snickersville.
Upshur, J. N., Richmond.
Vaden, Arthur V., Capeville.
Wallace, J. W., Covington.
White, J. A., Richmond.
Williams, R. F., Richmond.
Williams, W. R., Richlands.
Wiley, R. S., Clifton Forge.
Wysor, J. C., Clifton Forge.

WASHINGTON.

Adair, B. A. O., North Yakima.
Anderson, W. H., Medical Lake.
Bean, J. W., Ellenburg.
Bickford, E. L., Seattle.
Bridenstine, S. J., Ballard.
Brown, Chas. G., Spokane.
Brown, W., Tacoma.
Capron, V. J., Roche Harbor.
Catterson, T. L., Spokane.
Coe, F. H., Seattle.
Cox, W. C., Everett.
Crump, J. M., Ft. Steilacoom.
Dawson, L. R., Seattle.
Dulin, C. T., North Yakima.
Eagleson, J. B., Seattle.
Essig, N. F., Spokane Falls.
Ford, Adam E., Seattle.
Frank, Philip, North Yakima.
Gardner, C. H., Port Townsend.
Goodman, Celia W. Taylor, Seattle.
Grieve, M. R., Bossburg.
Horton, G. M., Seattle.
Howard, H. P., Everett.
Kalb, C. S., Spokane.
McCutcheon, C., Tacoma.
Mason, Darius, Spokane Falls.
Merriam, C. K., Spokane.
Montborne, H. P., Spokane.
Newman, D. C., Spokane Falls.
Peck, M. R., Coleville.
Pietrzyckie, M., Dayton.
Powers, J. S., Edmonds.
Richter, E. T., Spokane.
Russell, D. G., Spokane.
Semple, John M., Spokane.
Simonton, A. C., Roslyn.
Smith, Alice M., Tacoma.
Starr, J. N., Wilbur.
Stillson, H., Seattle.
Sutherland, J., Spokane.
Taylor, C. E., Wilkeson.
Thomas, C. P., Spokane.
Tozer, A. A., Leavenworth.
Vaden, Arthur G., Capeville.
Wells, C. H., Shelton.
Wilson, Geo. B., Pullman.
Willis, Park W., Seattle.
Wright, H. A., Wilbur.
Wyman, Hugh S., Olympia.
Yount, B. H., Wilbur.

WEST VIRGINIA.

Amos, C. F., Lumberport.
Andrews., Alonzo, Martinsburg.
Armbrecht, A. L., Wheeling.
Aschman, G. A., Wheeling.
Baguley, H. B., Wheeling.
Baird, R. M., Wheeling.
Barber, T. L., Charleston.
Bishop, J. P., Charlestown.
Brock, Luther S., Morgantown.
Brownfield, J. H., Fairmount.
Bullard, L. F., Weston.
Butt, A. P., Albert.
Campbell, J. A., Beckley.
Churchman, V. T., Charleston.
Coplin, W. M. L., Grassland.
Cook, John R., Watson.
Cooper, O. O., Hinton.
Cooper, J. M., Wellsburg.
Cooper, J. E., Cameron.
Cotton, J. T., Charleston.
Cramer, R. H., Cumberland.
Davis, G. A., Summit Point.
Debendarfer, U. H., Mannington.
Dickey, J. L., Wheeling.
Dunlap, J. H., Leon.
Eskey, L., Wheeling.
Goff, W. P., Clarksburg.
Goff, J. J., Sisterville.
Grimm, A. S., St. Marys.
Hall, R. W., Moundsville.
Harden, B. F., Wellsburg.
Henry, R. S., Charleston.
Hildreth, E. A., Wheeling.
Hill, E. A., Wolf Summit.
Hood, Thomas M., Clarksburg.
Hoffman, C. S., Keyser.
Howell, F., Clarksburg.
Hupp, Frank Le Moyne, Wheeling.
Hutchins, W. S., Wheeling.
Jepson, S. L., Wheeling.
Jones, Harriet B., Wheeling.
Kalbaugh, Z. T., Piedmont.
Lee, C. B., Glen Jean.
Legge, J. H., Aurora.
Louchery, D. C., Salem.
Lowther, F. P., New Martinsville.
McCune, M. Virginia, Martinsburg.
McDonald, Jas. W., Benwood.
McMillen, R. M., Wheeling.
McNeer, H. V., Bramwell.
McSherry, J. U., Martinsburg.
Megrail, W. P., Wheeling.
Morrison, R. L., Clarksburg.
Morgan, D. P., Clarksburg.
Myers, S. N., Martinsburg.
Myers, E. C., Wheeling.
Nicholson, H. G., Paint Creek.
Petty, Chas. W., Hartford.
Preston, J. W., Keystone.
Prickett, I. K., Ravenswood.
Putney, James, Charleston.
Pyle, J. L., Bearsville.
Reed, R. J., Wheeling.
Rupert, L. E., Powellton.
Sands, W. H., Fairmont.
Sayre, D. A., Hartford.
Schoolfield, G. C., Charleston.
Sharp, W. H., Parkersburg.
Sites, J. M., Martinsburg.
Stathers, W. E., Weston.
Stone, Alvah, Worth.
Stout, H. B., Parkersburg.
Taylor, W. R., Wheeling.
Thayer, A. H., Grafton.
Thomas, G. H., Romney.
Tompkins, W. W., Charleston.
Uhlrich, C. F., Wheeling.
Wilson, L. D., Wheeling.
Wingerter, C. A., Wheeling.

WISCONSIN.

Ackley, S. B., Oshkosh.
Abaly, W. C., Madison.
Armstrong, L. G., Boscobel.
Babcock, J. G., Cumberland.
Bach, Jas. A., Milwaukee.
Bachhuber, L. M., Mayville.
Baker, C. W., Trempealeau.
Barnes, J. S., Milwaukee.
Barnett, J. R., Neenah.
Bartlett, E. W., Milwaukee.
Batchelor, W. A., Milwaukee.
Beebe, C. A., Fond du Lac.
Bell, S., Beloit.
Bennett, W. C., Milwaukee.
Bennett, L. F., Beloit.
Bill, B. J., Genoa Junction.
Binnie, John, Poynette.
Bird, M. D., Marinette.
Bird, Rosellette, Beaver Dam.
Black, N. M., Milwaukee.
Blocki, A. F., Sheboygan.
Boorse, Lorenzo, Milwaukee.
Borden, W. H., Milton.
Braun, O., Merrill.
Bradfield, J. A. L., La Crosse.
Brett, B. C., Green Bay.
Brown, I. M., New London.
Brown, G. V. I., Milwaukee.
Brown, H. M., Milwaukee.
Buck, E. J., Plattesville.
Buckmaster, S. B., Janesville.
Budge, Wm. H., Marshfield.
Bullard, E. L., Waukesha.
Burgess, Arthur J., Milwaukee.
Caldwell, Margaret, Waukesha.
Canovan, J. V., Appleton.
Canwright, O. S., East Troy.
Caples, B. M., Waukesha.
Chandler, Ralph, Milwaukee.
Chandler, J., Pardeeville.
Chase, R. R., Eau Claire.
Chrysler, O., National Home.
Christensen, O. A., Wausau.
Clarke, A., National Home.
Clason, J. A., Neosha.
Clough, J. A., Spring Valley.
Cody, C. B., Sheboygan.
Cohn, A. H., Wilwaukee.
Collier, L. B., Merrill.
Collins, D. B., Madison.
Comfort, A. I., National Home.
Confer, F. M., Monroe.
Connell, D. R., Beloit.
Connor, H. J., West Superior.
Corbett, M. E., Oshkosh.
Cossitt, W. S., South Milwaukee.
Currens, J. R., Two Rivers.
Cunningham, R. B., Cadott.
Daniels, A. D., Rhinelander.
Dawley, Geo. T., New London.
Day, Henry I., Eau Claire.
Day, D. W., Eau Claire.
Deahofe, S. P., Mineral Point.
De Chesne, L., Sawyer.
Dewey, Richard, Wauwatosa.
Dodd, J. M., Ashland.
Dodson, N. M., Berlin.
Dodson, B. F., Berlin.
Dold, W. E., Lake Geneva.
Drexel, Arnold, Milwaukee.
Dunn, E. A. A., Belmont.
Durr, Wm. E., Milwaukee.
Earles, W. H., Milwaukee.
Earle, R. W., Columbus.
Eastman, W., Mineral Point.
Edwards, J. B., Mauston.
Edwards, A., Reedsburg.
Edwards, T. L., Cuba City.
Elmergreen, R., Milwaukee.
Emmons, J. W., Oregon.
Engsberg, W. A., Lake Mills.
Evans, E., La Crosse.
Everhard, F. A., Itipon.
Faber, C. A., Milwaukee.
Falge, Louis, Reedsville.
Fairfield, W. E., Green Bay.
Fish, E. F., Milwaukee.
Fisk, M. H., Wauwatosa.
Fitzgibbon, Thos., Milwaukee.
Fletcher, E. L., Augusta.
Flower, D., Monticello.
Ford, J. F., Omro.
Fox, P. R., Madison.
Fox, R. P., Madison.
Fraser, A. C., Manitowoc.
French, S. W., Milwaukee.
Friend, S. H., Milwaukee.
Gage, M. R., Elroy.
Gapen, C., Madison.
Genter, A. E., Sheboygan.
Gilbert, H. A., Madison.
Golden, C. H., Wonewoc.
Gorst, C., Baraboo.
Gould, Chas. M., West Superior.
Gratiot, C. C., Shullsburg.
Gregory, L. M., Stevens Point.
Gregory, A. T., Elroy.
Grosskopf, E. C., Wauwatosa.
Ground, W. E., West Superior.
Gudden, Bernard C., Oshkosh.
Guernsey, A. H., Amherst.
Gunther, W. H., Sheboygan.
Hagen, W. T., Green Bay.
Hall, S. S., Ripon.
Hammond, W. R., Wautoma.
Harrison, Geo. W., Ashland.
Hayes, D. J., Milwaukee.
Hayman, L. H., Boscobel.
Hayward, John C., Marshfield.
Heidner, G. A., West Bend.
Helm, A. C., Beloit.
Hess, C. F., Johnson Creek.
Hidershide, G. N., Arcadia.
Hill, W. B., Milwaukee.
Hipke, Wm., Hustisford.
Hitz, Henry B., Milwaukee.
Hodgson, A. J., Waukesha.
Hodges, F. J., Ashland.
Hoffman, P. A., Campbellport.
Hosmer, W. S., Ashland.
Hougen, Ole T., Grand Rapids.
Howard, A. Z., Oshkosh.
Jenkins, Geo. W.; Kilbourn City.
Jermain, L. F., Milwaukee.
Jobse, Wm., Milwaukee.
Johnson, Sam C., Hudson.
Johnson, J. V., Sheboygan.
Jones, Stella B., Oshkosh.
Kaumheimer, G. J., Milwaukee.
Keithley, J. W., Orfordville.
Keech, J. S., Racine.
Kellogg, E. W., Milwaukee.
Kemper, W. G., Manitowoc.
Kendall, H. B., Menasha.
King, C. F., Hudson.
Kinne, E., Elkhorn.
Kletzsch, G. A., Milwaukee.
Kratzsch, A. W., Milwaukee.
La Count, D., Wausau.
Ladd, G. D., Milwaukee.
Langland, Peter, Milwaukee.
Lawrence, G. H., Galesville.
Leith, R., Appleton.
Lemon, C. H., Milwaukee.
Leonard, C. W., Dotyville.
Lerche, Wm., Soldiers Grove.
Levings, A. H., Milwaukee.
Lewis, S. T., Milwaukee.
Lewis, Wm., Cadott.
Loomis, E. E., Janesville.
Looze, J. J., Grand Rapids.
Loope, T. E., Iola.
Loope, T. E., Eureka.
Loops, W. A., Loyd.
Lonergan, W. J., Princeton.
Luhmann, F. S., Manitowoc.
Lyman, John V., Eau Claire.
Lyman, W. B., Mendota.
Lynch, D. W., West Bend.
McCallister, G. H., Elkhorn.
MacDonald, W. H., Lake Geneva.
McArthur, Daniel S., La Crosse.
McComb, I. N., Brillion.
McDermott, G. L., Neenah.
McDill, J. R., Milwaukee.
McDonald, B. M., Beaver Dam.
McDougall, G. T., Fond du Lac.
McGill, P. G., West Superior.
McGregor, S. A., Nekoosa.
McKivitt, Wm., Milwaukee.
McLeod, J. A., Milwaukee.
McManuss, W. C., Edgerton.
McNeel, J. H., Fond du Lac.
McNitt, G. F., Racine.
McQuillen, J., W. Superior.
Mackie, W., Milwaukee.
Madden, J., Milwaukee.
Mahoney, J. E., Highland.
Maller, A. C., De Pere.
Malone, W. F., Milwaukee.
Manning, J., Eau Claire.
Marchessault, J. A., Ashland.
Marks, S., Milwaukee.
Marquardt, C. H., La Crosse.
Marshall, V. F., Appleton.
Maxson, F. S., Osseo.
Mayham, T. F., Fond du Lac.
Meacher, B. C., Portage.
Mead, L. W., Plymouth.
Meany, J. E., Manitowoc.
Mears, G. V., Fond du Lac.
Mereness, P., Milwaukee.
Mertins, H. G., Ashland.
Midelfort, Christian, Eau Claire.
Miller, C. J., Whitewater.
Miller, D. McL., Oconomowoc.
Mills, Jas., Janesville.
Miller, E. A., Clintonville.
Minahan, J. R., Green Bay.
Mishoff, I. D., Milwaukee.
Mitchell, J. M., Milwaukee.
Moe, A. J., Chaseburg.
Moraux, F., Luxembourg.
Mosher, F. R., Milwaukee.
Muckerheide, A. J., Milwaukee.
Muenzner, R. J., West Bend.
Mueller, V. F., Milwaukee.
Mulholland, J. F., Manitowoc.
Myers, J. A., Marshall.
Neilson, W. H., Milwaukee.
Neyman, E. H., Milwaukee.
Nicholson, W. G., Green Bay.
Nier, W. J., Palmyra.
Nixon, H. G. B., Hartland.
Nobles, B. O., Milwaukee.

Noer, Julius, Stoughton.
Nolte, L. G., Milwaukee.
Noyes, J. C., Oshkosh.
Nussle, E. E., Chippewa Falls.
Nuzum, T. W., Brodhead.
Nye, Fred T., Beloit.
O'Brien, J. N., Milwaukee.
O'Brien, W. T., Ashland.
O'Brien, H. J., W. Superior.
O'Brien, W. T., Reedsburg.
Oliver, T. J., Eden.
Orr, E. D., Mt. Hope.
Oviatt, Chas. W., Oshkosh.
Pake, S. G., W. Superior.
Palmer, W. H., Janesville.
Palmer, Judson A., Arcadia.
Parker, W. E., Whitehall.
Pease, W. A., Otsego.
Pelton, Levi H., Waupaca.
Pember, J. F., Janesville.
Perry, Fred J., Ft. Atkinson.
Perrin, G. H., Wauzeka.
Pfister, F., Milwaukee.
Phillips, J., Stevens Point.
Pickering, C. R., Muscoda.
Pfeifer, C. W., Sheboygan Falls.
Poser, E. M., Columbus.
Potter, L. A., South Superior.
Prince, L. H., Palmyra.
Pritchard, J. F., Manitowoc.
Puls, A. J., Milwaukee.
Quam, Jacob, Deerfield.
Quinn, J. J., West Superior.
Ravn, M., Merrill.
Redelings, T. J., Marinette.
Reeve, J. T., Appleton.
Reineking, H., Sheboygan.
Reinhard, C., Milwaukee.
Reynolds, F. R., Eau Claire.
Reynolds, B. O., Lake Geneva.
Rheingans, G. H., Germantown.
Rice, D. S., Stevens Point.
Riley, C. P., Baraboo.
Ritchie, G. A., Appleton.
Rinehart, W. T., Ashland.
Robbins, M. M., Hickory.
Rockwell, J. W., Melrose.
Rogers, F. C., Milwaukee.
Rogers, B. W., Milton Junction.
Rood, G., Stevens Point.
Rosenberry, H. L., Wausau.
Russell, T. P., Oshkosh.
Sarles, W. T., Sparta.
Saltre, O. M., Rice Lake.
Sauer, F. N., Milwaukee.
Sayle, R. G., Milwaukee.
Schaper, Chas., Sheboygan.
Schmidt, O. W., Menasha.
Schneider, J., Milwaukee.
Schoen, A. F., Mayville.
Schoofs, J. J., Johnsburg.
Schaper, H., Kiel.
Schweichler, A. J., Milwaukee.
Scollard, J. T., Milwaukee.
Scollard, W. E., Milwaukee.
Seaman, G. E., Milwaukee.
Sears, H. B., Beaver Dam.
Seiler, Geo., Alma.
Sercomb, H. F., Milwaukee.
Severson, Selena, Madison.
Shehan, L. B., West Superior.
Sheldon, Chas. S., Madison.
Shimonek, F., Milwaukee.
Shrader, J. S., Appleton.
Simonson, J., Tomah.
Sifton, H. A., Milwaukee.
Slaughter, A. W., Green Bay.
Southwick, F. A., Stevens Point.
Specht, J., West Superior.
Stair, N. P., Ft. Atkinson.
Steele, Geo. M., Oshkosh.
Stellin, I. D., Antigo.
Stoeling, C. W., Oconto.
Straw, J. R., Ashland.
Sweemer, W., Milwaukee.
Tanner, H. B., S. Kaukauna.
Tasche, J. C., Franklin.
Theinhaus, O., Milwaukee.
Thrane, A. D., Eau Claire.
Tice, F., Omro.
Tibbits, N. I., Peshtigo.
Townsend, E. H., New Lisbon.
Trowbridge, J. B., Hayward.
Trowbridge, C. H., Viroqua.
Tyrrell, C. F., Fox Lake.
Urquhart, J. H., Iron Belt.
VanAltena, L. A., Jr., Cedar Grove.
Vincent, G. R., Tomah.
Voje, J. H., Oconomowoc.
Wakefield, S. C., West Salem.
Walbridge, J. S., Berlin.
Walsh, T. G., Milwaukee.
Walsh, C. C., Merrill.
Washburn, W. H., Milwaukee.
Wegge, W. F., Milwaukee.
Wendel, W. C., Milwaukee.
Werner, O. E., Rib Lake.
White, M. J., Wauwatosa.
Willis, S. S., Appleton.
Williams, E. F., DePere.
Wilson, R. Browning, Holbrook.
Wilwarth, A. W., Chippewa Falls.
Windesheim, G., Kenosha.
Wingate, U. O. B., Milwaukee.
Woods, E. F., Janesville.
Wray, W. E., Denmark.
Würdemann, H. V., Milwaukee.
Wyatt, D. B., Fond du Lac.
Wylie, B., Milwaukee.
Youmans, Laurel E., Mukwonago.

WYOMING.

Barkwell, M. C., Cheyenne.
Crook, W. W., Cheyenne.
Hammond, J. C., Hanna.
Hawk, J. W., Green River.
Heath, Lilian, Rawlins.
Horton, F., Newcastle.
Hyrup-Pedersen, P. E., Laramie.
Jolley, W. A., Rawlins.
Johnston, G. P., Cheyenne.
Lane, J., Sweetwater.
Levers, E. E., Red Cannon.
Maghee, Thos. G., Rawlins.
Reed, R. H., Rock Springs.
Solier, C. H., Evanston.
Verbryck, G. G., Green River.
Wilson, J. B., Laramie.

FOREIGN.

Bridgeman, G. H., Bolivia, S. A.
Caldwell, W. S., Paris, France.
Fullerton, Anna M., Ludkiana, The Punjab, India.
Hall, J. M., London, England.
Hansen, C. C., Lakewn, Laos, Siam.
Honan, J. H., Berlin, Germany.
Hughes, O. G. D., Coburg, Germany.
Inglis, John, Pekin, China.
Keller, P. M., Sydney, N. S. W., Australia.
Kress, D. H., London, England.
Lincoln, C. S. F., Shanghai, China.
Rubin, Geo., Paris, France.
Swan, J. M., Canton, China.
Sandow, B. F., Honolulu.
Shroff, S. B., Bombay, India.
Wegg, J. A., Colreville, San Jaigo de la Vega, B. W. Indies, Jamaica.

CANADA.

Hobley, Thos., Amherstburg, Ont.
Johnston, Wyatt, Montreal, P. Q.
LeMoyne, F., Port Hope, Ont.
Yemans, H. W., Dawson, N.W.T.

CUBA.

Veranes, Felipé, Santiago.
Laine, D. T., Havana.

MEXICO.

De Beque, W. A. E., Mexico City.
Hyde, G. B., Silas.
Marsh, W. O., Sierra Mojads.
Seyffert, F. R., Cusibuirlachic.
Wallace, A., Guaymas.

PHILIPPINES.

Anderson, R. A., Manila.
Meacham, F. A., Manila.
Perry, J. A., Manila.
Thomason, H. D., Manila.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, SEPTEMBER 29, 1900.

THE PASSING OF THREE EX-PRESIDENTS OF THE AMERICAN MEDICAL ASSOCIATION.

During the past week three ex-Presidents of the American Medical Association have died, Drs. Hunter McGuire, Lewis A. Sayre, surgeons of world-wide reputation and foremost men in their profession, and Dr. Alfred Stillé, renowned as a physician and as a teacher.

Dr. Sayre has been called the father of orthopedics, a surgical specialty that is indebted to him more perhaps than to any other one man. His work in this department was notable from the very beginning of his practice, and he early obtained an international fame both as an originator of new methods and as a successful operator. He was eminent, however, not only as a surgeon, but also as a sanitarian, in which capacity he made one of the best health officers New York has had. The honors he received were numerous, but of none of them was he more proud than that of the Presidency of the American Medical Association, which position he held at the session of 1880.

Dr. Hunter McGuire was not only eminent as a surgeon, but was also the idol of his section of the country from his record in the Civil War, in which he was the most intimate friend and associate of "Stonewall" Jackson. He was a man of strong individuality, and has left his mark on the profession that will not soon be obliterated.

Dr. Stillé, the last of the three, the notice of whose death comes to us as we go to press, has been for many years conspicuous among the men who have made Philadelphia a center for medical progress and instruction. Like Dr. Sayre, his connection with the Association dates from its beginning; he was active in its organization and was one of its first secretaries.

It is a strange, and an almost startling coincidence, that three from the little company of ex-Presidents of the American Medical Association should die within a space of six days; one on the 19th, one on the 21st and another on the 24th. They were all well advanced in years, the youngest being Hunter McGuire, sixty-five; Sayre was eighty, and Stillé eighty-seven.

The passing of these leaves but eleven who have acted as President of the Association. The following are their names, the years of their presidency and their present ages:

N. S. Davis, 1864-65, age 83; Elisha H. Gregory, 1887, age 76; Edward Mott Moore, 1890, age 86; Henry O. Marcy, 1892, age 63; James F. Hibberd, 1894, age 84; Donald Maclean, 1895, age 61; Beverly R. Cole, 1896, age 71; Nicholas Senn, 1897, age 56; George M. Sternberg, 1898, age 62; Joseph M. Mathews, 1899, age 53, and W. W. Keen, 1900, age 63.

LAY INFLUENCES IN MEDICAL AFFAIRS.

In the process of evolution of the medical college and hospital, lay influences have become gradually more and more dominant, sometimes to the advantage of the institutions in question, but more often to their detriment. The belief is entirely too common that physicians are poor business men and inefficient executives and administrators; but such an opinion must be based on misconception, as it will not be contended that physicians are, in general, lacking in judgment and powers of reasoning, although it must be admitted that they are too often indifferent to their own material welfare, and if they do not collect their accounts with the same promptitude and success as merchants and lawyers, for instance, it is partly because they do not look on the practice of medicine as a business in the accepted sense of that term. While, then, strictly speaking, the medical man may not be able to devote himself to matters of finance and business with the same force as his lay colleague, he must yet be recognized as an authority at least on medical matters, whether in the direction of education or of hospital organization and management. The plan, therefore, seems a wise one, to retain on boards of trustees of medical colleges and hospitals several physicians, whose counsel will prove most serviceable.

In illustration of the evil effects that may arise out of the opposite course, the experiences of the National Hospital for the Paralyzed and Epileptic, in London, may be cited.[1] This institution, whose medical and surgical staff includes the names of some of the most distinguished men in the world, has no medical representative on its board of managers, and a request for such representation, made as an outcome of certain differences, such as are almost bound to arise between a medical body, with its ethical standards, and a lay board, with its conceptions of business methods and discipline, has been denied, with the explanation that this would endanger the independence of the board and might lead to a subordination of the philanthropic aspect of the hospital work to the merely scientific and investigating. The explanation would seem to be sufficient to justify insistence on the request of the medical staff. It appears that the management of the hospital has been largely delegated to a secretary and general director, and the medical staff, as a result, has found the administration of the hospital becoming more and more unsatisfactory. Already, as one of the secondary evil results of this unfortunate state of affairs, the usual grant from the Metropolitan Hospitals Sunday Fund is to be withheld until the differences between the two bodies are adjusted.

---

[1] The Journal, p. 635.

We have here an instance of lack of tact, if not of judgment, discernible even at this distance, wholly apart from any actual defects of management. The medical staff of every hospital and the teaching staff of every medical college are not less interested in their welfare and success than lay boards of managers, and they surely contribute not the least thereto, and this fact should receive practical recognition by the election to such boards of one or more medical men of the highest character who can be trusted to serve with distinction and usefulness in places that can not be filled by any other than physicians.

THE BACTERIOLOGY OF SCARLET FEVER.

Despite the obviously infectious character of scarlet fever, and its all but demonstrated dependence on a specific etiologic factor, the most industrious investigation has as yet failed to isolate a micro-organism that is universally accepted as the causative agent. Different observers in the past have found micrococci, and especially streptococci, in the blood, the scales, the throat, and in secondary lesions, but it has not yet been possible to establish the specific character of any one of the earlier described forms. They have, on the contrary, been variously thought to be responsible for the primary disorder, for the complications, and also to be accidental. In fact, streptococci have been found in the buccal secretions of healthy individuals.

Among those who have more recently devoted serious consideration to this subject and have given time and energy to its elucidation, is Medical Inspector Class of the Chicago Department of Health, who more than a year ago described a diplococcus as the cause of scarlet fever, and whose original contention has been since sustained in several communications by himself and by others. His paper in the present issue gives the latest facts that he has developed, and especially reviews one of the most recent European contributions on this subject, which, as is too customary with foreign authors, slights American researches, and only barely alludes to his earlier observations. Dr. Class reviews the whole subject and to avoid injustice, quotes the German authors verbatim to show in their own words the agreement of the form they have found with his diplococcus scarlatinæ.

It is not always an easy matter to determine the identity or the non-identity of the several cocci that have been put forward in this connection, but, in any event, Dr. Class deserves recognition for his observations, of which those of Baginsky and Sommerfeld may prove to be but confirmatory and deserving of attention because of the conditions under which they were made and the constancy of the results obtained. Class, however, has gone much farther than the German observers, inasmuch as he has developed in white swine, by intravenous injection of virulent cultures of his diplococci, a disease comparable with scarlet fever in human beings. He has also found that the blood from convalescents from scarlet fever is capable of inhibiting the growth of the diplococci on glucose-agar, while the blood from an indifferent source manifests no such activity. The blood from convalescents further exhibits some protective influence when injected into animals subsequently inoculated with the diplococci. It would seem that he has fairly shown that the form described by him meets the requirements laid down by Koch for a specific germ, and, unless his findings can be overthrown, should be accepted as the cause of scarlatina.

Baginsky and Sommerfeld use a certain commendable caution in proclaiming their findings and admit that they may be only a confirmation of an older discovery, but they would have done still better had they given due credit to observations more conclusive than their own, of which they certainly were not totally ignorant.

THE "PROFITESS" OF CHRISTIAN SCIENCE.

The miracle-working "she" of the present day, the "profitess" of "Christian Science," has made an exhibition of herself at a local fair at Concord, N. H., sharing the attention of the public with a high diver. This is supposed to put at rest the suspicions ventured by some that "mortal mind" had got the best of her to the extent that decomposition had set in, as it has with so many of her believers. This fact was sent, with details of her procession around the race course escorted by the marshals of the fair, by special telegram, to the *Chicago Times-Herald* for the satisfaction of her western devotees. The alleged reason of the "profitess'" emergence was her human but unsanctified interest in seeing the diver jump from a height of eighty feet into five feet of water, with the chance of breaking his neck.

THE NOTIFICATION OF TUBERCULOSIS.

The Supreme Court of Michigan has reversed the decision in the lower court in the Shurly case holding that the statute did not include consumption in the contagious diseases requiring compulsory report. According to press reports, the grounds for reversal are that it was beyond the power of the court to decide in the case of this particular statute what diseases are and what are not dangerous and communicable. The court holds that there is no danger line of which courts can take judicial notice, and that this was a question for the jury to decide. A new trial was therefore ordered. What will be the outcome of the future legal proceedings before a jury in this case is, of course, uncertain, but in any event it may be questioned whether the public is yet ready to have tuberculosis put on the list of notifiable diseases; at least this is the opinion of some of the most competent to pass judgment on the subject. There are, moreover, practical difficulties in the way, and unless the whole population is to undergo some sort of tuberculin test, as is done with cattle—assuming this to be reliable and safe—it does not appear quite clear how it is to be thoroughly done. In many of its less manifest forms tuberculosis is probably as dangerous by contagion as are some of the more developed types.

and it is doubtful if these will be generally reported. It may be said that it is well to use precautions imperfectly if we can do no better, but there still remains in this particular case the question whether the classing of tuberculosis among the malignantly contagious diseases, like smallpox, diphtheria, scarlet fever, etc., as enumerated in the statute, is either expedient or correct. As regards either there is still some difference of opinion.

MUSICAL TALENT AND DEGENERACY.

In an article in the *American Journal of Insanity*, on "Degeneracy in the Army," noticed elsewhere in The Journal,[1] Dr. Charles E. Woodruff makes mention of the interesting fact that the musicians in the army are in some respects different from the average soldier, that they present a larger proportion of stigmata and require a different system of discipline. These army musicians are, it is understood, generally enlisted as such, but they may be taken from the ranks if they are known to manifest especial musical ability. The observation is an interesting one, as it seems to show that talent in this particular line, at least in the class of enlisted musicians, is associated with a certain degree of defect. How much the possibility that in the recruiting of musicians there may be a laxity of inspection, as compared with that of other enlisted men, has to do with this fact Dr. Woodruff does not even suggest, but it naturally occurs to one as at least a possibility. It is hardly likely, however, that even in this case the laxity would be so great as to permit the enlistment of a regular class of degenerate musicians as compared with others of the same occupation. The natural inference from the fact is that musical talent and degeneracy to some extent are associated. This accords with the view already editorially expressed in The Journal, that music has certain degenerative tendencies that are worthy of consideration by the profession.[2] It is certainly possible that a more or less exclusive devotion to this sensuous and emotional art, as a pursuit, may be associated with an original defect, as well as develop one where it did not previously exist.

THE ROSE SPOTS OF TYPHOID FEVER.

The rose spots form an important diagnostic feature in typhoid fever. The cause of the cutaneous changes that present themselves as rose spots remained unexplained until a year ago, when Neufeld and Curschmann succeeded in cultivating typhoid bacilli from the blood in the spots, thus demonstrating that the roseola depends on the lodgment of the bacilli in the skin. But Neufeld did not succeed in demonstrating bacilli in sections of roseolous areas, and consequently a clear idea of the exact relations of the bacilli to the lesions in the skin could not be formed. E. Fraenkel,[3] who was one of the first to show that the typhoid bacilli multiply rapidly after death and that the masses of bacilli found in properly stained sections of typhoid organs are largely of post-mortem origin, succeeded readily in finding bacilli in the rose spots after preservation of the excised pieces in bouillon at 37 C. for eighteen hours. Now, bacillary masses encountered either in organs some time after death or in tissues preserved after excision indicate the localization of the bacilli during life, because colonies or groups develop only in those places that harbored single bacilli before death or before excision. Fraenkel examined in this manner spots from four patients, and the results harmonize well in all essentials. In three of the cases cultures from the blood of rose spots gave colonies of typhoid bacilli. The bacilli lodge in the papillary body of the skin and preferably in the lymphatic vessels. Judging from the small number of masses found in sections from the pieces, subjected to incubation as described, it may be concluded that but few bacilli are required to produce the cutaneous eruptions of typhoid. The efflorescences are not merely hyperemic areas, but areas of genuine inflammation with cellular proliferation, especially of the fixed connective-tissue cells. In some areas coagulative necrosis also takes place. Hence, the distinct swelling and elevation of the rose spot. From the histologic structure of the rose spot it also becomes evident that the lesion has not subsided wholly on the disappearance of the redness. And Curschmann has pointed out that in some cases brownish or yellowish spots with a little desquamation may appear in place of the rose spot. In children and young adults he occasionally observed that small vesicles with turbid contents, which rapidly dried up, developed in the epidermis of rose spots. It may be concluded, then, that the rose spots of typhoid fever are inflammatory foci resulting from the deposition of typhoid bacilli in the lymph-vessels of the skin. Whether bacilli may reach the free surface of the skin through these lesions has not been demonstrated, but it does not seem unlikely that this may occur, and the possibility of dissemination of bacilli from the skin should not be lost sight of.

Medical News.

CALIFORNIA.

Dr. James M. Shannon, Oakland, has returned from Europe.

Dr. Millard G. Hinkle, Stockton, has moved to Seattle, Wash.

Dr. Samuel H. Buteau, Oakland, has returned from a five-months trip to Europe and Asia.

Dr. J. Underwood Hall, Jr., president of the San Jose Board of Health, has been granted leave of absence for a year to study municipal hygiene in Europe.

The health report of San Jose for August shows that no contagious diseases were reported during the month. There were 27 births and 17 deaths reported—a death-rate of 8.16 per thousand. Consumption caused 4 deaths and heart disease 3.

The health officer of Oakland, Dr. James H. Todd, in his annual report recommends, and the board of health has under serious consideration, the adoption of rules whereby consumption shall be placed on the list of contagious diseases and local quarantine established against it.

COLORADO.

Dr. Russell, who has been practicing in Louisville, has located in Colorado Springs.

Drs. Charles E. and Clara S. Bryant, Pinon, Montrose County, have moved to Denver.

The Hebrew Home for Consumptives, Denver, opened a year ago, is to have a new wing, to cost about $30,000, which has already been raised by voluntary contributions. The B'nai B'rith provides for the support of this institution.

---

[1] Abstract 50, p. 846.

[2] The Hygiene of Music; Editorials, The Journal, xxxi, 189, 734.

[3] Ztft. f. Hyg. u. Infektionskr., 1900, xxiv, 482-496.

The medical department of the University of Denver opened its twentieth annual session September 11. Chancellor William H. Buchtel made the opening address. The laboratories have been newly equipped and an endowment fund for their maintenance has been started.

CONNECTICUT.

Dr. Victor S. Merritt, Hartford, has purchased the practice of Dr. William A. Jackson, Haydenville, and will locate there.

Dr. John E. Martin was appointed attending physician to the New Britain General Hospital, September 10. The board also appropriated $100 for surgical instruments.

Dr. Moses C. White, who for the past twenty-five years has been at the head of the work in pathology at Yale University medical department, will retire from active work and will be continued as professor emeritus. The chair in pathology will be filled by Dr. Charles J. Bartlett, who has been assistant professor for the past five years. The chair of obstetrics and gynecology, made vacant by the death of Dr. George Campbell, will be filled by Dr. Otto G. Ramsay, of the Johns Hopkins University.

ILLINOIS.

Dr. Harry D. Browning, Little York, has sold his practice and moved to Oskaloosa, Ia.

Dr. James M. Thornton has moved from Powellton back to his old home, Fort Madison, Ia.

Dr. William B. Maddox, Augusta, was married to Miss Ida King, of Keokuk, September 13.

Dr. Stanley Burr Dickenson, Austin, was married to Miss Nellie Cummings Shurtleff, September 26.

Dr. S. P. Hart, Auburn, has moved to Waverly and has entered into partnership there with Dr. J. H. Barto.

Dr. William S. Crawford, Galena, has been elected county physician of Jo Daviess County at a salary of $300 a year.

Dr. Charles B. Fry, Mattoon, has been appointed chief surgeon of the Peoria division of the Illinois Central Railroad.

Dr. Nelson A. Wright, Ramsey, has purchased the Manito property and practice of Dr. Thomas C. Murphy, and has moved to Manito.

The supervisors of Winnebago County have appropriated $500 to the city hospital and the same amount to St. Anthony's Hospital, Rockford.

The corner-stone of the new Deaconness Hospital, Bloomington, was laid September 10. The building is to be in the shape of a Greek cross, two stories in height, and will contain forty rooms, including an isolation ward.

The attorney-general is about to bring suit against the Metropolitan Medical College, formerly the Independent Medical College, Chicago. The charge is made that the institution issues diplomas without requiring a preliminary course of study.

Chicago.

Dr. Albert H. Hoy and family have returned after a summer spent in Europe.

Dr. Frederick M. Rittenhouse was married to Miss Mary L. Wood, Cairo, September 25.

Dr. and Mrs. Joseph Matteson have returned from a three months' trip to the Black Hills.

Medical inspection of the public schools began September 17 by a force of fifty inspectors.

The Chicago Medical Society is about to publish an official medical directory of Cook County. The first meeting of the season will take place October 3.

The Physicians' Club met September 24, Prof. Albion W. Small of the University of Chicago in the chair, and discussed "The Requirements for Admission to the Medical School."

The medical staff of the Norwegian (Tabitha) Hospital has founded a library for the use of patients and attendants. It consists of 500 volumes, and represents an outlay of about $1000.

The South Chicago Hospital will soon be opened. A house containing thirteen rooms has been purchased, and is now being renovated and prepared for patients. The officers of the Hospital Association are: Dr. Charles F. Swan, president; Dr. Albert W. McLaughlin, vice-president, and James J. Larkin, treasurer.

Dr. G. Frank Lydston is about to issue a new book, from the Riverton Press, Chicago, under the title of "Panama and the Sierras, a Doctor's Wander Days." It will contain observations and character sketches gathered during several trips to the Isthmus of Panama, the west coast of Central America and Mexico, and the Sierra Nevada, and will be profusely illustrated.

The Northwestern University Medical School will open for its fall session October 2. Dr. Joseph Zeisler will deliver the opening address on "Specialties and Specialists." With the completion of the new Wesley Hospital, now well under construction, the college will have more than 700 hospital beds for clinical instruction. Prof. Weller Van Hook, chief surgeon of Wesley Hospital, has reorganized the course of didactic surgery. A new amphitheater, with a seating capacity of 300, is to be constructed at Mercy Hospital for Prof. J. B. Murphy's clinic. Dr. William E. Schroeder has been made associate professor of surgery and, together with Prof. S. C. Plummer, will be associated with Professor Van Hook in Wesley Hospital.

HEALTH DEPARTMENT.

The deaths reported for the week ended September 22, 440, exceeded those in the corresponding week of 1899 by 25, the respective death-rates per thousand being 13.53 and 13.45. Of males, 364, and of females 176 died. There were 94 deaths under 1 year of age; 59 between 1 and 5 years, and 76 over 60 years. The principal causes of death were: Acute intestinal diseases, 77; consumption, 54; heart diseases, 41; nervous diseases, 36; violence, 36; pneumonia, 22; cancer, 17; Bright's disease, 15; typhoid fever, 7; suicide, 5. During the week, 41 examinations of food and 28 for suspected diseases were made in the laboratory. Of contagious diseases, 87 cases were reported, of which 51 were diphtheria. At the stockyards, 45,940 pounds of meat were condemned. Of the 297 specimens of cream and milk analyzed, 14 per cent. were below grade.

INDIANA.

Dr. Reid A. White, Lafayette, will locate in Helena, Mont.

Dr. George H. Grant, Richmond, is very ill with typhoid fever.

Dr. George M. Young, Evansville, surgeon for the southern lines of the Illinois Central Railroad, has been made local surgeon of the northern lines also.

The Medical College of Indiana has set aside $1500 to maintain fifteen beds at St. Vincent's hospital for use in bedside instruction to senior and junior students.

Diphtheria is running a severe course at South Bend. In August there were 130 cases and 13 deaths, and up to September 13 there had been 77 cases and 7 deaths for the month. The health authorities are now "trying to maintain the strictest quarantine."

Dr. J. Milton Rhodes, Indianapolis, who was fined for assault and battery by a justice of the peace on account of a collision which occurred while he was driving to see a patient, has been held by Judge Alford, of the criminal court, not liable for the injuries inflicted.

IOWA.

Dr. Mary L. Geiser, Keokuk, has returned to Fort Madison.

Dr. Edwin C. Bliss, Grinnell, has moved to Radcliffe, Hardin county.

Dr. John T. Hendershott, Monroe, has been obliged by ill-health to move to Southern Colorado.

Dr. H. C. Homer, Waterloo, has moved to What Cheer, where he will be associated in practice with Dr. John A. Riggen.

Typhoid fever is epidemic at the state asylum, Independence. Thus far there have been 106 cases, with 8 deaths. A filthy water-tank is said to have been the cause.

KANSAS.

Dr. C. E. Munn, Topeka, has been appointed city bacteriologist.

Dr. Percy L. Germane, who has been residing in Grandin, Mo., has returned to Holton.

Dr. Benjamin E. Jones, Buffalo, has been appointed head physician of the Modern Woodmen of America for Kansas and Oklahoma, and has moved to Kansas City, Kan.

A "doctor," of Randolph, recently convicted of practicing medicine under a diploma from the Independent Medical College of Chicago, has been arrested at Hays City and brought to Topeka by the United States Marshal, on the charge of negotiating through the mails for the sale of some bogus medical diplomas. He will be arraigned before the United States Commissioner.

MARYLAND.

The Cecil county board of health advises the establishment of a county hospital at Elkton.

The report of Dr. J. Clement Clark, superintendent, shows that there are 229 male and 63 female patients in the State Hospital for the Insane, at Sykesville. Many applications are being received for the admission of private patients, and the superintendent thinks it might be advantageous to the state to receive them until the hospital is filled.

Baltimore.

Dr. Frederick Dobyns will spend October in Paris.

Dr. Edward J. Bernstein has returned from Europe.

Dr. Alexander D. McConachie has returned from a visit to Canada.

Drs. Francis T. and L. Wardlaw Miles have returned from Europe.

Drs. Thomas S. Cullen and Francis J. Kirby have returned from Paris.

Dr. B. Merrill Hopkinson has returned to the city after a summer's sojourn at Prout's Neck, Me.

Dr. R. T. Fleming has resigned his position as assistant resident physician at the City Hospital, and Dr. Owen will succeed him.

It is proposed that the health department undertake the destruction of the mosquitoes and thereby the eradication of malaria, which is quite prevalent at this season of the year. By pouring a small quantity of common kerosene oil in each of the 70,000 privy vaults and in all stagnant pools, it is believed that these pests can be eradicated. Mosquitoes are the bane of our citizens for five or six months annually.

The health department has made arrangements with the authorities in charge of Catholic parochial schools to place the latter under the department so far as health regulations are concerned in the same manner as the public schools. Hereafter, cases of diphtheria, scarlet fever, and other contagious diseases will be reported by the teachers in these schools and the pupils will be kept at home until they can present a certificate of health from a physician.

MASSACHUSETTS.

Dr. Ernest B. Young, Boston, was married on September 3 to Miss Grace Simonton, of Rockland.

The Wakefield board of health has ordered the local high school building closed until its sanitary condition has been so improved as to be satisfactory to the board.

Dr. George E. Chamberlain, Lawrence, who served during the Spanish-American war in Jacksonville, Savannah and Cuba, has been appointed acting assistant-surgeon in the army and is waiting orders.

The physicians of Lynn enjoyed an outing at Lynnfield, September 13, had a baseball match and a shooting contest.

The Hampden County Medical Society has recorded its disapproval of the reduced fees given by certain fraternal and benevolent societies, claiming that the medical practitioner should insist on at least the ordinary compensation instead of a stipulated sum per annum. Thus far, there was no room for litigation. It appears, however, that a patient who was sent by one of these so-called contract physicians to the Mercy Hospital in Springfield was refused admission to that institution unless the doctor in attendance withdrew from the case, which he finally consented to do for the sake of the patient, who required treatment which could be afforded only at a hospital. A suit will now be brought to ascertain whether the hospital staff could lawfully take this action under its charter, which provides that all patients shall be treated there who are brought to the institution by reputable physicians.

MICHIGAN.

Dr. George E. Grover, Evart, has sold his practice and will locate in Bay City.

Dr. R. C. Mahaney, who was graduated at Ann Arbor, this summer, has located at Owosso.

Dr. Andrew L. Swinton, Ontonagon, was married to Miss Ella Williams at Olivet, September 13.

Dr. James R. Arneill, Ann Arbor, was married to Miss Sara H. Taylor, at Los Angeles, Cal., recently.

The Michigan College of Medicine and Surgery, Detroit, began its fall term September 18. Prof. Robert H. Honner delivered the opening address.

A minimum standard has been adopted by the State Board of Registration and Examination, and the medical colleges of the state have been notified as to its details. It provides for a preliminary education equivalent to secure entrance into the freshman year of the university, including at least one year of Latin. The curriculum must comprise in lectures and teaching: Anatomy, 130 hours; physiology, 200 hours; chemistry and toxicology, 150 hours; pathology, 100 hours; therapeutics, 150 hours; histology, 60 hours; hygiene, 30 hours; practice of medicine, 390 hours; surgery, 195 hours; obstetrics, 120 hours; gynecology, 30 hours; bacteriology, 60 hours, and medical jurisprudence, 15 hours. The laboratory work must not be less than 240 hours in anatomy, 80 in physiology, 240 in chemistry and toxicology, 80 in pathology, 80 in histology, 48 in surgery and 120 in bacteriology. The clinical work must be reviewed by a committee of the board.

MINNESOTA.

Dr. Charles H. Norred, Minneapolis, who was appointed special quarantine officer by the board of health, several months ago, has resigned.

Albert Lea is agitating the question of a general city hospital, and two meetings have been held by the local profession in furtherance of the project.

Dr. J. Frank Corbett, bacteriologist of the Minneapolis health department, is seriously ill with diphtheria contracted while making cultures in the laboratory.

Dr. Mabel Austin has proposed to the St. Paul City Hospital board of control, to devote her services without compensation until June, as bacteriologist and pathologist to the hospital, provided the laboratory is so enlarged and equipped as to enable her properly to do the work.

Dr. Justus Ohage, health commissioner of St. Paul, has secured warrants for the arrest of a St. Paul butcher and the agent of a packing company for selling meat condemned as unfit for food. He has already obtained the passage of a resolution through the board of aldermen revoking the butcher's license.

The incorporation of the Medical Defense Association of Minnesota, whose object is to protect the interests of the medical practitioners of the state, is announced. The directors are Drs. James H. Dunn and John W. Macdonald; Minneapolis; Thomas McDavitt and Charles A. Wheaton, St. Paul, and others.

MISSOURI.

Dr. William H. Chrisinger has moved from Trenton and located in Princeton.

The Kansas City Medical College opened for its thirty-second annual session, September 12.

Compulsory vaccination of school children in the city is advised by Dr. Edwin E. Hunter, assistant health officer of St. Joseph.

The Medico-Chirurgical College, Kansas City, began its fourth year, September 12. Addresses were made by Dr. Blencowe E. Fryer on "The Pleasures of Medical Studies"; by Dr. Eugene R. Lewis, on "Now and Then," and others. A new $15,000 building for the college is to be erected during the present year.

NEW YORK.

Dr. Frederick M. Higgins, who has been practicing in Bozeman, Mont., has returned to Oswego.

Dr. William E. Palmer, Le Roy, was married to Miss Zilla Marietta Green, at Greigsville, September 12.

Dr. Charles E. White, Waterville, has moved to Rome.

Dr. Louis D. Masson has been appointed house physician at the Cohoes City Hospital.

Rome, during August, had 13 births and 23 deaths, of which cholera infantum caused 8. The sanitary inspector reported that the city water-supply was now uncontaminated.

The new census has surprised Binghamton by reducing materially her estimated population of 45,000. The new rating will increase the per thousand death-rate from 15.71 to 17.8 for last year.

Buffalo.

Dr. Sigmund Goldberg has returned from a three-months visit in Europe.

At a recent meeting of the medical section of the Buffalo Academy of Medicine, Dr. A. L. Benedict read an abstract from his essay on "Clinical Quantitative Estimation of Proteid Digestion in the Stomach," which was awarded the medal by The American Medical Association.

During August there were 509 deaths, as compared with 425 in the corresponding month in 1899. There were 32 deaths from consumption, 88 from cholera infantum, 42 from cancer, 17 each from apoplexy and meningitis, 29 from nephritis, and 13 each from inanition and typhoid fever. Of the deaths, 203 were children under 5 years of age, and 65 were 70 years old or over. There were 606 births during the month.

New York City.

Dr. Robert C. Miles has returned from a summer cruise.

Dr. William D. Farrell has located in Fort Dodge, Iowa.

Dr. L. I. Mason was recently married to Miss Lillian B. Thatcher, also of New York.

Dr. John A. Horn discharged his colored servant, and a week afterward the latter tried to shoot the Doctor, who succeeded in disarming him.

The commissioners of the new State Hospital for Consumptives have selected a site at Big Clear, near Saranac Inn station. They admit that this is more expensive than the one at Dannemora, but they object to having the hospital associated with the state prison.

Mr. George D. Sweetser has left $5000 each to the Home for Incurables, Colored Home and Hospital, Woman's Hospital of the State of New York, House of Rest for Consumptives New York Infant Asylum, New York Skin and Cancer Hospital and the Hospital for Ruptured and Crippled.

Roosevelt Hospital has just been provided with two electric automobile ambulances, each costing about $3000, and manufactured by the firm that made the pioneer automobile ambulance here for St. Vincent's hospital. It is announced that the New York and Presbyterian hospitals will soon have similar ambulances.

The ambulances of both Roosevelt and the Harlem Hospitals within the last few days have been in smash-ups, in which driver, surgeon and patient have all been injured. In one case the surgeon escaped with bruises and a severe scalp wound; in the other the surgeon had his leg broken and the driver sustained a fracture of one rib. In both instances street excavations were partly responsible for the mishap.

Dr. William N. Berkley, of Bellevue Hospital, has spent the summer studying the question of relation of mosquitoes to malaria. He is now conducting experiments on a man who is in Bellevue Hospital, suffering from a severe form of malaria. This man permitted a number of mosquitoes to draw blood from him, and thus contributed his mite to the cause of science.

The Bronx water famine is no longer a mere matter of inconvenience; physicians in that section report an unusual amount of sickness, which they think can be fairly attributed to the lack of a proper supply. It is rumored that this state of affairs is entirely preventable—is indeed a matter of politics. The citizens are thoroughly aroused, and have decided to take upon themselves the task of investigating the water-supply of their borough. They have already entered on this work with enthusiasm, and promise some interesting developments in the near future.

OHIO.

Dr. Charles E. Stewart, Sand Fork, has moved to Wellston.

Dr. Orville K. Hooper, Waverly, has located in Brooklyn, N. Y.

Dr. M. Howard Carmedy, Painesville, has returned after a prolonged absence in Great Britain.

The medical department of Western Reserve University, Cleveland, has under construction a new laboratory for clinical microscopy, and an isolating building for contagious diseases, both connected with Lakeside Hospital. The new pathological laboratory at Charity Hospital is now completed.

Cincinnati.

Dr. Mary Hawes, who was obliged recently to go to Denver for her health, has been made assistant to the chair of histology in Gross Medical College.

Dr. Harry F. Gau, has left for the East and Europe. He will spend some time at Johns Hopkins Hospital, Baltimore, going thence to New York, and subsequently to Europe, where he will remain two years.

Statistics just compiled by the secretary of state show that 2845 inquests were held in Ohio during the past fiscal year, an increase of 151 over the previous year. There were 122 homicides, 374 suicides, 117 deaths from intemperance, and the balance from accidents or unknown causes.

Dr. Frank Lamb, brother to the present senior resident surgeon at the Cincinnati Hospital, has obtained the interneship held by the late Dr. Herbert Elliot.

The city health officer has divided Cincinnati into 22 districts in order to determine the relative healthfulness of various localities. The statistics should show just what diseases are most prevalent. Following this plan, a health census of the city, for the purpose of determining the percentage of death and disease by districts will be made.

PENNSYLVANIA.

Dr. James G. Heading, Academia, was nominated for Congress, September 17.

Dr. Wentworth D. Vedder has been elected president of the Mansfield board of health.

Dr. Daniel G. Hersh, East Greenville, has purchased the practice of Dr. M. B. Oberholtzer, and has moved to Red Hill.

Dr. N. H. Rachlin, who has been serving as interne in Bellevue and Willard Parker hospitals, New York, has gone to Johnstown, as assistant to Dr. Louis H. Mayer.

The City of Allegheny and two firms of contractors are named as defendants in a suit for $10,000 brought by Dr. C. Le Roi Thompson, on account of a fall from a bicycle, by which his arm was broken.

At the annual meeting of the Trustees of the State Asylum for Chronic Insane of Pennsylvania, Wernersville, held at South Mountain, near Reading, September 10, Dr. Samuel S. Hill was re-elected superintendent for the ensuing year, Dr. Alexander W. Smith, and Dr. Laura Hulme, second assistant physician.

Philadelphia.

Dr. Andrew J. Downes has returned from Europe.

Dr. W. L. Rodman has been elected professor of surgery in the Woman's Medical College, but retains his former connection with the Medico-Chirurgical College.

Langdon Mitchell's dramatization of Dr. S. Weir Mitchell's novel, "The Adventures of Francois" is to be played at the Park Theater, beginning October 6.

The school medical inspectors throughout the city began their work at the opening of the public schools, September 10. So far the city has made no appropriation for this work, which is purely voluntary.

The J. B. Lippincott Company has purchased land in East Washington Square upon which to erect its new building. The site was once occupied by the old Walnut Street Prison, in which American prisoners were confined during the British occupation of Philadelphia in the Revolution.

A case of smallpox was discovered in the Pulaskitown settlement, Germantown, September 22. The patient was at once taken to the Municipal Hospital and the house has been disinfected.

The new entrance building of the Pennsylvania Hospital, to cost $60,000, is now far advanced and will be finished by December 1. The building consists of one story and basement, built of colonial brick. It has a depth of 88 feet, and is 45 feet wide. The first floor will consist of an entrance hall, and assembly room, and the basement will be divided into a kitchen, dining and other rooms.

At a joint meeting of the committee on office and the committee on hygiene of the board of education held a few days ago a complete set of rules were adopted looking to better hygiene in the public schools. Some of these were as follows: The temperature in the rooms should never be permitted to go under 65 nor over 76 F. When the weather will permit, the windows are to be raised at recesses for 10 minutes, and the windows are to be raised and the doors opened at the close of school. Sun should be permitted to shine in the school-room as much as possible. Spitting is prohibited.

The total mortality of the city during the week ended September 22, was 356, a decrease of 74 over the previous week, and a decrease of 15 over the corresponding period of last year. The principal causes of death were: Apoplexy, 9; nephritis, 24; cancer, 12; cholera infantum, 21; tuberculosis, 39; heart disease, 40; appendicitis, 5; pneumonia, 16; suicide, 2. Typhoid fever, 41 cases, 5 deaths; scarlet fever, 12 cases, 2 deaths; diphtheria, 101 cases, 15 deaths.

The will of the late Dr. J. M. Da Costa, which was admitted to probate, September 24, devises to the Pennsylvania Hospital $5000 to endow a bed in the medical ward; to the Children's Hospital, $5000 to endow a bed in memory of his son, John M. Da Costa; to the College of Physicians, $5000 to endow the Publication Fund; to the University of Pennsylvania, $5000 for the Professors' Retiring Fund, and to the Sunday Breakfast Association, $1000. His collection of medical charts, models, pictures and drawings is left to Jefferson Medical College, and his extensive medical library, to the College of Physicians.

TEXAS.

Dr. George A. Trott, Georgetown, was married to Mrs. Donnie Gwinn, at Austin, September 13.

The public schools for whites at Marshall have been ordered closed until further notice, owing to an outbreak of scarlatina in the town.

Sealy Hospital, Galveston, which was reported to have been destroyed by the storm, suffered no harm aside from broken windows and drenching of certain rooms. The nurses' home, which adjoined it, was completely demolished. None of the regular inmates of the hospital died, but many died who were brought there in the emergency. The hospital sheltered several hundred refugees during the storm.

Deaths and Obituaries.

Dr. Alfred Stillé.

Dr. Alfred Stillé, ex-President of the American Medical Association, whose death occurred September 24, was born in Philadelphia in 1813. His academic and medical education was received at the University of Pennsylvania, where he took his degree of bachelor of arts in 1832 and of doctor of medicine in 1836. He supplemented his college course by service as a resident physician in the Philadelphia and Pennsylvania Hospitals and by study abroad, in Paris and other European capitals. From 1844 till 1850 he lectured on pathology and the practice of medicine before the Pennsylvania Association for Medical Instruction. In 1854 he was elected professor of the theory and practice of medicine in the Pennsylvania Medical College, and filled the chair until 1859. In 1864 he was chosen to a similar position in the University of Pennsylvania, and held it until his resignation in 1884. He was one of the founders of The American Medical Association and one of the first secretaries, and was President at the meeting in San Francisco in 1871. Dr. Stillé is best known to the profession as a medical writer, though his career as a teacher was long and successful. His great work on therapeutics, which passed through a number of editions, was long the standard work on the subject, and his connection with the National Dispensatory has made his name almost a household word. Aside from these he published many notable papers and monographs, among which may be mentioned his work on cerebrospinal meningitis, one of the most often quoted of the earlier contributions to the subject. He was one of the partakers in the early movements of the American Medical Association to reform medical education, and published a brochure on the subject in 1845. Dr. Stillé's record speaks for itself; as a writer and a teacher he has made his mark on the medical history of the country, of which his career will form a not insignificant part.

Until the last few months Dr. Stillé's health had been remarkably good for one of his age, a paralytic stroke three years ago leaving no trace but a slight lameness. The immediate cause of his death was bronchitis contracted about six months ago. His great age was a hindrance to his recovery and he gradually failed. Last week his condition took a sudden change for the worse, and on Saturday it was evident that death was near, but he retained his faculties until the last.

Dr. Stillé was married twice. His second marriage occurred in June of last year to Miss Katherine A. Blakiston, who survives him. His son, Dr. Henry Stillé, is a prominent physician in San Antonio, Texas.

Hunter Holmes McGuire, M.D.

Dr. Hunter McGuire, whose death occurred at Richmond, Va., September 18, has been a leading figure in American medicine for the last thirty or forty years. Born in Winchester, Va., in 1835, himself the son of a physician, he received his first medical degree from the Winchester Medical College, in 1855. Desiring to still further complete his medical education, he attended lectures at the Jefferson Medical College in Philadelphia, and took his second degree of M.D. at Richmond, Va., 1860. On the breaking out of the Civil War he enlisted in a Virginia regiment, but was almost immediately commissioned as surgeon, and served in that capacity and as medical director under "Stonewall" Jackson, Ewell and Early throughout the war. He was the first on the Confederate side to inaugurate the recognition of medical officers as non-combatants and their release when taken prisoners. After the surrender at Appomattox he settled in Richmond, where he took the chair of surgery in the Medical College of Virginia, and filled the position until 1878, when the demands of his extensive practice compelled him to give up the active work of teaching. Since this retirement he had been increasing his surgical work and reputation, so that at his death he stood easily among the first in the specialty. In his state and throughout the South generally he was a leader in his profession, and there were few who had a record that so endeared them to their fellow citizens. Dr. McGuire was not a voluminous writer as compared to some, but his contributions to medical literature were nevertheless numerous and valuable, covering many departments of surgery. His abilities had been recognized at home and abroad, and he had held many high active and honorary positions. The estimation in which he was held is shown by his election to the Presidency of THE AMERICAN MEDICAL ASSOCIATION in 1892, an honor shared by few; besides this, he had been Vice-President of the same body in 1881 and of the International Medical Congress in 1876. The other similar high positions he had filled are too numerous to mention; in all he served with dignity and honor. His death was not unexpected, as he had for months been in a very critical condition from a paralytic attack, which from the first caused the gravest fears as to its outcome. In his death his country has lost one of the foremost members of our profession.

Lewis Albert Sayre, M.D.

Dr. Lewis A. Sayre, the father of orthopedic surgery, died at his home in New York City after a long illness, September 21, aged 80 years. He was born February 20, 1820, at Bottle Hill (now Madison), N. J., of good revolutionary stock, his grandfather, Ephraim Sayre, having been a devoted patriot. He received his early education at Madison Academy and at Wantage Seminary, Deckertown, N. J., then lived for two years with relatives in Lexington, Ky., and was graduated in 1839 from Transylvania University. He determined to study medicine, although he had been destined for the ministry, and returning East studied under Dr. David Green in New York, attended lectures at the College of Physicians and Surgeons, from which he was graduated in 1842. His graduation thesis was on "Spinal Irritation." He was immediately appointed prosector to the professor of surgery and occupied that position until 1852, when he was appointed emeritus prosector. In 1853 he was made surgeon to Bellevue Hospital, and in 1859, surgeon to Charity Hospital. He was one of the organizers of Bellevue Hospital Medical College in 1861, and was given the chair of orthopedic surgery, fractures and luxations. From 1859 till 1866 he was resident physician of the city of New York, and during that period made many important contributions to the literature of hygiene and public health. He was one of the first to advocate the establishment of a national quarantine. In 1876 he presented a paper on "Morbus Coxarius" to the International Medical Congress and its treatment he illustrated by operating before the assembly. In 1877, by invitation, he visited Europe and was received as few American surgeons had been. He lectured and made demonstrations and operations at hospitals in London, Liverpool, Manchester, Birmingham and Cork. He received the honor of a resolution of thanks, passed by the British Medical Association, for demonstrations of the methods and details of his treatment of spinal curvatures. He was a prolific contributor to medical literature. His more extensive works are: "An Illustrative Treatise on Spinal Disease and Spinal Curvature," "A Practical Manual of Club-Foot" and "Lectures on Orthopedic Surgery and Diseases of Joints." He was one of the founders of the N. Y. Pathological Society, in 1844, of the N. Y. Academy of Medicine

and of THE AMERICAN MEDICAL ASSOCIATION. He was Vice-President of the latter in 1866, and President in 1880. In addition he was connected in an active or honorary capacity with many American and foreign medical and surgical societies, including the British Medical Association, the Medico-Chirurgical Society of Edinburgh, and the Surgical Society of St. Petersburg. Dr. Sayre was a mechanical genius, and many of his inventions in the way of deformity apparatus, etc., are standard among orthopedic surgeons. He was created a Knight of the Order of Wasa, in 1871, by the King of Sweden in recognition of his services to a member of the royal family. He had been in good health until about a year ago, when he was attacked by inflammatory rheumatism, which, with other troubles incident to his advanced age, so exhausted his strength that he succumbed.

JOSEPH NEVILLE, M.D., Omaha, Neb., died on August 18. Drs. Peek, Coffman, Tilden, Mercer, Peabody and Neville were the pioneer surgeons of Omaha. Drs. Coffman, Tilden, Peabody and Mercier still survive. Dr. Neville had suffered for a long period with chronic nephritis, but his death was due to cholera morbus, caused by fish ptomain. He was one of the oldest members of the Omaha Medical Society, which passed appropriate resolutions of condolence at its September 11 meeting.

DAVID B. HILLIS, M.D., died at his home in Keokuk, Ia., September 9, aged 75 years. He was born in Indiana and received his medical education in the medical department of Washington University, St. Louis, from which he was graduated in 1847. At the outbreak of the Civil War he was commissioned colonel of the 17th Iowa Infantry, and rendered distinguished service. At the close of the war he returned to Keokuk and resumed practice. From 1890 till 1899 he was president of the College of Physicians and Surgeons.

HENRY L. SMYSER, M.D., the oldest physician in York, Pa., died September 17, aged 75 years. He was a graduate of the department of medicine of the University of Pennsylvania in the class of 1847. He went to California in 1849; in 1856 served in the Russian army as surgeon-major through the Crimean War, and on his return was contract-surgeon in the United States army during the Civil War. At the close of the war he located in York.

FRANK WARREN MERRIAM, M.D., of New York City, died in Waterford, Conn., September 16, aged 46. He received his medical degree from the New York University in 1880, and served as an interne of the Charity Hospital, New York City, before entering on general practice. He retired on account of ill-health about six months ago. He vainly sought health at Hot Springs, Ark., and afterward in Europe.

THOMAS M. BOWYER, M.D., died at Battle Creek, Mich., recently. He was a native of Virginia, and was graduated in 1853 from the medical department of the University of Pennsylvania, at Philadelphia. During the Civil War he served as captain of Bowyer's Battery. He had been in bad health for several years, and of late had practiced in Las Cruces, N. M.

EDWARD S. ARMSTRONG, M.D., Perry, Mo., died September 8 from injuries received in a runaway accident the previous evening. He was 65 years of age. He was a graduate of the medical department of Washington University, St. Louis, 1867, and had practiced medicine in Perry for more than thirty years.

S. J. LOVE, M.D., who was one of the victims of a mysterious poisoning, died after an illness of two weeks, on September 4, aged 28. He was graduated from the Medical College of Virginia, at Richmond, in 1896, and had practiced since that time at Long's Store, N. C.

ALCINOUS J. SANDERS, M.D., of Grand Island, Neb., died, September 13, aged 63. He was a graduate of Long Island College Hospital, Brooklyn, N. Y., in the class of 1863, and had practiced in Grand Island since 1880. He had been an invalid for four years.

W. L. JOHNS, M.D., died from lung disease at the home of his brother, Dr. H. M. Johns, Ennis, Tex., September 14. He formerly practiced at Alma, but had been traveling for some time in Mexico and the West in the vain endeavor to regain his health.

JOHN MCMAHON BROWN, M.D., a graduate of the University of Dublin in 1868, died from cardiac disease at his home in New York, September 12. For twenty years he was a physician in Dublin and London, but came to New York in 1888.

ALFRED J. MASECAR, M.D., died suddenly at his home in Monroe, Mich., September 16, aged 61. He was a native of Ontario, and was graduated in 1864 from the medical department of Victoria University, Cobourg, Ont.

MICHAEL F. HONAN, M.D., died September 12 at his home in LaGrande, Ore. He was graduated from Bellevue Hospital College in 1879, and had resided in LaGrande for more than twenty years.

ALVIN H. KERR, M.D., Pittsburg, Pa., died September 11, aged 37. He was a graduate of the medical department of the Western University of Pennsylvania, at Pittsburg, in the class of 1888.

GEORGE W. MCLEOD, M.D., died recently at Anderson, Ind., aged 66. He was a native of Kentucky, but had lived and practiced for many years in Indiana.

G. RUBAN LANE, M.D., a graduate of the medical department of Grant University, Chattanooga, Tenn., in 1896, died at Flint, Ala., September 14.

WALTER L. HILLIARD, M.D., Asheville, N. C., died September 4. He was a graduate of Jefferson Medical College, Philadelphia, in the class of 1895.

ARNOLD SELLNER, M.D., St. Louis, died September 14, aged 38 years. He was graduated from Beaumont Hospital Medical College, St. Louis, in 1888.

DEATHS ABROAD.

PROF. DR. WILHELM WAGNER, a surgeon of ability, died recently at Koenigshuette.

DR. DOMINGO FREIRE died recently at Rio de Janeiro. He was well known by his researches in yellow fever.

DR. A. HANAU died at Constance, Switzerland, August 24. He was formerly docent of pathologic anatomy at Zurich, and devoted much study to the transmissibility of cancer.

DR. THOMAS MARTYN SIBBALD, R.N., died recently at Taku, China. He studied medicine at King's College, London, and obtained his M.R.C.S. Eng. diploma in 1875, and his L.R.C.P. Ed. a year later. At the time of his death he was fleet surgeon on board H.M.S. *Centurion*, Admiral Seymour's flagship. His death was directly due to his exertions in behalf of the wounded at Taku.

Therapeutics.

Catarrhal Tonsillitis.

R.	Formalin	m. xv-xx	1-1	33
	Potassii chloratis	ʒi	4	
	Liquoris ferri chloridi	ʒi	4	
	Aquæ menthæ piperitæ. q. s. ad	℥iv	128	

M. Sig. Use as a spray three or four times a day.

FOR THE FEVER.

R.	Quininæ hydrobromatis	gr. xii		75
	Sodii benzoatis	gr. xxii	1	50
	Salol	ʒi	4	

M. Ft. capsulæ No. xii. Sig. One capsule every three hours.

—*Sajous' Annual.*

Gastric Cancer.

To relieve pain of gastric cancer and assist digestion:

R.	Ext. condurango fluidi	℥ii	64
	Acidi hydrchlorici diluti	ʒii	8
	Syrupi acaciæ	℥iv	128

M. Sig. Two teaspoonfuls in water before eating.

—*Exchange.*

Incontinence of Urine.

R.	Potassii citratis	ʒiss	6	
	Spts. etheris nitrosi	℥ss	16	
	Aquæ, q. s. ad	℥ii	64	

M. Sig. One dessertspoonful every five hours until urine is clear. —*Encyc. Med.*

Gonorrhea.

R.	Acidi carbolici			
	Acidi tannici, āā	gr. viii		5
	Glycerini	ʒss	2	
	Aquæ	℥i	32	

M. Sig. Use as an injection at night. —*Exchange.*

Mosquito Bites.

R.	Acidi carbolici	gr. xxx	2	
	Glycerini	ʒiii	12	
	Aquæ rosæ, q. s. ad	℥viii	256	

M. Sig. To be locally applied whenever necessary. —*Exchange.*

Chafing of the Skin.

Where skin surfaces which are in apposition have a tendency to chafe, the following will be found useful:

R.	Magnesii carbonatis			
	Zinci oxidi			
	Acidi borici, āā	ʒii	8	

M. Sig. Apply to the affected parts. —*Encyc. Med.*

Gonorrheal Vaginitis.

R.	Methyl blue	ʒiiss	10	
	Alcoholis	ʒiiiss	14	
	Potassii chloratis	gr. iii		20
	Aquæ destil	℥vi	192	

M. Sig. Two or three tampons of cotton wet with this solution and introduce into posterior vaginal fornix, and retain for two days.

Hemorrhagic Metritis.

R.	Ext. ergotæ fluidi	℥i	32	
	Ext. hamamelidis fluidi			
	Tinct. cinnamomi, āā	℥ss	16	

M. Sig. One teaspoonful every two hours. —Chase: *Med. News.*

Impetigo and Acne.

R.	Acidi carbolici	gr. x		66
	Glycerini			
	Aquæ rosæ, āā	℥i	32	

M. Sig. Apply locally two or three times a day as a wash. —Gould.

Vaginal Antiseptic.

R.	Betanaphthol	ʒiv	16	
	Alcoholis	ʒxxx	120	

M. Sig. Use a teaspoonful to the quart of warm water, previously boiled. —*Exchange.*

Fissured Nipples.

R.	Tinct. benzoini comp	ʒii	8	
	Alcoholis	ʒiv	16	
	Aquæ camphoræ, q. s. ad	℥iii	96	

M. Sig. Shake and bathe the nipples, and apply freely after nursing.

La Grippe in Children.

R.	Tinct. aconiti	m. v		33
	Sodii benzoatis	gr. xx	1	33
	Syr. lactucarii	ʒiss	6	
	Syr. aurantii	ʒv	20	
	Mucil. acaciæ	℥iiiss	112	

M. Sig. One dessertspoonful every three hours. —Perier: *Med. Record.*

Chloralamid by Rectal Injection.

R.	Chloralamid	gr. xlv	3	
	Acidi hydrochlor. dil	m. ii		12
	Spts. vini	m. xv	1	
	Aquæ destil	℥iii	96	

M. Give by rectal injection to produce sleep. —*Agenda Ther.*

Oxyuris Vermicularis—Thread Worms.

In cases of oxyuris vermicularis Sidney Martin employs the following:

R.	Tinct. rhei			
	Magnesii carbonatis, āā	gr. iii		20
	Tinct. zingiberis	gtt. i		06
	Aquæ destil	ʒiii	12	

M. Sig. At one dose, and repeat four or five times a day, according to action. —*Ther. Monatshefte.*

Corns.

R.	Ext. cannabis indicæ	gr. xv	1	
	Acidi salicylici	ʒiiss	10	
	Olei terebinthinæ	m. lxxv	5	
	Acidi glacial. acetici			
	Cocainæ—alkaloidae—āā	gr. xxx	2	
	Collodion, q. s. ad	℥iii	96	

M. Sig. Apply a thin coat every night on top of preceding one. —*Exchange.*

Rectal Injection of Iodids and Bromids.

The *Therapeutic Gazette* contains an extract from an article of Kobner, published in the *Journal de Méd. de Paris*, in which he recommends the following formula when iodids and bromids can not be taken by the mouth:

R.	Potassii iodidi			
	Potassii bromidi, āā	gr. xlv	3	
	Ext. belladonnæ	gr. iv		25
	Aquæ destil	℥vii	224	

M. Sig. Add two tablespoonfuls of this solution to three ounces of warm water and inject into the lower bowel once, and if necessary, twice a day.

If a stronger solution is desired, the following prescription may be employed:

R.	Potassii iodidi			
	Potassii bromidi, āā	ʒii	8	
	Ext. belladonnæ	gr. vii		5
	Aquæ destil	℥x	320	

M. Sig. An ounce of the solution may be given in three ounces of water twice a day by rectal injection.

Societies.

Coming Meetings.

Golden Belt Medical Society, Enterprise, Kan., Oct. 4.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.

Vermont State Medical Society, Rutland, Oct. 11-12.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

New York State Medical Association, New York City, Oct. 16-18.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Medical Society of Virginia, Charlottesville, Oct. 23.

The McKean County (Pa.) Medical Society met in Bradford, September 4, and elected Dr. John B. Mason, Mt. Jewett, president.

The Medical Society of City Hospital (St. Louis) Alumni met September 20, and discussed the new City Hospital in its various phases.

The Lebanon County (Pa.) Medical Society met at Lebanon, September 11. Dr. Ezra Grumbine, Mt. Zion, in the chair. The discussion was on "Dysentery."

The Olmsted County (Minn.) Medical Society met at Rochester, September 11. Dr. Rollo C. Dugan, Eyota, read a paper on "Hyperemesis Gravidarum."

The Warren County (Pa.) Medical Society, at its meeting September 12, elected Dr. William V. Hazeltine treasurer, vice Dr. John Curwen, resigned.

The York County (Pa.) Medical Society met September 7 at York, Dr. Alfred A. Long, York, read a paper on "The Coal-Tar Products," and Dr. Isaac C. Gable spoke on the prevalence of typhoid fever in York.

The Winnebago County (Ill.) Medical Society met at Rockford, September 11. Dr. Thomas N. Miller presided. In his address Dr. Harold N. Moyer, Chicago, declared that the general practitioner was now the people's doctor and that the day of the specialist had passed.

The Ann Arbor (Mich.) Medical Club met at the house of Dr. John A. Wessinger. Dr. Victor C. Vaughan gave an exhaustive address on "Hydrophobia," which was discussed by Drs. Frederick G. Novy and Conrad Georg.

The Salt Lake (Utah) Medical Society was addressed at its September 10 meeting by Health Commissioner King, who spoke on the sanitary conditions of the city, and advised the erection of a large central garbage crematory, with smaller crematories in various districts of the city.

The Mercer County (Mo.) Medical Society was organized at Princeton, August 30, and the following officers elected: Dr. Fred S. Blachly, Modena, president; Dr. Dolph D. McHenry, Princeton, vice-president; Dr. Charles R. Buren, Modena, secretary; and Dr. David W. Reed, treasurer.

The Montgomery County (Ill.) Medical Society was reorganized at Hillsboro, after a lapse of thirteen years, with a membership of about forty. The following officers were elected: Dr. William W. Douglas, Hillsboro, president; Dr. James F. Blackwelder, Litchfield, vice-president; Dr. Joseph M. Trigg, Farmersville, secretary and treasurer.

The Pasadena (Cal.) Medical Society held a symposium on "Typhoid Fever," September 11. Dr. Alfred C. Croftan discussed the clinical microscopy and chemistry; Dr. Francis F. Rowland, the etiology; Dr. Fordyce Grinnell, the symptomatology; Dr. Lorenzo Lockard, the laryngeal manifestations; Dr. George S. Hull, the eye and ear symptoms, and Mrs. David B. Van Slyck and Charles G. King, the treatment.

The Inland Empire Clinical Society met at Spokane, Wash., September 4. Dr. Alexander F. MacLeod read a paper on "The Paste Treatment of Certain Varieties of Cancer," and Dr. James M. Powell, one on "Autoinfection." Dr. Powell was elected a member of the board of censors, vice Dr. Nathan A. Goddard, removed from the city, and Dr. Charles P. Thomas was elected permanent secretary in place of Richard H. Van Heusen, who had also left Spokane.

The Muskingum County (O.) Medical Society held its annual meeting at Zanesville September 13, and elected the following officers: Dr. William A. Melick, Zanesville, president; Dr. William R. Hosick, Adamsville, first vice-president; Dr. Charles A. Dunn, Stovertown, second vice-president; Dr. David J. Matthews, Zanesville, recording secretary; Dr. Anna M. Hill, Zanesville, corresponding secretary, and Dr. Wilbert C. Bateman, Zanesville, treasurer.

The Rhode Island Medical Society held its quarterly meeting in Providence, September 6, president George D. Hersey in the chair. A paper was presented by Dr. Barnard Arnold, Rockland, on "The Eruptions attending Epidemic Influenza"; Dr. Halsey De Wolf, Providence, gave a brief account of the work of the Lying-in-Hospital during the past fifteen years, and John W. Mitchell spoke on the same subject. The president delivered the annual address on "The Medical Library as a Factor in Medical Progress."

The Medical College of Indiana, medical department of the University of Indianapolis, opened September 25. The changes in the faculty include the promotion from lectureships to professorships of Drs. Frank B. Wynn, pathology; John W. Sluss, anatomy; John F. Geis, toxicology and forensic medicine; Edmund D. Clark, surgical pathology, and William M. Wright, surgical anatomy, minor and clinical surgery. The new lecturers are Drs. Charles E. Ferguson, diseases of women; Norman E. Jobes, osteology; Alois B. Graham, gastro-intestinal surgery; Roscoe H. Ritter, physiology; Frederick R. Charlton, genito-urinary diseases, and Prof. M. E. Crowell, of Franklin College, physics. It is the intention of the faculty to erect a building for chemical and biological laboratories during the year.

The Upper Des Moines (Ia.) Medical Association met in Estherville, September 12. President Dr. Quintus C. Fuller, Milford, delivered the annual address, and papers were read by Dr. A. Anderson, Estherville, on "Forceps in Obstetrics"; Dr. G. G. Fitz, Emmetsburg, on "Therapy of Oils," which elicited considerable adverse discussion; Dr. Maurice E. Wilson, Estherville, on "Rheumatism; Dr. Charles S. Shultz, Lake Park, on "Preventive Inoculation"; Dr. Charles B. Fountain, Spirit Lake, on "The Doctor and the Druggist"; Dr. Gilbert G. Cottam, Rock Rapids, on "Fractures"; Dr. Royal G. Hamilton, Ocheyedan, on "The Use of Kerosene in Intestinal Obstructions," and Drs. Charles S. Shultz, Lake Park, and Charles B. Fountain, Spirit Lake, discussed the use of oxygen gas in pneumonia.

The Pennsylvania State Medical Association held its fiftieth annual meeting at Wilkesbarre, Sept. 18-21, President George W. Guthrie, Wilkesbarre, in the chair. About 200 delegates were present from all portions of the State. The visitors were welcomed by Mayor Nichols and Dr. Henry M. Neale, Upper Lehigh, President of the Luzerne County Medical Society. A large number of interesting papers were read and received due discussion. A resolution was introduced by Dr. Lewis H. Taylor, Wilkesbarre, calling on the Legislature to enact a law to prevent the pollution of the streets of the state. The following officers were elected: Dr. Thomas D. Davis, Pittsburg, president; Dr. William B. Ulrich, Chester, first vice-president; Dr. Lewis H. Taylor, Wilkesbarre, second vice-president; Dr. Augustus A. Eshner, Philadelphia, third vice-president; Dr. Martin L. Herr, Lancaster, fourth vice president; Dr. Cyrus L. Stevens, Athens, secretary; Dr. Walter L. Pyle, Philadelphia, assistant secretary; Dr. George Dunmire, Philadelphia, treasurer. The next meeting will be held in Philadelphia, the third Tuesday in September, 1901.

American Association of Obstetricians and Gynecologists.

Thirteenth Annual Meeting, Louisville, Ky.

Sept. 18-20, 1900.

Dr. Rufus B. Hall, Cincinnati, in the chair.

Dr. Lewis S. McMurtry, Louisville, welcomed the Association on behalf of the local medical profession. The Address of Welcome was responded to by President Hall.

ERRONEOUS OBJECTIONS TO BILATERAL INGUINAL CELIOTOMY AND SHORTENING OF ROUND LIGAMENTS VIA DILATED INTERNAL INGUINAL RINGS, AND ITS SUPERIOR ULTIMATE RESULTS IN SIMPLE AND COMPLICATED ASEPTIC RETROVERSIONS OF UTERUS.

Dr. A. Goldspohn, Chicago, read a paper with this title. He laid stress on cutting only through the skin and fat and making the required opening through the aponeurosis, the canal and the internal ring bluntly. The ring is very readily dilated sufficiently to admit one or, if needed, two fingers, and to admit of drawing out the tube and ovary for the exercise of the highest degree of delicate and exact conservative surgery on them without doing violence to their supports. The wound is closed in four layers, *à la* Bassini. In the second layer the round ligament becomes placed as in a sandwich between the posterior surface of Poupart's ligament and a good bundle of elastic muscle at each stitch, which makes hernia impossible and saves the ligament from strangulation while it holds it firmly enough against Poupart's ligament to secure a broad union. Hernia has not followed the writer's operation in fully 125 cases that he has examined or from which he has had reports. As the internal inguinal ring is just in front of the normal lateral location of the ovary and ampulla of the tube, these organs and the posterior surface of the uterus can be reached by one finger in a one-inch opening here, as well as by two fingers in a two-inch opening in the linea alba midway between the symphysis and the umbilicus; and for the necessary access to the pelvic wall to shorten the proper suspensory ligament of the ovary and tube, this small opening serves well; while a large median ventral incision and much traumatism of viscera by that route would be needed and by the vagina it can not be done at all. The round ligaments are always present, if the uterus is. He has never had a death from the operation; but one case died from a serious renal complication that was not previously discovered, owing to an exchange of samples of urine by a nurse. Thorough shortening of the round ligaments via their natural channels and anchoring forward—not laterally—is the only operation that has been proved, or is likely to be proved, to stand what the writer demands as the normal standard for all operations of this kind, and has called it the "double test of pregnancy," i. e., that they do not embarrass gestation and complicate labor, which is the single test, but also do not permit a recurrence of retroversion of the uterus after one or more subsequent labors. The difficulties in diagnosis as to presence of pus are no more than proficient gynecologists will meet successfully, and doubtful cases can be cleared up by ten to fourteen days in bed with temperature douches and extensive fomentations. The scars being in the groins, and covered mostly by hair, are not seen like regular laparotomy scars.

Dr. Charles G. Cumston, Boston, in the discussion, said that from his experience in operating both by the abdomen and vagina, as well as from a pathologic standpoint, it has always seemed to him that serious lesions of the adnexa, such as the essayist had treated through a bilateral inguinal incision, were usually out of reach, and that these lesions could be dealt with more easily and satisfactorily through a median, a posterior or anterior vaginal incision. Simple, uncomplicated cases of retroversion are rare. The Alexander operation in the so-called simple cases of retroversion can be greatly improved by an additional operation through the cul-de-sac.

Dr. Edward J. Ill, Newark, N. J., called attention to the modified operation which was proposed by Dr. H. W. Longyear, of Detroit, at the meeting of the Association last year.

Dr. J. Henry Carstens, Detroit, rarely sees cases of plain, uncomplicated, non-adherent retroverted uteri that require the Alexander operation. The complicated cases of retroversion require some other operative procedure.

Dr. W. E. B. Davis, Birmingham, Ala., referred to the indications for performing the Alexander operation, and called attention to the class of cases in which it should be performed.

Dr. Frederick Coggshall, Boston, said he had performed over a hundred Alexander operations in combination with some other operative procedure.

Dr. Rufus B. Hall, Cincinnati, thinks that the old operation of anterior fixation or ventrosuspension of the uterus is not as popular as it was a few years ago. Soon it will be done only in rare instances. He believes, however, that a modified operation, such as that advocated by the essayist, is based on rational surgical principles, and thinks that the author is working in the right direction.

ROUND LIGAMENT VENTROSUSPENSION OF THE UTERUS.

Dr. D. Tod Gilliam, Columbus, Ohio, in this paper, said that various devices have been resorted to for restoring and holding in place the retrodisplaced uterus. All of these have been faulty and many absolutely prejudicial. The need of the hour is an operation that will utilize the natural supports of the uterus, that will insure a fair amount of mobility, that will adapt itself to the various functions of the uterus—pregnancy and parturition—and that will be lasting in its results, and withal easy of execution. Profiting by the work of Ferguson along this same line, he has devised an operation which he thinks fulfils all these indications, and solves the problem most satisfactorily. The steps of the operation are as follows: 1. A median abdominal section three or four inches in length at the usual site between the umbilicus and pubis. 2. The adhesions are broken up and the fundus brought forward, after which the patient is placed in the Trendelenburg position. 3. Seize the round ligament on one side and bring it to the opening. This may be done either by the fingers or by the aid of forceps. 4. Carry a thread under the ligament at a distance of about one and a half inches from the uterus. The free ends of the thread are brought out of the abdomen and secured by clamp forceps. 5. The other round ligament is secured in the same way. 6. Expose the rectus muscle near the lower end of the incision by retracting its sheath and by rolling it out of its sheath on the tips of two fingers applied to the peritoneal surface under it. 7. Select a point one inch external to the margin of the incision and something over an inch above the pubis, through which the perforating forceps, specially devised for this purpose, is thrust into the peritoneal cavity. The two fingers already in the cavity guard the instrument in its passage and place the thread which surrounds the ligament within its jaws. 8. The perforating forceps is now withdrawn, after removing the clamp forceps from the thread, and both thread and ligament are brought up through the perforated wound in the abdomen. 9. While the ligament is held taut, fasten it into the wound by a to-and-fro catgut suture passed deeply through the ligament and including the tissues on either side. 10. Treat the opposite side in the same manner and close the median abdominal incision. Only a small loop of the ligament should be drawn up through the wound.

A CASE OF COMPOSITE TERATOMA OF THE OVARY.

Dr. W. E. B. Davis, Birmingham, Ala., read a paper on this subject. The author is in doubt as to the nature of the tumor, notwithstanding the above diagnosis was made by pathologists of high standing.

Mrs. N., aged 34, married, was the mother of three children, had always menstruated regularly, except when pregnant or nursing. She noticed a growth in the abdomen two years ago. She had menstruated in January before the growth was noticed, and then missed her periods until March, at which time she menstruated or bled very freely for two weeks. She then missed periods until the following October, with no untoward symptoms except an attack of colic in August. The movements were noticed before August. After October she menstruated regularly until the following January, missed her periods then until October 24, 1899, when a child was born. She has not menstruated since. After the birth of the child at term, the tumor developed quite rapidly, and on May 7, 1900, she was operated on, and was discharged as cured June 9. The tumor was quite large and had a pedicle nearly two inches in breadth, quite thick, and which was attached to the uterus. The fetus was so large and so well formed that the essayist was of the opinion that there had been an ectopic gestation, with rupture of the gestation sac and the expulsion of its contents into the cavity of a pre-existing ovarian cystoma. From the history of the case, the diagnosis had been made of an old ectopic pregnancy. He is still inclined to that opinion.

TREATMENT OF CHRONIC CYSTITIS BY CURETTEMENT OF BLADDER AND INSTILLATIONS OF CORROSIVE SUBLIMATE.

Dr. Charles Greene Cumston, Boston, read this paper and therein drew the following conclusions: 1. Sublimate instillations will often produce a very great improvement in the distressing symptoms met with in both tuberculous and non tuberculous cystitis, such as a diminution in the frequency of micturition, a decrease of the pain, an increase in the capacity of the bladder and an improvement in the condition of the urine. In some cases a complete cure may be had. 2. When the instillations fail to produce the desired effect, curettement of the bladder is indicated in both tuberculous and non-tuberculous cystitis. 3. In gonorrheal cystitis instillations of sublimate are very efficacious and rapidly subdue pain. 4. Under favorable circumstances a radical cure of primary tuberculous cystitis may be obtained by curettement when the vesical lesions are localized and the kidneys free from the disease. Curettement per urethram will not allow the surgeon to reach the entire surface of the bladder, so that when the lesions are extensive they should be directly treated by suprapubic cystotomy. 5. Much relief may be afforded to a large number of patients suffering from tuberculosis of the bladder, but who on account of the advanced stage of generalized infection are in no condition to undergo a more radical operation. 6. When cystitis is due to a prolapsus of the genital organs, and when hysteropexy, combined with anterior and posterior colporrhaphy does not relieve the bladder symptoms, curettement of the bladder, followed by sublimate instillations, is the proper treatment.

Dr. A. Goldspohn does not believe that infiltrations, etc., of the bladder can be recognized by the curette at an early stage of the diseased process. With this instrument the operator can not detect beginning ulcerations or papillomatous growths in this organ. Curettement of the bladder is entirely different from that of the uterus, in that the operator does not receive the tactile information of intelligence from this instrument in the bladder that he obtains from it in curetting the uterus. Scraping the bladder, therefore, is done largely at random, without any touch sensation to govern the operator as to how little or how much surface he shall curette. Under such circumstances it is not rational to assume that the mucous lining of the bladder will be evenly and uniformly curetted. Uneven surfaces or small areas would be left untouched. In the treatment of infectious cystitis, not tubercular, he has obtained good results from a solution of .5 to 1 per cent. of oil of cloves in water.

Dr. J. Henry Carstens agrees with the last speaker that there are certain points in the bladder that can not be reached by the curette. He has had cases of tubercular, gonorrheal and septic infections of the bladder which have yielded to the judicious application of permanganate of potash.

Dr. Edwin Ricketts has never tried this method of treating cystitis in the female, but it seems to him plausible, and he is inclined to try it.

Dr. Rufus B. Hall directed attention to the danger of overdistention of the bladder with injections. Distention of the organ up to the point of causing discomfort to the patient should be the limit of safety.

Dr. James T. Jelks concurred in the statement of Dr. Carstens that permanganate of potash is an invaluable remedy for infective disease of the bladder, particularly of the gonorrheal variety. A solution of 1 to 6000 is strong enough to begin with, the strength being increased in accordance with the indications of the particular case.

Dr. T. J. Crofford, Memphis, has performed curettage of the bladder several times. If the inflammatory process is confined to the neck or thereabouts, there is very little difficulty attending the curettement of that area of surface. No inflammatory zones would be left to cause further trouble.

Dr. Goldspohn does not wish to be understood as opposing curettement of the bladder *in toto*, but believes it ought to be done under the guidance of the eye or tactile sense.

Dr. Cumston, in closing, referred to the pathology of bladder lesions and said they were almost always situated in the trigonum, consequently this is the portion of the viscus which the operator should strive to reach. If the whole bladder surface is involved, suprapubic cystotomy is the operation of choice, and curettement in such a case would do very little, if any, good. He uses the cystoscope in the treatment of this class of cases.

FOUR CASES OF PERFORATED GASTRIC ULCER.

Dr. Henry Howitt, Guelph, Ont., read this paper. The first two cases occurred years ago before the operative procedures were commonly known, and had the usual termination, one dying within twenty-four hours from the commencement of the illness without having had a single symptom indicating the existence of the trouble. The other two reported by him are of recent date, and the patients were saved by timely operations. In one the operation was devoid of any serious difficulty, but in the other the abdomen contained gas and a large amount of pus, the colon was enormously distended, requiring to be opened, and collapsed before the stomach could be reached. There existed also the remains of a ruptured abscess cavity below the transverse portion of larger bowel, the walls of which were formed by it together with the coils of small intestine and omentum. This had its origin probably in a slight leakage which occurred days before the final rupture. The orifice of the ulcer was of sufficient caliber to admit his little finger, and was situated in front close to the pyloric valve. The surrounding parts were so thickened, dense and nodular as to exactly resemble carcinoma of the pylorus and adjacent parts of the stomach. A section nearly two inches in length had to be removed before the ulcer could be closed. The intestines were previously eviscerated to permit of the room necessary to reach the part and to expose the pools of pus in the pelvic flanks and other places difficult to reach. The upper portion of the jejunum was anastomosed by means of a Murphy button to the anterior wall of the stomach. Before doing so care was taken to allow for every possible movement without causing tension of the proximal arm of gut. After the anastomosis was completed, the arm of intestine above was stitched to the wall of the stomach an inch or more to the right and a little above the line of the button. This procedure in his opinion overcomes the acute angle and its ill-effects. Drainage-tubes were inserted through perforations made in the flanks well to the back and in the lower abdomen close to the pelvis, to the outer side of the right rectus muscle. The sutures were all removed, except two in the middle of the wound opposite the umbilicus, on the seventh day. Three hours later the patient had a sneezing fit, and the wound tore open from the upper angle to the umbilicus, exposing the situation of anastomosis, and coils of bowel protruded. It was restitched an hour later without anesthesia, and no ill-effects followed. The patient made an uneventful recovery, and is now for the first time in eighteen years free from gastric distress.

Dr. Richard Douglas, Nashville, Tenn., has had two cases of perforating ulcer of the stomach in which he urged operation, and while preparations were being made to operate on one of them, the patient died. In the other operation was refused. Death ensued some time later. Post-mortem examination in this case revealed a perforating ulcer on the posterior wall of the stomach; while in the other case the ulcer was confined to the lesser curvature.

Dr. James F. W. Ross, Toronto, called attention to the difficulty attending the diagnosis of gastric ulcer in some cases. He had operated successfully on one case of perforating gastric ulcer. The patient did not know that she had anything seriously the matter with her.

Dr. Charles Greene Cumston mentioned a case in which there was an ulcer of the stomach and one in the vagina, of embolic origin, associated with arteriosclerosis.

Dr. Edwin Ricketts narrated the case of a woman, 48 years of age, who had had a gastric ulcer for three years. Under rectal alimentation she gained sixty pounds in flesh. Subsequently she committed some indiscretion in diet, was again taken sick, and consulted another physician, who made a diagnosis of cancer of the pylorus. She went from bad to worse, and finally died. Post-mortem examination revealed a perforating gastric ulcer the size of a lead pencil, situated on the anterior surface near the pylorus.

Dr. A. Vander Veer, Albany, spoke of two cases of gastric ulcer which ultimately resulted in carcinoma of the pyloric end of the stomach. From the number of cases in which he has done gastrointestinal anastomosis, he is satisfied that he has had to deal with the cicatrices resulting from gastric ulcers in many instances.

SOME POINTS REGARDING THE SURGERY OF THE GALL-BLADDER.

Dr. A. Vander Veer, Albany, N. Y., presented the above paper:

No great reliance is now placed on jaundice as a positive symptom. Four interesting and instructive cases are reported, and the following conclusions drawn: 1. An early diagnosis of cases. 2. In suppuration of the bladder with adhesions, a most thorough examination should be made from within by digital exploration and use of the probe for any possible deep-seated calculi. 3. In prolonged operations on the common duct or hepatic ducts, where adhesions are present, and it is difficult to close the incision, after removal of the calculus; drainage through the peritoneal pouch by means of the lumbar stab is advisable. 4. When the patient is suffering seriously from cholemia, with marked ecchymotic spots over the body, intense itching, the blood found in a septic condition, an operation is not to be encouraged; it is too late in the vast majority of cases for the patient to recover. 5. General practitioners as well as the surgeon should place more earnestly before the patient and friends the dangers of repeated attacks of gall-stone irritation resulting in cancer of the ducts, stomach or liver.

DIAGNOSIS OF ECTOPIC GESTATION BEFORE RUPTURE, BASED ON ELEVEN CASES.

Dr. James F. Baldwin, Columbus, said that in a large number of cases an early diagnosis is entirely feasible and will be made as a routine when the attention of intelligent general practitioners is sufficiently directed to the subject. He said that while there are no pathognomonic symptoms of tubal pregnancy, the following points will usually be found in these cases: The patient gives a history of several years of sterility (many exceptions); she has missed a menstrual period, two of them (numerous exceptions); she has noticed some unusual pains in the pelvis, boring, griping, or colicky in character, these pains being situated usually in the region of an ovary. She has perhaps within a few days of the time of consulting her physician had a more or less irregular hemorrhage; perhaps has discharged pieces of membrane which she supposed indicated an abortion, and consults her physician with the idea that such is the case, owing to the hemorrhage and the pain and the suspicion of an existing pregnancy. Possibly, however, there has been no suspicion of a pregnancy, as the woman has accepted her sterility as incurable and has dismissed from her mind such a possibility.

On making a vaginal examination, if the conditions are favorable, the examiner will find on one side of the uterus, or back of it, a fusiform, quite well-defined cystic tumor, about the size of a pullet's egg or a little larger. This tumor will probably be quite tender on pressure, will be quite symmetrical in outline, and will usually be distinctly pulsating. When such a tumor is found in a woman in whom we have reasonable grounds to suspect a pregnancy; when the uterus at the same time is found somewhat enlarged, and having the feel of pregnancy, but not enlarged as much as one would expect in a pregnancy of so long continuance as the history indicates, a presumptive diagnosis of tubal pregnancy is warranted, and the matter of an operation should be carefully and without delay considered. To render the early diagnosis of ectopic pregnancy possible, it is necessary for physicians to learn to suspect it, and to examine patients with that suspicion in mind. The physician who, without making any examination, tells all middle-aged women who come to him complaining of irregular hemorrhages that they are merely having the change of life, will not likely make an early diagnosis of cancer of the uterus, and he will probably tell patients who come to him with symptoms of ectopic pregnancy that they are merely threatened with a miscarriage. He will make no further investigations, and will hence uniformly fail to make a diagnosis. The physician, however, who, having in mind the possibility of an ectopic pregnancy, thoroughly examines all patients whose history and symptoms point to this condition, will in a large proportion of cases make a correct diagnosis and by prompt intervention will achieve a signal triumph for himself and his profession.

Dr. Charles A. L. Reed said that to make a diagnosis of tubal pregnancy before the time of rupture, it is necessary to have the patient under observation constantly for a considerable length of time. He had encountered such a case about seven years ago, the details of which were narrated.

Dr. L. H. Laidley said the only diagnosis of ectopic pregnancy he had ever made was in a case of cancer of the uterus where there was no rupture. He did not suspect the existence of it until he had removed the tubes and had found indications of a developing fetus within the tubes.

Dr. Zinke, Cincinnati, thinks the diagnosis of ectopic gestation is easy in some cases if the gynecologist has certain symptoms to guide him, namely, loss of blood, either scanty or profuse, attended with pain, and a tumor, pulsating in character, found on one side of the uterus. In other instances, however, the diagnosis is very obscure, particularly in those cases in which the ectopic gestation is complicated with a normal pregnancy. Such a case was narrated.

Dr. D. Tod Gilliam said that if the gynecologist could diagnose most cases of ectopic gestation before rupture has taken place, it would prove a great boon to womankind. A distinction between tubal pregnancy and inflammatory conditions should always be borne in mind.

Dr. J. Henry Carstens does not think cases of extrauterine pregnancy are as common as the profession generally supposes. The average general practitioner with a good practice observes but very few such cases in a lifetime. He spoke of the difficulty in diagnosis, and said that when this condition was expected and operated for, something else is found.

SURGICAL TREATMENT OF UTERINE DISPLACEMENTS.

Dr. Charles A. L. Reed, Cincinnati, contributed this paper. Attention was called to a couple of modifications of technique in the management of a class of cases that is happily becoming less and less perplexing. It is not the author's purpose to discuss the relative merits of Alexander's and Mann's operations, nor to consider the ingenious technique of Ferguson. In a majority of cases of retrodisplacements that demand operation, the author believes that the intraperitoneal shortening of the round ligaments is the operation of choice. It has been his habit during a number of years to effect this by making an S-fold in the ligaments and stretching them thus folded to the parietal peritoneum along the line of Poupart's ligament. This method has yielded him better results than any which he has previously tried. He has, however, become convinced that the parietal fixation of the folded ligament is not necessary for the purpose of holding the uterus in its normal position, and that the technique devised by Mann is all that is required to accomplish this object. His application of this technique differs a little from that originally adopted by Mann, the modifications being those of convenience rather than of necessity. We give these modifications in the language of the author: "In seizing the round ligament with hemostatic forceps for the purpose of folding it on itself, the tissues are frequently wounded. While the accident is not a serious one, it is certainly not desirable. The use of two hemostatic forceps for the purpose of effecting the fold makes the services of two hands of an assistant necessary. To obviate these objections, which though of minor importance are still objections, I have devised a forceps with four flat approximating prongs, the whole being an inch across. The prongs of the opposing blades approximate with sufficient force to hold the ligament, but not enough to induce tissue necrosis; while, when approximated, they are far enough apart to permit the passage of a medium-sized needle between them. The ligament brought up into the field of operation on the finger, is seized in its middle third by this instrument, which is then held in this position until all of the sutures are applied. These are inserted as follows: One interrupted, one fixing the loop of ligament to the cornua of the uterus; a similar suture is utilized to fix the outer fold of the ligament; a continuous suture is then passed between the prongs of the fixation forceps, its ends being obliquely tied after the instrument is withdrawn.

"A pathologic condition that often exists in cases of long-standing flexions and the persistence of which militates against the success of any fixation operation, consists of an atrophy of the concave wall and a hypertrophy of the convex wall at the point of flexure. In many of these cases, particularly when associated with diffuse fibrosis, the elongated and hypertrophied wall offers a persistent resistance to the maintenance of the normal axis of the organ. To overcome this I have, for some time, removed a cuneiform segment from the hypertrophied wall, an operation which Thiriar calls cuneo-hysterectomy, and which is applicable in either anterior or posterior flexions. To do this the patient is placed in the Trendelenburg position. All adhesions between the uterus and bladder, or between the uterus and other organs, are carefully broken up, any rents in the serosa that may be induced thereby being carefully stitched. The uterus is then brought toward the incision by gentle, but firm, traction and an ellipse of tissue about 1 cm. wide and having a length corresponding to the breadth of the organ is removed from the convex side at the site of flexure. Care must be taken not to carry this dissection into the cavity of the uterus nor to wound either the circular artery or the anastomosing branches of the uterine artery. Should the latter accident occur, it is best controlled by en masse ligatures, passed deeply into the uterine tissue at either end of the yet gaping ellipse. Retraction of the vessels generally prevents their isolation and closure by direct ligature which, when practicable, is always the preferable method. After all hemorrhage, except mere capillary oozing, is controlled, the margins of the ellipse should be carefully approximated and closed by a continuous animal suture with two or three interrupted ones of the same material. The uterus is then dropped back, and after pausing a moment to make sure of complete hemostasis, the abdomen is closed without drainage. A further modification of this operation that I have practiced with satisfaction in anteflexion consists in stitching a reef of the posterior surface of the uterus. I have been able by these combined methods to relieve the most distressing and persistent symptoms, vesical, uterine, ovarian and neurotic, due to otherwise intractable anteflexion of the womb."

(To be continued.)

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, September 15.

1 *Neurasthenia. J. T. Eskridge.
2 *Mental Disturbances After Operations Upon the Eye. William Campbell Posey.
3 *Resolution as an Etiological Factor in Postcritical Temperature of Lobar Pneumonia in Children. William N. Fisher.
4 Inversion of Uterus; Uterine Inertia; Short Cord. Edward K. Bacon.
5 A Few Cases of Diphtheria and What They Taught Me. John Leverett.
6 Postdiphtheric Paralysis of Both External Recti Muscles—Report of a Case. Harry Friedenwald.

New York Medical Journal, September 15.

7 *The Treatment of Tuberculous and Purulent Joints with Large Glass speculum Drainage and Pure Carbolic Acid, with a Report of Seventy Cases. (Conclusion.)
8 Generalized Tuberculous Lymphadenitis, with the Clinical and Anatomical Picture of Pseudoleukæmia; The Study of a Case. Thomas R. Crowder.
9 *A Consideration of the Statistics of Operations for the Relief of Malignant Disease of the Larynx. D. Bryson Delavan.
10 *Were These Unusual Cases of Partial Paralysis of the Vocal Bands Caused by Over-use of the Telephone? Clarence C. Rice.
11 The Lingual Tonsil. Robert Levy.

Medical Record (N. Y.), September 15.

12 *Poisonous Snakes and Snake Poison. Gustav Langmann.
13 *A Few Cases of Erosions of the Stomach. Edward Quintard.
14 *The Radical Treatment of Tuberculosis of the Tonsils. Alexis V. Moschcowitz.
15 *A Clinical Study of the Liver as a Factor in Elimination, and in the Production of Nephritis. George E. Davis.

Medical News (N. Y.), September 15.

16 *A Simple and Efficient Treatment of Talipes Calcaneus Paralyticus in Young Children. V. P. Gibney.
17 *In What Relation Does Occupation Stand to Tuberculosis? W. Freudenthal.
18 *Multiple Traumatic Hemorrhages of the Liver Associated with Multiple Pulmonary Emboli of Liver-Cells and Giant Cells Resembling Bone-Marrow Cells. Aldred Scott Warthin.
19 *Post-Apoplectic Temperature and Disturbances of the Alimentary Tract: Their Management. Henry Lyle Winter.

Boston Medical and Surgical Journal, September 13.

20 *The Radical Cure of Hernia. J. Collins Warren.
21 *Actinomycosis. Charles Allen Porter.
22 *Four Cases of Actinomycosis. John C. Munro.
23 Tendon Suture. Edward S. Hatch.
24 A Method of Teaching Practical Medicine. Thomas F. Harrington.

St. Louis Medical Review, September 15.

25 Recurring Parotitis in a Healthy Child Persisting for Ten Years. Fayette C. Ewing.
26 Immunity. H. Buchner.

Cincinnati Lancet-Clinic, September 15.

27 *Reflex Action of Disturbed Pelvic Mechanism on the Heart. Byron Robinson.
28 The Home and the School. E. Stuver.

Medical Fortnightly (St. Louis), September 10.

29 Diseases of the Stomach. (Continued.) J. M. G. Carter.
30 The Physiology of Voice Production. M. A. Goldstein.
31 A Rare Condition of the Male Sexual Organs. Edward Bowe.

Journal of Nervous and Mental Diseases (N. Y.), September.

32 Discussion on the Neuron Doctrine in Its Relationship to Disease of the Nervous System. (a) The Anatomic Cytological Relationship of the Neuron to Disease of the Nervous System. Lewellys F. Barker.
33 *(b) The Pathologic Changes in the Neuron in Nervous Disease. William G. Spiller.
34 *(c) How Does the Neuron Doctrine Affect the Conception of Nervous Disease. B. Sachs.

Kansas City Medical Index-Lancet, September.

35 *Modern Surgical Treatment of Hemorrhoids. Gustavus M. Blech.
36 The Microscope in General Medicine. A. P. Rooney.
37 Gonorrhea. Mayer Shoyer.
38 Management of Normal Labor. J. H. Cox.

American Journal of Insanity (Baltimore, Md.), July.

39 *A Century of Hospital Building for the Insane. Jos. G. Rogers.
40 *A Review of Chronic Progressive Chorea (Huntington's), with Report of a Case. Clarence A. Good.
41 *Death From an Unusual Cause in a Case of Dementia Paralytica. H. J. Berkley.
42 The Study of a Year's Statistics. Chas. W. Pilgrim.
43 *Separate Provisions for Tuberculous Patients in State Hospitals for the Insane. Arthur H. Harrington.
44. Legal and Medical Insanity. Reflections Upon the Recent Trial and Conviction of Bradford P. Knight at Augusta, Me. C. P. Bancroft.
45 *The State of New York and the Pathology of Insanity. P. M. Wise.
46 *Suicide and Its Increase. G. Styles.
47 *Further Laboratory Studies on Uric Acid in Neurasthenia, and on Autointoxication in Nervous Disease. F. Savary Pearce.
48 *Degeneracy. Orpheus Everts.
49 Three Cases of General Paralysis in Young Women. W. L. Worcester.
50 *Degenerates in the Army. Chas. E. Woodruff.

Iowa Medical Journal, August.

51 Ectopic Gestation. Charles F. Smith.
52 The Country Doctor. S. K. Davis.

Yale Medical Journal (New Haven, Conn.), September.

53 The Discovery of the Germ Theory and Antisepsis. N. E. Wordin.
54 Hystero-Myomectomy Complicated with Pregnancy. William H. Carmaly.
55 Diagnosis of Neurasthenia. Gustavus Eliot.
56 Acquired Syphilitic Disease Within the Cranium. Max Mailhouse.

Pediatrics (N. Y.), September 1.

57 *Enuresis and "Irritable Bladder" in Children. Frederic Bierhoff.
58 Scorbutus Infantilis. R. B. Gilbert.

Physician and Surgeon Ann Arbor, Mich.), August.

59 Medical Education. Austin W. Alvord.
60 *Etiology of Tuberculosis. Charles T. McClintock.
61 Chronic Gastritis. J. B. Whinery.
62 *Some Causes of Appendicitis. Frank B. Walker.
63 *Ischio-Rectal Abscess. William L. Dickinson.
64 *The Materia Medica of Pichi. Noah E. Aronstam.
65 The Anatomy of the Fifth Nerve in its Relation to the Etiology and Treatment of Trifacial Neuralgia. (To be continued.) Edward K. Bacon.

Fort Wayne Medical Journal, August.

66 Eye Strain. Albert E. Bulson.
67 Relation of the Kidneys to Disturbed Visceral Mechanism, Especially from the Genitals. Byron Robinson.
68 Management of Labor—Interesting Cases and Statistics. Luella M. Derbyshire.

Western Medical Recorder (Chicago), July and August.

69 *A Plea for the Unborn. Edward E. Evans.
70 *Treatment of the Sac in Very Large Inguinal Herniæ. M. L. Harris.
71 *Notes on Treatment of Infected Wounds by Continuous Submersion. Fred Jenner Hodges.
72 *Notes on the Diazo-Compounds and the Diazo-Reaction. J. H. Salisbury.

Toledo Medical and Surgical Reporter, September.

73 Report of a Case of Delayed Union after Cataract Extraction. Charles Lukens.
74 Malaria. J. T. Woods.
75 Neglected Branches of the Art of Medicine. J. D. Albright.
76 Eucalyptol for Pulmonary Tuberculosis. M. J. Lolliot.

Canadian Journal of Medicine and Surgery (Toronto), September.

77 *Club-Foot in the Adult. B. E. McKenzie.
78 Case of Malignant (?) Disease of Gall Bladder, Simulating Hydro-Nephrosis—Feeding Through the Gall-Bladder for Three Days. F. N. S. Starr.
79 The Relation of the Profession to Sanatoria for Consumptives. P. H. Bryce.
80 *Exploratory Incision in Obscure Brain Lesions Some Points in the Surgical Treatment of Meningocele. L. W. Cockburn.
81 Some Proofs that Smallpox is Prevented by Vaccination. W. F. Elgin.

Canadian Practitioner and Review (Toronto), September.

82 On the Present Status of Therapy and its Future. Lewellys F. Barker.
83 An Unusual Case of Crossed Paralysis. D. Campbell Myers.

Bulletin of Johns Hopkins Hospital (Baltimore), September.

84 *Morbid Conditions Caused by Bacillus Aerogenes Capsulatus. Wm. H. Welch.
85 *On the Histology of the Islands of Langerhans of the Pancreas. Eugene L. Opie.
86 *The Distribution of Connective Tissue in New Growths. W. C. White.
87 On the Relation of the Electrical Conductivity of Blood-Serum to its Alleged Bactericidal Power. Emma Lootz and Alice W. Tallant.
88 *Contribution to the Study of Malignant Tumors Arising in Congenital Moles. R. H. Whitehead.
89 *Inorganic Ferments. Harry C. Jones.
90 The Sterilizing of Catgut. G. Brown Miller.

Atlanta Journal-Record of Medicine, September.

91 Physical Culture in the Medical World. Mary L. H. Arnold-Snow.
92 Diagnosis and Etiology of Idiopathic Fevers. F. M. Brantly.
93 The Physiological Therapeutics of Masturbation. C. A. F. Lindorme.
94 Report of a Case of Tubercular Arthritis of the Knee, with Remarks. J. W. Henson.
95 A Case of Prostato-Cystitis with Complications. J. B. H. Day.

American Practitioner and News (Louisville, Ky.), August 15.

96 Removal of the Cervical Sympathetic Ganglia for the Relief of Exophthalmic Goiter: With the Report of a Case. M. F. Coomes.
97 *Dilatation of the Stomach from Pressure of the Superior Mesenteric Artery, Vein and Nerve on the Transverse Segment of the Duodenum. Byron Robinson.
98 *Scurvy Infantilis. R. B. Gilbert.
99 Report of a Case of Double Mastoiditis: Operation and Recovery. George F. Keiper.
100 Foreign Substances in the Windpipe, Threatening Tracheotomy. F. J. Yager.

Medical Summary (Philadelphia), September.

101 Malarial Hematuria—Treatment. O. M. Patterson.
102 Hymosa in Rheumatism and Allied Diseases Studied Clinically. C. W. Canan.
103 Heroin—Its Value in Therapeutics. W. R. D. Blackwood.
104 The Treatment of Simple and Specific Urethritis in the Male. Maurice H. Ahlhorn.

Dominion Medical Monthly (Toronto), August.

105 Notes from Chicago Clinics. A. F. McKenzie.
106 *The Treatment of Chronic Diseases of the Kidneys. E. T. Snyder.
107 Fracture of Base of Skull. J. G. Lamont.

Medical Dial (Minneapolis), September.

108 *An Unusual Symptom of Perforative Appendicitis. David Owen Thomas.
109 *Climate: A Factor in the Treatment of Tuberculosis. Francis Crosson.
110 The Legal Prevention of Tuberculosis. Clark Bell.
111 Bovine Tuberculosis and Cancer. F. F. Casseday.
112 *An Unrecorded Case. Florence C. Baier.

Memphis Medical Monthly, September.

113 Asepsis and Antisepsis in Country and Private Practice. August Schachner.
114 Transposition of the Heart. Frank C. Wilson.
115 Periostitis and Ostitis: Tuberculous Abscess. William L. Rodman.
116 Twentieth Century Smallpox. John A. Blackmon.
117 Infantile Diarrhea. H. S. Wolff.
118 The Trained Nurse. Blanche Hillman.

AMERICAN.

1. **Neurasthenia.**—The distinction between hysteria and neurasthenia is first noted by Eskridge; the latter is not a diseased, but simply an exhausted and irritable state of the nerve centers. Its causes are numerous, but the psychic far outweigh the physical in this regard; mental depression, anxiety, etc., are more exhausting than mental work alone. Various diseases, pelvic disorders, indigestion, eye troubles, etc., and even bad teeth may have an agency in causing it. Hodge, Mosso and others have shown that it has a real pathology in cellular changes. Eskridge reviews the symptoms in detail, motor, sensory, ocular, mental, visceral, etc., and remarks as regards its diagnosis that we must differentiate between it and organic disease, hysteria, incipient melancholia and paresis, and lastly between genuine and simulated symptoms in medicolegal cases. This last is not always easy; but a slow or normal pulse-rate is not indicative of neurasthenia, and if it is not increased by exercise or pressure over alleged tender points the presence of traumatic neurasthenia is dubious. The prognosis is generally good as regards life, the chief unfavorable conditions are heredity, early appearance of the disorder, and its long duration. The danger of the drug habit in these cases must also be considered. The most important points in treatment are prevention, removal of exciting causes, etc. In the developed disease the treatment consists of rest, partial or absolute, and in many cases isolation. In the severer cases, with absolute rest, suitable diet, preferably skimmed milk, carefully regulated, is advised, and generally also isolation.

2. **Post-Operative Mental Disorders.**—Posey reports 24 cases of mental disturbances following operations on the eyes, and thinks these would be more frequently observed but for the fact that hypnotics are generally freely and promptly used on the first appearance of mental symptoms. The type is rather uniform, a mild restlessness passing soon into an active hallucinatory delirium, readily controlled by narcotics; in no case was there permanent damage. He thinks the causes are chiefly psychic, preoccupation of the patient's mind with the idea of his state and the psychic effects of the operation itself.

3. **Postcritical Temperature in Pneumonia.**—Fisher reports three cases of postcritical temperature in pneumonia in young children, which he analyzes as follows:

1. That a postcritical rise in temperature took place in all the cases, and that the temperature was somewhat uniform as to time, height, and duration.

2. That while the ratio existing between the respirations and the pulse during consolidation was reduced to an enormous extent, the ratio existing during the postcritical rise in temperature was increased.

3. That these conditions being true, there must have been some cause common to all.

4. That the rise in temperature bore a direct relation to the physical signs marking beginning resolution.

5. That the rapidity with which this secondary rise reached its highest point bore a direct relation to the extent of liquefaction.

6. That the rise in temperature was followed by an improved state of the affected area.

7. That as the condition in the affected area improved the temperature reached normal.

In conclusion he says that he believes this secondary rise to be a frequent one, depending on the absorption of a degenerated albuminoid mass containing fever-producing bodies. It is a condition which can be diagnosed, the diagnosis of which gives a great deal of satisfaction, and allays much uneasiness, not only to the physician, but to anxious parents and friends.

7. **Joint Disease.**—In the conclusion of his paper Phelps holds that the action of carbolic acid, as he employs it, is by uniting with albumin of the tissues, forming an antiseptic albuminoid or albuminate. His method is described as follows: The abscess cavity is laid open. The opening into the capsule is found and enlarged and the joint explored. If there is extensive bone disease, the incision is lengthened and the capsule of the joint freely divided for half or two-thirds of its entire circumference, the head of the bone pulled out from the socket, the curette freely used, and the joint thoroughly irrigated with bichlorid solution, one to one thousand. The joint is now filled with pure carbolic acid. It is allowed to remain one

minute by the watch, after which the joint is thoroughly washed out with pure alcohol, and finally the alcohol is washed away with a 2 per cent. solution of carbolic acid. Instead of packing the wound or sewing it up, or introducing the collapsible rubber drainage-tube, he uses the largest glass tube that the cavity will take, which extends down to the joint and is just flush with the skin. This tube not only admits of perfect drainage, but enables the surgeon to see, day after day, just what is taking place in the joint. If further suppuration or extension of disease takes place, it is usually treated through this large glass tube by curetting and the use of carbolic acid and alcohol. Packing can be introduced through the tube to secure perfect drainage from the joint. These tubes vary in size from half an inch to two inches and a half, and they are of various lengths. A drainage-tube for a small child should be about an inch in diameter. In other words, the glass tube is fitted to the parts, as large as they will take, and one can readily see the immense advantage the surgeon has day after day if he can examine the diseased area down to the very bottom of the joint. The tube is worn until granulations fill in from the bottom of the wound. He removes diseased bone freely, but in his seventy cases thus treated he excised the head twenty times, while with the old methods he would have done this at least fifty times. His results are certainly good; he does not regard the carbolic acid, however, as a specific but as simply an auxiliary to good surgical work.

9. **Malignant Disease of the Larynx.**—Delavan analyzes and criticises the statistics of laryngeal operations for malignant disease, showing not altogether discouraging results. He reiterates, however, his earlier expressed opinion that the indiscriminate performance of capital operations on the larynx should cease, and suggests a careful scientific test by the most experienced and successful operators with the best appliances and assistance, with thorough following up of their cases. Then, he says, "it will soon be learned whether the radical extirpation of laryngeal epithelioma is a justifiable procedure or whether, as seems probable, the practical necessities of these cases must be met by means less hazardous to the life and comfort of the patient and more certain of complete and lasting success. Let us hope that the triumphs of iodid of potassium and the toxins of erysipelas may find their parallel in the successful remedy for epithelioma."

10. **Telephone Paralysis.**—Rice reports two cases of partial vocal paralysis apparently due to excessive use of the telephone, and suggests caution against its faulty use, or in case of its producing symptoms of nervous exhaustion.

12. **Snake Poison.**—This article is of considerable length, and only a few of its important points can be noticed. It describes the different kinds of venomous snakes, the various poisons, their physiological effects according to the different origins. It calls the sequela of the cobra bite an acute bulbar paralysis of the most furious and vehement type, while the poison by the viper snake has an analogy in acute ascending spinal paralysis, the last stage of which exhibits alike bulbar symptoms and inhibition of respiration. There is no question but that snake poison is both a nerve and a blood poison. It acts directly on the germicidal power of the blood, which accounts for the rapidity of decomposition. It has been an often-recommended custom to suck the wound or apply cups. He does not advise this procedure unless free scarification is first performed. Ligatures are useful in preventing absorption. This is the first recommendation in the treatment. The chances of neutralizing the poison are limited and the question is: What can we do to hasten the excretion? The kidneys are probably themselves affected, hence it is doubtful whether we should try to increase their activity. Diaphoretics have also had dubious results. It seems probable, however, that a certain amount of the poison is eliminated through the stomach; to give emetics may be a rational treatment. The author seems to think that the use of saline solution transfused into the veins is a somewhat promising measure, and a trial of artificial respiration is justifiable. Strychnin, which has been claimed to be a specific, has been extensively used, but the results are not convincing. In conclusion the author speaks of the use of immunizing the serum and its promise in the future treatment of these accidents. To sum up, the most commendable treatment, he says would be that one or more tight ligatures should be made above the wound, followed, perhaps, by deep scarifications; then injections of antivenene, if at hand. If the latter can not be had, injections should be made of a solution of hypochlorite of lime, 1 to 60, at several points near the bite and elsewhere. Stimulation, if necessary, by either strychnin or atropin or alcohol; hypodermoclysis of physiological saline solution; lavage of the stomach; artificial respiration for hours; and, not least of all, continuous encouragement of the victim, for a deep mental prostration goes together with the physical depression of the nervous centers.

13. **Erosions of the Stomach.**—Quintard reports a case of gastric erosion and sums up his conclusions, which are similar to those of Drs. Einhorn and Pariser, as follows: "1. That from time to time we see patients in whose stomach washings are repeatedly found small fragments of the gastric mucous membrane; on an average one to four of such pieces are found in a washing, their size varying from 2 to 7 cm. long and about 2 to 3 cm. wide; that the repeated finding of such pieces of mucosa in the wash water shows that we are dealing with a case of erosion. 2. That such erosions occur under varying pathological conditions, and that as a consequence the functional signs vary accordingly. 3. That the exact etiology and pathology of such erosions are at present not definitely known; that in the great majority of cases at least where such tiny fragments of mucous membrane are found in the wash water the patient gives a definite and peculiar clinical history distinct from that of round ulcer or from the exulceratio simplex described by Dieulafoy. 4. That as a consequence these cases should be regarded as a distinct class clinically and treated as such."

14. **Tuberculosis of the Testis.**—The chief point in Moschcowitz's paper is that the radical operation for removal of a tubercular testis includes also the removal of the vas deferens and the seminal vesicle. He shows that the same may be detached surgically by three separate routes: 1, by the inguinal route; 2, by the sacral route, and 3, by the perineal route. A comparison of the three methods he thinks will result favorably to the latter, as it has certain advantages over the others. Operation by the inguinal route seems to be very difficult and the extensive stripping off and not impossible injury to the peritoneum can not be an indifferent matter, and the extreme depth in which the operation has to be carried out bars an inspection and treatment of the possible infected prostate. The sacral route in any of its numerous modifications is so extensive that it must be considered complicated and dangerous.

15. **Liver and Elimination.**—Davis refers first to a former paper in which he pointed out the importance of the liver as an organ of nutrition. In his article he attempts to show that this organ is also the most important eliminative organ of the body.

16. **Talipes Calcaneus Paralyticus.**—Gibney, after reporting several cases, says that almost any appliance which is worn night and day, the management of which is taken completely out of the patient's hands, should bring good results. He has used mostly plaster of Paris and is somewhat prejudiced in its favor, but he can readily see how other dressings may be equally effective.

17. **Occupation and Tuberculosis.**—The etiology of tuberculosis is investigated by Freudenthal. He admits that statistics show that there is an increase of tuberculosis with a diminution of income. The most important thing, however, he thinks is occupation, and he has studied 1576 cases treated at the Montefiore Home in New York during the past ten years, especially noting the occupation of each, and found that tailors are particularly liable to the disease. This may be due to

their bent position, lack of proper exercise and other causes, and he expresses his opinion elsewhere that consumption is primarily a trophoneurotic affection of both a general and local nature, and that the invasion of the tubercular bacilli takes place at a later stage. He quotes Dr. Solis-Cohen as not of the opinion that the tubercle bacillus of itself originates the disease. He thinks this notion is spreading here and abroad, although not perfectly correct. In his opinion he says that occupation has an agency in the etiology of pulmonary tuberculosis in so far as it is sedentary and involves confinement within doors.

18. **Giant Cells.**—The chief aim of Warthin's article is to point out the confusion which exists in the recognition of the giant cells found in the pulmonary vessels, and the fact that at present there are no means of differential diagnosis as to whether these cells are of placental, spleen, or bone-marrow origin, and that the significance of such metastasis needs to be cleared up by further investigation.

19. **Stomach Disturbances and Post-Apoplectic Temperature.**—Winter believes that the continued high temperature of apoplectic cases, at times irregular in its fluctuations, may be dependent entirely upon the absorption of infective material in the alimentary canal and that the best treatment is the use of hydrogen dioxid. He mentions several cases where this treatment was adopted and thinks that they demonstrate positively that the temperature following the apoplectic stroke is due in part to this absorption. It has been his practice to give the drug combined with an equal quantity of chemically pure glycerin.

20. **Radical Cure of Hernia.**—In the statistics of 98 cases of hernia in his own practice Dr. Warren includes 74 of inguinal hernia, 7 of femoral hernia, 12 of umbilical hernia and 5 of ventral hernia, all operated on between 1898 and 1900. He separates them into two groups, those operated upon between 1888 and 1894 and those subsequent. There is quite a notable showing in favor of the latter; the percentage of septic operations is decidedly lessened in the latter period. He finds that silk has given better results than catgut. As regards recurrence, following the same rule as to the time of operation those subsequent to 1894 show that improved technique had an important influence upon the result. The percentage of perfect results is nearly as good as that laid down by Bull and Coley in their last article in the "International Text-Book of Surgery." The age and station in life are noticed as influencing the results. In children there is always a chance of cure by the truss, and children who have parents capable of exercising constant and intelligent care can be treated mechanically, but when the chances of such care are uncertain, or there are any complications, operation is advisable. Warren disagrees with Bull and Coley in their statement that fifty years is the age limit for operation in adults. Certain points in the technique of the operation are noticed, such as the emptying of the sac, removal of omentum, preparation of the skin beforehand, which is of great importance, as it is difficult to render it perfectly sterile, etc.

21. **Actinomycosis.**—Actinomycosis is probably, according to Porter, a less rare disease than commonly supposed. Examination by microscope is absolutely necessary for a positive diagnosis. He reports eight cases. It is practically impossible, he thinks, to make a clinical diagnosis of the disease. Recurrent abscesses about the jaw, not connected with tubercular glands, should arouse suspicion. The presence of the so-called sulphur granules in the discharge is not by any means conclusive and the microscope should be depended on. With reference to treatment, two facts, he says, speak strongly for the self-limitation of the disease in the majority of cases. 1. Though it can not be a rare affection, few cases enter the hospital with advanced actinomycosis of the jaw, and it seems therefore certain that many recover after simple incision of the abscess, and even through a natural rupture of it. 2. It is surprising to find, on microscopic examination of sections, how infrequently the colonies are found in the walls of the abscesses, though the pus contained many graules. The surrounding connective tissue probably proves an effective barrier to the spread of the disease. Many cases are cured by simple opening. The individual case and the severity of the infection must determine the choice between curetting and cauterizing and a more radical excision. Iodid of potash in doses of 20 grains three or four times a day has distinctly influenced some cases for good and should be used in connection with the local treatment.

27. **Pelvic Reflexes of the Heart.**—Robinson holds that the heart is particularly affected by diseases of the generative organs of women. He knows of no organs so manifestly disturbed in the menopause, and he figures out the mechanism with the various sympathetic ganglia and their connection with the automatic cardiac ganglia.

32. **Anatomical Relation of the Neuron to Nervous Diseases.**—Barker gives an interesting historical review of the rise and progress of the neuron theory and in conclusion offers his own views in the following: The formulation of the neuron doctrine was the equivalent of applying the doctrine of cell-units to the nervous system. The actual application to the nervous system at so late a date of a doctrine long known and generally appreciated for the other tissues of the body is explicable by the fact that it has been only recently that it has been possible to replace the mistaken conception of the extent of a nerve-cell formerly held by the true conception. If the term "nerve-cell" called up in mind the idea which we now hold of the biologic unit in the nervous system there would be no necessity for the use of the word "neuron." But until the text-books have been expurgated and the nomenclature employed by teachers and writers becomes more precise, some word other than "nerve-cell" would seem necessary. Any one who has the idea of "contact-relation" inseparably connected in mind with the term "neuron" would do well to give up the use of the word and to use "nerve-unit" or "complete nerve-cell' in its place. But for those who have never considered the theory of contact-relation as a necessary part of the neuron doctrine, but have regarded the neuron as the unit in the nervous system corresponding to the cells in other parts of the body, the term can be definitely retained and even employed with reverence on account of its historical significance.

33. **Pathologic Changes in the Neuron.**—Spiller's article is an elaborate one, which is not easily abstracted in detail. He finds that on the whole there is a tendency for the whole neuron to undergo alteration when it is attacked by disease or injured experimentally, but that one portion may be more resistant than the rest and may recover even though at first affected, although the end in union with the cell-body may finally atrophy. The earlier in life the lesion occurs the less the resistance. From these facts we have some evidence of the individuality of the neuron. The restriction of any degeneration to any particular set of the neurons is discussed at length in the light of his own and others' observation, and he finds that there is no doubt that this does exist, but that tertiary degeneration, understanding by that term degeneration of another series of neurons resulting in secondary degeneration of a series of the neurons nearer the origin of the impulses, do not seem to be very frequent. There is no positive evidence apparently of degeneration of the cells of the anterior horn from lesions of the posterior roots, and he knows of no evidence that disease of a sensory neuron ever results from disease of a motor one. The fact that degeneration may actually pass from one neuron to another does not prove that neurons do not exist. It is certainly not common for systemic disease to spread irregularly to neighboring areas.

34. **The Conception of the Nervous Diseases and the Neuron Doctrine.**—Sachs finds that the neuron theory is of "distinct assistance in the interpretation of toxic disease affecting at one and the same time the peripheral and central nervous systems, while in some instances involving only one or the other, and not both parts; it had shed some light on the perplexing questions of the relations of the various forms of pro-

gressive muscular atrophy, and on the early morbid changes in tabes. It may be of some further help in our understanding of combined scleroses. More than this can scarcely be claimed for it; if it shall have accomplished all of this, and shall be able to stand the test of further sane criticism, it will be entitled to the consideration it has already received."

35.—See abstract in The Journal, xxxiv, p. 977.

39. **Insane Hospitals.**—Rogers reviews the development of insane hospitals and gives his ideas as to their construction and furnishings.

40. **Huntington's Chorea.**—After first reviewing the literature and opinions on this disorder with special reference to the pathologic findings, Good reports a case in detail which was observed by him in the Michigan Asylum at Kalamazoo. There was an atrophic brain with adherent thickened dura, thickening and opacity of the arachnoid, and other evidences of chronic inflammatory and irritative troubles. Marked pathologic changes were found in the cerebral cortex, the disintegration of the cells and engorgement of the vessels. During life there was a progressive dementia corresponding with some of these pathologic conditions.

41. **Paresis.**—Berkley reports a case of paresis in which death was caused during an attack of lobar pneumonia by multiple thromboses of the cerebral vessels due to changes induced by toxic products with multiplication of bacteria in the blood morphologically identical with the bacillus coli communis.

43. **Separate Provisions for Tuberculous Patients.**—Harrington's paper gives the statistics of tuberculous disease, especially pulmonary tuberculosis, in the different sections of the country, showing that while in the New England states the deaths from this cause are hardly greater than in the general population, it increases in other sections, and in the Southern states causes one-fifth of all deaths. He has made inquiries as to the separate provisions for cases of tuberculosis in insane hospitals and finds that in several states, notably in the West and middle West, active measures are being taken toward this end.

45.—**New York State Laboratory.**—Wise reviews the records of New York State as regards pathologic work in its asylums, and specially the recent differences of opinion between the director of the State Pathologic Institute and the asylum authorities. He maintains that the institution should be continued, but that its teaching function should be more thoroughly exercised than has been the case in the past.

46. **Suicide.**—The statistics of suicide in the different countries are touched upon by Styles, and he finds a marked increase with advancing civilization. While suicide, as a rule, is less common in catholic than in protestant states, the lowest figures are found in such almost exclusively protestant countries as Sweden and Denmark. He says little benefit comes from the laws making suicide an offense of any kind or from special legislation to prevent the act, while moral coercion is more or less effective.

47. **Studies in Neurasthenia.**—Pearce's article concludes from clinical and laboratory studies that neurasthenic conditions are associated with the circulation of such an irritant as uric acid in the blood. The vicious circle of disturbed metabolism being established in the toxic action on the nerve centers and the nutritional functions, the treatment should be directed to dietetic and nutritional methods, with a careful study of the individual idiosyncrasy in each case.

48. **Degeneracy.**—Everts finds that degeneracy is an inevitable consequence of civilization with its marked deviation from the original, or typical, human conditions. If by remedy we mean that the degenerate can be regenerated, there is none, but we may rest assured that providence is working in its way for the general progress of the race.

50. **Degeneracy in the Army.**—Woodruff points out the conditions of degeneracy that are observed among recruits, some of them slipping through by careless examination and becoming the black sheep of the army and the deserters. He gives a number of illustrations of this type, and in conclusion he mentions the army musicians as showing some marked variations from the average soldier. With the high musical sense there seems to be a liability to inferiority in some other ways, for they possess physical stigmata in far greater proportion than does the average soldier. They have to be managed by entirely different rules of discipline.

57. **Enuresis in Children.**—The physiology and causes of enuresis and irritable bladder in children are noticed by Bierhoff, and he considers that it is a result, as a rule, of a combination of conditions, the exciting cause being an abnormally increased irritability of the mucous membrane, most marked at the sphincter and sometimes in addition at the trigonum visicæ, or sometimes, in the male, of the prostatic urethra, and the cause of the heightened reflex irritability is to be sought either in a hyperemia or an inflammation of the vesical neck, the sphincter, or deep urethra, either singly or in combination. He has observed this condition in adults and believes that in children the cause is the same. In the normal bladder the mucosa has a low grade of sensibility and the tonic contraction of the sphincter is voluntarily inhibited, but in the abnormal hyperemia of the inflamed bladder the nerves are responsive to a far weaker stimulus, and added to this an increased nervous irritability from general systemic conditions, the effect is readily explained. He reviews the various reflex causes, etc., and their relation to treatment, in detail.

58. **Infantile Scurvy.**—Gilbert describes the symptoms and reports cases of this disease, and considers it is caused by the use of any single food, excepting mother's milk, continued for too long a time. The artificially prepared proprietary foods, of which there are so many in the market, are especially to blame. The remedy is simply fresh, wholesome food, with fruit juice.

60. **Etiology of Tuberculosis.**—McClintock reviews the theories as to the cause of tuberculosis and states the problems that are not yet fully solved in regard to it. He shows some of the difficulties in recognizing the cause that produces it, and says that we must remember in testing guinea-pigs, for example, that we are using animals very many times as susceptible to inoculation as man is. Because we have tuberculous milk, and the feeding of it in large quantities to guinea-pigs will produce the disease, it does not follow that this is the index of human danger from the same cause. We have yet no satisfactory explanation of the latency of tuberculosis. Some authorities believe that there must be an undiscovered spore-stage of the germ which may lie dormant for years, some authorities holding that this spore is the cause of all infection. He notices the recent views of Blos and Volland as to juvenile tuberculosis and the importance of predisposition. The number of those who are satisfied with the statement that the tubercle germ is the sole and sufficient cause of tuberculosis, the pure infectionists, grows less, he says, each year. He thinks that we will eventually find that some certain chemical constitution of tissue, a diathesis, if you please, is essential in the production of tuberculosis and that back of the tubercle germ lies this essential cause.

62. **Some Causes of Appendicitis.**—Walker points out that the vermiform appendix is in the first place a rudimentary organ of low vitality. It has a great absorptive power and poor nutritional facilities. The appendix being a small hollow viscus, when once inflamed it is liable to become strictured and encourage further trouble. The possibility of its becoming bent or kinked is also a danger. The great danger, however, he thinks, is the possible extension of a catarrhal inflammation from the cecum to the appendix and its subsequent invasion by more or less virulent germs.

64. **Pichi.**—Aronstam describes the botanical character of Fabiana imbricata, Ruiz and Pav, and its chemistry. He finds it contains minute quantities of: 1. A crystallizable alkaloid of bitter taste and neutral reaction, forming salts with acids, that he calls fabianin or pichin. 2. A neutral principle rich in

carbon, insoluble in water, tasteless and inert. 3. A fluorescent body analogous with esculin and classed among the glucosids. 4. A volatile oil. 5. A bitter resin on which the action of the drug depends. It is best used in the form of a fluid extract in combination with an alkaline aromatic and in doses of 10 to 40 minims every three or four hours. It is a stimulant and alterative to secretions in general, and a sedative to the mucous membranes, especially to the urethral mucosa, and has a high reputation in Chili in the treatment of urinary diseases. He has found it valuable in urethritis. It is said to expel calculi by its stimulating action on the muscular fibers of the urethra. He reports a case in which it was used in urethritis.

69.—See abstract in The Journal of July 7, p. 51.

70. **The Sac in Large Inguinal Hernia.**—The object of this paper is to emphasize one point in the technique of operation for very large inguinal hernia. What the author understands by very large inguinal hernia varies from the size of a child's head to an adult's head or larger, and the special point is management of the sac. In small hernia the sac is almost invariably removed, but in these cases it is so large, its walls so thickened, and its connection with hypertrophied tissue so much more intimate that its removal is therefore attended with danger of laceration and frequently with more or less troublesome oozing of blood or hemorrhage. Harris reports several cases in which instead of attempting to remove the sac from the scrotum he has allowed it to remain, and in two of the three there was no trouble whatever. In one there was a thrombosis, hemorrhagic insufflation of the testicle and sloughing. The first impression would be that in leaving so large a sac cysts or hydrocele would develop, but such has not been the case in his own experience or in the cases reported by Kramer. The advantages of this treatment are: 1. Saving of time during the operation. 2. Avoiding danger of sloughing of tissue. 3. Less danger of sepsis.

71. **Submersion in the Treatment of Wounds.**—The use of the hot bath in poisoned wounds, to which attention has recently been called by Fraser, is here noticed by Hodges, who claims that he has been the only American advocate of the treatment since the publication of Dr. Frank Hamilton, over twenty-five years ago. His extensive experience with the procedure, he claims, warrants the following practical conclusions: 1. Continuous submersion even for long periods—two or three months if necessary—is altogether harmless. 2. That it may be easily secured anywhere by anybody possessing an ordinary degree of ingenuity. 3. It will almost instantly limit infectious gangrene and control the resulting septicemia and spanemia. 4. It will quickly relieve the pain and discomfort of phlegmonous inflammation or cellulitis. 5. It will speedily and readily reduce temperature and pulse and overcome the consequent depression of the patient's vital forces. 6. The temperature of the bath is immaterial, except when below that of the room it more promptly reduces fever and many bacteria will not develop at this temperature, while such as do so, develop less vigorously than at a slightly higher temperature.

72. **The Diazo Test.**—Salisbury describes the diazo reaction and its clinical application and finds that it is of value in a number of diseases, especially typhoid and tuberculosis; in the latter it may serve a valuable purpose in estimating the stage of the disorder. He thinks it should be more frequently used by the practitioner.

77. **Club-Foot.**—The general belief that club-foot is incurable in the adult is contested by McKenzie, who has had experience with a number of cases averaging 26 years of age, of which he gives the particulars and illustrates a few. In the cases reported there was no operative interference other than subcutaneous cutting. The average time from the first operation until the patient was able to walk and be about was three months. From his experience he believes that neither operation on the bone nor open incision is called for to relieve the condition excepting in a very small proportion of cases, less than 5 per cent., and the result is better where there has been no cutting other than the subcutaneous one. The treatment is no longer than on patients where the open incision is made. Whatever method is adopted any deformity of the foot should be fully corrected before the relation of the foot to the leg is interfered with. In all the twenty-eight feet referred to, the result is very encouraging, and the age of some of these patients, 30 and 43 years, with satisfactory results, renders it comparatively certain that age by itself is not a serious barrier to treatment.

80. **Exploratory Incision in Obscure Brain Lesions.**—Cockburn reports several cases of operation on the brain, one of which revealed nothing especial though improvement followed. He thinks that exploratory incision might be more frequently resorted to with advantage when distinctly localizing symptoms are not present. If after all the modern remedies have been tried, all constitutional conditions excluded, and the patient fully understands the experimental nature of the procedure, he thinks the exploratory incision is justifiable.

84.—This article has appeared elsewhere. See The Journal of August 11, ¶ 16, p. 385.

85. **The Islands of Langerhans.**—The following are the conclusions in Opie's article: 1. The islands of Langerhans are composed of cells having the same origin as those of the glandular acini but forming structures which are independent of the secreting apparatus and in intimate relation with the vascular system. 2. In the splenic end of the cat's pancreas they have a definite position within the lobule, each of which contains one of these structures. 3. In the human pancreas they are more numerous in the splenic extremity or tail than elsewhere. Similar variation in their number is observed in cats and dogs. 4. Prolonged stimulation of the gland does not, as claimed by Lewaschew, transform groups of acini into islands of Langerhans.

86. **Connective Tissue in New Growths.**—White has studied the character and the distribution of various kinds of connective tissue, by different methods. His article is accompanied with handsome illustrations of the findings of some of these. His conclusions are as follows: 1. Elastic fibers are frequently present in new growths: in the stroma; among the cells; around the blood-vessels, and in breast tumors around the lactiferous ducts which have been included and invaded by the growth. 2. When present they are usually in connection with pre-existing elastic-tissue elements in the original tissue in which the growth has arisen. 3. Sarcomata present a large increase in connective tissue and possess an exceedingly fine intercellular network. 6. The digestion methods present a possible means of diagnosis between carcinomata and sarcomata in doubtful cases. 7. Uterine myomata have a very large amount of connective tissue both of a white fibrous and reticular nature, possessing a connective-tissue capsule for each muscle-cell; and would be more correctly termed fibromyomata.

88. **Congenital Moles.**—The literature on the nature of nevus cells and the transformation of moles to malignant growths has been studied by Whitehead, who reports two cases. He thinks it will serve to call attention to the fact that tumors may spring from congenital moles which present the same processes as those going on in the melanotic tumors, with the exception that they totally lack true melanotic pigment.

89. **Inorganic Ferments.**—Jones notices a paper bearing this title by Bredig and Mueller von Berneck, which points out certain analogies between the action of ferments and the contact-action of metals. In order to determine whether there was any close relation between the action of organic ferment and finely divided metals they studied the decomposition of hydrogen sulphid, etc., which reduce quite considerably the action also by finely divided metal. Jones reviews the chemical equations showing that the decomposition of hydrogen dioxid by colloidal platinum is a monomolecular reaction, the platinum itself not entering into it. He finds a still more striking analogy between the action of platinum and organic ferments in the action of certain poisons such as hydrocyanic acid, hy-

drogen sulphid, etc., which reduce quite considerably the action of platinum on hydrogen dioxid. He thinks there has been enough done to show that this is a very promising field for investigation, and while it is impossible to say to just what it may lead, it is a step in a direction which is full of promise as possibly throwing light not only on chemical and physical, but also on biological problems.

97. **Dilatation of the Stomach.**—Robinson calls attention to a cause of stomach dilatation in visceral ptosis by pressure on the duodenum by the superior mesenteric artery, vein and nerve. He has studied this subject for several years and illustrates his paper with diagrams or sketches showing the mechanism. He has not found any records in the literature of this cause having been noticed and therefore considers it as an original observation by himself.

98.—See also abstract No. 58, above.

106. **Chronic Kidney Disease.**—Two kinds of the common, or at least commonly recommended, treatment of contracted kidney are noticed and also the recommendation of the milk diet and alkaline waters, which have been extended into regular drink cures at favorite health resorts. One point mentioned is the regulation of the allowance of albumin, especially the condemnation of red meats for this class of patients. Snyder thinks there is no basis for this, but that it has simply been handed down from one treatise to another without any reasonable evidence or argument in its support. The most important point, however, is the question as to the restriction of liquids. In nearly all the newer works there is either nothing said as to the amount of liquids to be allowed or they recommend a liberal allowance of them for the better flushing of the kidneys. After six years' careful study of the subject Snyder believes that very often patients with contracted kidneys can be helped to a very great extent by the restriction of their consumption of fluids. This is most shown in advanced stages of contracted kidney in which attacks of cardiac asthma have already appeared and there is, besides hypertrophy of the left ventricle, considerable dilatation. He believes that the practice of flooding the system with fluids in this condition is of immediate injury to the patient and mentions cases where he has seen this result. His conclusion, which he thinks entirely justified by his clinical and experimental studies, is that in the case of patients with contracted kidneys neither in the stage of relative euphoria, nor in the stage of beginning cardiac weakness, nor in chronic uremic phenomena, is elimination of the most important products of tissue metamorphosis ever impaired through lessening of the liquids to 1¼ quarts per day. In no single observation was this the case, though in a few instances there was the contrary result, viz., the increased elimination of nitrogen and urinary salts with the lessening of fluids. As regards albumin, the absolute daily amount of the urine fell off with the smaller injection of fluids and in practice the proportion of albumin is exclusively and erroneously considered. This fact is important, as otherwise one might be led through the lessening of the liquid to erroneously think that the albumin had been greatly increased.

108. **Unusual Symptom of Appendicitis.**—The special symptom here noticed by Thomas was observed by him in a boy of 16, in connection with perforation, which was relieved by operation. The symptom consisted in intense pain about an inch back of the meatus urinarius on the under surface of the penis. The mechanism suggested by the writer is that it is a reflex from the appendix transferred through the hypogastric plexus.

109. **Climate in Tuberculosis.**—Crosson's article is a statement of the advantages of New Mexico as a sanatorium for the tuberculous, and he thinks that region will be the resort of the future for the victims of this disease.

112. **An Unrecorded Case.**—Baier reports quite fully, though lacking some details which could probably have been furnished had she been the physician in charge and taking full notes at the time, the case of a clergyman whose symptoms were attributed at first to rheumatism and later to intermittent spinal inflammation, but which finally turned out to be one of intrathoracic tumor and osteomalacia. There was pressure from calcareous growths on the inside of the spinal canal, which probably was responsible for many of the peculiar symptoms observed. The patient finally succumbed from an attack of cholera morbus, and at the post-mortem, besides the lesions found, the viscera and organs were generally reported to be in a healthy condition.

FOREIGN.

The Lancet, September 8.

The Expectancy of Life in Cases of Cancer of the Breast. Arthur E. Barker.—The author analyzes the statistics of operation for excision of malignant diseases of the breast and gives the following surgical axioms as those that have come to be pretty generally held and acted on in the treatment of these conditions: "1. An excision of the breast to be effectual must be early. 2. The overlying skin, subcutaneous fat, pectoral fascia, axillary fat and glands with the entire breast must be widely and deliberately removed. 3. During this dissection all division of carcinomatous tissue should be avoided, and, if inevitable, freshly sterilized instruments, etc., must be used. 4. As little direct handling of the parts to be moved as possible should take place. 5. Arrest of all immediate bleeding should be accomplished, preferably by forcipressure, and, if not, by ligature: and subsequent oozing by elastic pressure and bandaging. Rest for the wound and the patient should be secured for at least two weeks. 6. All this extensive removal can be accomplished with but little risk to the patient in fairly early cases. 7. When the disease has infected the muscles palliation alone can be expected from surgical interference, and it is questionable whether very extensive operations involving risk from shock ought to be performed with only this end in view. Indeed, the apparently paradoxical rule—which, for my own part, I have followed of late—appears to be justified, viz., that the more localized the primary focus of carcinoma in the breast is, the more wide-reaching should be the excision on the above lines. That is to say, there is in such cases a fair prospect of complete eradication of the disease by a wide-reaching operation, and therefore it is justifiable to run some risk of shock. The converse rule appears also to have much to recommend it, viz., that the more wide-reaching the disease the more clearly should the operator keep mere palliation in view, and by limiting his operation avoid the risk of extreme shock." It seems from the results thus far recorded that the expectancy of life is improving as time goes on. Over 33 per cent. of modern cases live more than three years after the operation, but we can not call these cured, since many of them die from recurrence. Local recurrence is not so common; it has generally been in internal regions. This is another good feature, since local recurrence is most depressing, while internal generalization is often not so much so.

On the Pathology and Therapy of Angina Pectoris. Theodor Schott.—Schott first reviews the theories of angina pectoris, and says that there is generally a sclerotic change in the aorta in its ascending position at a point where it is not without influence on the spot from which the coronary vessels take their origin. This causes an inadequate nourishment of the muscles of the heart with consequent weakening—the Parry-Stokes theory—and the heart has to act against a contracted arterial system. The suddenness of the paroxysm may be directly attributable to the retardation of the circulation within the coronary vessels. A moderate distension of the cardiac muscle may easily lead to a temporary occlusion of one or more coronary vessels at the seat of an already existing constriction. In other cases a thrombus or an embolus may be the cause. He believes that clinical observations support these views and discusses the therapy of the disease. The actual paroxysms are most efficaciously relieved by the nitrites, but he suggests caution in their use. He has found the application of heat of great value in these cases, but in some cases only narcotics are reliable. Iodid—not of potassium, but of sodium

—is also advised by him. He mentions also the value of hydrotherapy and exercise, although not suited to all cases. Finally he says, "Looking, in conclusion, once more at the actual state of our therapeutic experience, we are brought to the conclusion that the results which we obtain by the application of the above-mentioned more prominent medicaments are to be explained by the lowering of the pressure of the blood and the moderation of the heart's action consequent on it. Differing therefrom are the causes which insure success in the balneological and gymnastic treatment, because it is obtained by the exercise of a tonic influence. By strengthening the heart's muscle, as well as by acting on the cardiac nerves, the distressing symptoms of the angina pectoris are either removed or reduced; in other words, *ex juvantibus*, it is shown that the Parry-Stokes theory is based on a real and solid foundation."

British Medical Journal, September 8.

A Discussion on the Indications for the Intranasal Treatment in Diseases of the Ear.—McBride calls attention to a form of deafness occurring in adults which is gradually increasing. In advanced cases the patient hears better in a noisy place. The tuning fork is well perceived by bone conduction, and tinnitus is common. The drum membrane may be somewhat drawn in or normal, and there are sometimes patches of thickening or dark atrophic areas. There also may be normal membranes or a slight red shade, and occasionally the only abnormality detectable is a slight irregularity in the outline of the malleus. In all these cases there may be a degree of Eustachian obstruction, and sometimes the tube is pervious. Many of the patients say they hear worse when they catch cold. He has been in the habit of examining the anterior and posterior nares of these patients, and has usually found gross nasal lesions. Two types are distinguishable: 1, those in which the anterior and posterior nares are either normal or somewhat anemic, with a very sharp differentiation of parts, but without any swelling or congestion; 2, those in which some congestion of the whole tract, including the Eustachian orifices, exists; possibly, some other nasal abnormalities. He thinks that we can separate the two types, viz., so-called sclerotic, and catarrhal. In the former type operating on the nose may do no harm and will hardly benefit. In the catarrhal form it is better to operate on gross nasal lesions or adenoids if they exist. In certain persons he believes that there is a tendency to catarrh of the upper respiratory tract, involving the middle ear, while in others the ear escapes. In certain doubtful cases he believes that the presence or absence of redness about the Eustachian orifices may be a useful indication as to whether or not an operation on the anterior nares is desirable. A slight obstruction may affect the ear by acting as a focus of irritation or causing diminished air-pressure in the postnasal space.

Barer discusses the diseases of the nasal cavities as bearing on ear trouble and their treatment, and remarks that it is astonishing to what an extent the nasal cavities may be obstructed and hearing be very little affected. The removal of nasal growths, even if small, is indicated in chronic non-suppurative middle-ear diseases.

Dundas Grant summed up his remarks by saying that there is a causal association between nasal obstruction and some forms of disease of the middle ear, especially the moist catarrh; but not the typical sclerotic catarrh. In some cases of nerve deafness good results may follow the improvement in nerve tone produced by removal of nasal obstruction. In operations in the nose all precautions should be taken which diminish the possibility of the occurrence of suppurative inflammation of the middle ear. In doubtful cases nasal operations should be avoided, unless there are other indications apart from the affection of the middle ear.

Others who took part in the discussion were Drs. Scanes Spicer; Herbert Tilley, who stated that in his experience the intranasal operations for removal of obstruction in cases of so-called dry catarrh were almost invariably failures; Drs. Walter Jobson Horne, Patrick Watson Williams, Richard Lake, etc.

A Discussion on the Pathology and Treatment of Toxic Paralysis of the Larynx.—Dr. Watson Williams stated that while the present state of knowledge hardly warrants definite generalization, it seems probable that the majority of cases of toxic laryngeal paralyses have their foundations in peripheral neuritis, a view which has been recently expressed by Semon. This would afford an explanation of the varying localization of the paralysis in different territories supplied by the recurrent laryngeal nerve. Thus, excluding the purely myopathic paralyses, toxic paralyses are due to inflammatory generation of the neuron, that is, in its widest sense, neuritis, and may be conveniently divided into two distinct pathogenic groups: 1. Infective neuritis, commonly occurring in the course of diphtheria and less frequently observed in typhoid fever, typhus fever, scarlatina, morbilli, influenza, rheumatism, tuberculosis, syphilis, cholera and malaria. 2. Toxic neuritis, most frequently due to lead-poisoning, but also reported to have occurred in poisoning by arsenic, copper, antimony, phosphorus, alcohol, atropin and morphin. He noted the different cases of laryngeal paralysis as observed, and remarked that while laryngeal paralysis of toxic origin has been reported as resulting from much the same poisons and infectious diseases known to cause paralysis in other regions, we must accept with caution many of the cases recorded, such as where the condition has not been verified by actual laryngoscopic examinations, or where the history does not definitely point to this one sole cause. The treatment of these laryngeal paralyses may be summed up as follows: 1. The resort to appropriate general treatment of the infective disease when that is the cause of the paralysis; and measures directed to the removal of the poison in the circulation and tissues in the case of organic or metallic poisons. 2. Intralaryngeal applications of the faradic or galvanic current, combined with the internal exhibition of strychnin in considerable doses, either by the mouth, or directly into the affected muscles, when feasible. 3. The relief of dyspnea and threatened asphyxia in cases of bilateral abductor paralysis by intubation or tracheotomy—measures which have frequently been necessary in diphtherial and typhoid laryngeal paralysis.

Bulletin de l' Academie de Medicine (Paris), August 28.

Technique of Tracheotomy. Moure.—With a high incision for tracheotomy there is liable to be difficulty in removing the tube later, as subglottic inflammation and mechanical immobilization of the parts may interfere with the resumption of normal breathing. Moure states that the trouble is due to the high incision, which should never be made on the cricoid cartilage, but always lower down, preferably on the second ring of the trachea. The tube should be removed at the earliest possible moment.

Neuropathic Hemorrhages of the Air-Passages. Lancereaux.—A large number of so-called spontaneous epistaxes have a purely dynamic origin in some vasomotor disturbance. Hemorrhages in the pharynx and bronchi may also occur in adolescents or adults, simulating the hemoptysis of tuberculosis, while in fact the lungs are intact. The subjects are usually persons with a predisposition to gout or rheumatism, and a cerebral hemorrhage may occur later. Lancereaux describes several instances in which a hemorrhoidal or menstrual discharge was substituted by a hemoptysis. The treatment should aim to diminish the tendency to hemorrhage and modify the nervous excitability, which is the true cause, by hydrotherapy and muscular exercise. Absolute repose and opium, ergotin or quinin may be indicated. One of the best means of arresting the attacks is a nauseant emetic, which constricts the vessels of the respiratory passages and rarely fails to produce the desired effect.

Nord Medical (Lille), September 1.

Laryngeal Tuberculosis. Bommier.—Pulmonary tuberculosis is accompanied by laryngeal symptoms in about one-third of all cases. Sulphur baths and the seashore have a tendency to aggravate the latter. Spraying is never effectual and is frequently distressing. The intense reaction that follows surgical intervention or cauterization is not compensated by the benefit. Total, absolute repose of the throat is imperative. The patient should change his profession if need be, and communicate exclusively in writing. General measures should be supplemented by the external application of boiling water or iodin and inhalation of the steam from a boiling mixture of 30 grams cinnamon, belladonna and opium in 100 of eucalyptus. In the ulcerative stage, lactic acid is perhaps the best for topical applications, but as they must be energetic and repeated four to eight times a day, it is preferable to have the patient apply di-iodoform himself. This is done by spreading the powder on a paper and auto-insufflating it through a glass tube. The end inserted in the throat is bent, 1 cm. from the end, at an angle of 100 degrees, the other end bent at 145 degrees, 4 cm. from the tip.

Revue Medical (Montreal), August 21.

Reduction of Inverted Uterus. M. T. Brennan.—A case is described in detail, showing the advantages of this method in certain conditions. After a median laparotomy, the rigid, constricted cervix was slit on one side, and the internal wall of the uterus grasped with forceps two inches below the incision. Gentle traction was then applied until the forceps had pulled this portion of the wall through the constricting ring. An assistant then held the forceps while a second pair was applied an inch below the first, and this portion was gently pulled out in the same way and given to an assistant to hold while a third forceps was applied. By this means the entire uterus was pulled through the ring and restored to place. If possible, slitting the ring should be avoided, to reduce the danger of infection. The incision should be sutured at once and a stitch taken over each of the small wounds caused by the forceps. In the instance described, the results were all that could be desired. The patient was a primipara, 30 years of age, and the inversion had occurred subsequent to normal delivery.

Semaine Medicale (Paris), September 5.

Rapid Induced Abortion. Dolèris.—No statistics of induced abortion can compare with those of skillful instrumental evacuation of the uterus, preceded by dilation of the cervix, if there is time, and if not, by lateral incision. Doléris asserts that curettement, well done, with a broad, fenestrated, blunt and rounded curette, supplemented by swabbing, is not dangerous; the complete evacuation of the uterus is accomplished in a few minutes; there is no fear of hemorrhage as in more protracted operations; the asepsis can be complete, which can never be the case with digital evacuation. There is little or no pain and no anesthesia is required. Chloroform may be dangerous in the grave conditions which demand prompt, artificial delivery. He cites several instances showing the immediate benefit derived from this rapid abortion, induced and entirely completed in a few minutes by the operator himself, with the speedy recovery of the patient. He sutures the incision in the cervix at once as soon as the curettement and swabbing are completed. When a few hours' delay is possible, he commences by inserting one or two large laminaria tents, preparatory to dilating with Hegar's bougies.

Centralbatt f. Chirurgie (Leipsic), September 8.

Operations Without Contact of the Fingers. Koenig.—The problem of how to render the hands aseptic is solved by Koenig in one word, "Don't." He has become convinced that all methods of sterilization are unreliable and that the only means to insure absolute asepsis is to avoid direct contact of the tissues with the fingers. With the exception of abdominal surgery, he finds that instruments can take the place of the fingers in nearly all operations. The handles must be made longer than at present, and the number of retractors, etc., multiplied. With practice it becomes easy to work without direct digital contact, and to train the assistants in the same technique. If it is necessary to compress a vessel, for example, the assistant should first wrap his finger in sterile gauze.

Deutsche Medicinische Wochenschrift (Leipsic), September 8.

Diagnosis of Esophageal Stenosis. G. Holzknecht.—One or two grams of subnitrate of bismuth are stirred in 100 grams of water and sipped by the patient. He is then placed in front of the fluorescent screen, the rays passing from the right side of the thorax in front obliquely through to the left side, which allows the esophagus to be examined without overlapping shadows. The bismuth is deposited over the walls of the esophagus when arrested by a stenosis, and outlines the shape of the organ and of the normal portion below the stenosis. The bismuth may be swallowed in a tablet and its course traced, as it is arrested by the stenosis, and then suddenly passes rapidly on. If a few scraps of dry bread are eaten first, the tablet test is still more conclusive. By these means the existence of stenosis can be determined, with its localization, degree and length, without annoying the patient by the application of sounds.

Hematologic Investigations. E. Becker.—The blood was examined in seven different diseases, including syphilis and lead-poisoning, and the findings are here given in detail, with Becker's conclusions. The information thus derived served to differentiate pneumonia from typhoid fever in several instances by the intense neutrophile leucocytosis. Another case of supposed typhoid fever, in a young man who had been shot in the left thorax a year before, was differentiated by the intense leucocytosis noted, which suggested an abscess in the old wound. Ten days later a tumor became evident below the spleen.

Muenchener Medicinische Wochenschrift, September 1.

Cocainization of the Spinal Cord. A. Bier.—As much as 4 cg. of cocain have been injected into the subarachnoid space by some surgeons, and Bier—the original proposer of the method in Europe—protests with horror against such dosage. He has seen accidents, headaches and vertigo follow the use of less than 5 mg., and warns against ever using more than 15 mg. as the maximum. He also protests against assuming that this method of spinal analgesia is ripe yet for general adoption. He has been engaged during the last year in trying to find some substance less toxic than cocain for injections, and has succeeded for animals, but not yet on man. He hints that he has found a means of rendering cocain injected into the subarachnoid space no more toxic than when used elsewhere, which is in itself a great gain, and puts an end to the by-effects of spinal analgesia. He states that he has also succeeded in extending the action of cocainization until operations on the entire trunk and arms can now be performed with it. He trusts that he has succeeded in evolving a truly practicable method, but does not consider it sufficiently tested as yet for promulgation, which will follow later. [Nicoletti, of Naples, reported at the International Medical Congress that no anatomic alterations of any kind could be discovered in the nervous elements of animals killed after experimental anesthesia with cocainization of the spinal cord. The phenomena noted indicate that the cocain has a first vasoconstrictor and then a vasodilator action, and he attributes its analgesic effect to this property. He found that other vasomotor substances have the same effect as cocain in these conditions, and he was equally successful in obtaining analgesia with quinin, antipyrin and ergotin. Pitesci reported that he had used this method on 125 patients and noted symptoms of slight intoxication in 83 and a serious syncopal condition in a few instances, which persisted for several days and required ether and caffein.—Ed.]

Neutral Red Test of Vitality of the Phagocytes. J. Plato.—Ehrlich's neutral red stain colors albuminous matters taken up in a living cell by phagocytosis, while the cell itself is not stained. The red tint is proportionate in its intensity and duration to the vitality and functional capacity of the cell, of which it proves, therefore, an excellent test. As the phagocyte gradually dies, the reducing property of the cell becomes increased and the red stain of the enclosed particles disappears. The disappearance of the stain can thus be accepted as an indication of the waning vitality of the cell. Living gonococci taken up by guinea-pig leucocytes swelled up and were destroyed at once, confirming the natural immunity of animals to the gonococcus infection, while the cocci remained uninjured in human leucocytes. The various microorganisms stain with different and characteristic tints.

Comparative Anatomy of Adrenals. O. Aichel.—Modern research tends to establish that the suprarenals were formed originally from the primitive kidney, and that the adrenals found in man in the vicinity of the testes, and in the broad ligament in the female, are normal formations developed from the kidney, and able to substitute the suprarenals in case of need. Nothing has been learned, or is likely to be learned from comparative anatomy, in respect to their functions.

Pregnancy and Ovarian Tumor. R. Mond.—Ovarian tumors usually increase in size during pregnancy, and have been known to grow during the puerperium. Judging from published statistics, the best moment for intervention as far as the mother is concerned, is from the second to fourth month of gestation, but for the continuation of the pregnancy, between the third and fourth month, ovariotomy is the only rational treatment. Mond had occasion to treat a case seen for the first time when the tumor had attained a weight of fifty-seven pounds. With the tumor, fetus and fluids, the small, slender primipara had been carrying a weight of approximately sixty-nine pounds. She died four days after an apparently successful laparotomy.

Optic Neuritis in Chlorosis Simulating Cerebral Tumor. A. Engelhardt.—A young woman, with pronounced symptoms of cerebral tumor, was observed at intervals during a year, a large part of which was spent in the hospital. At the autopsy the discovery was made that, except for unusual anemia and dryness, the brain was normal. The optic nerves were very much degenerated, and on recalling all the symptoms, the conclusion was evident that the case had been one of chlorosis and secondary optic neuritis. The chlorosis had been vaguely suspected during life, but had been so overshadowed by the assumed brain tumor that treatment had been considered superfluous. The patient probably died of direct inanition, as she had refused all food during the last few weeks and, owing to the completely erroneous diagnosis, no attempt had been made to feed her artificially.

Wiener Klinische Rundschau, September 2.

Influence of Adenoids on Morbidity. A. Goldschmidt.—The writer has been making a study of the various affections that have been cured as the result of removal of adenoid vegetations. Besides countless cases of deafness, throat and ear affections, he has found a number of instances of the cure of hay-fever, idiocy, intense stuttering, recurring headaches, aprosexia or inability to concentrate the attention, and has himself observed a severe case of chorea rapidly subside after the vegetations had been ablated. Dobberke also cured a case of epilepsy in a patient 19 years old, who had had no recurrence at the date of his communication. Enuresis is frequently noticed in connection with the vegetations, has been cured by their removal in about half the cases on record, and improved in most of the rest. The difficulty in breathing and coughing enhances materially the tendency to hernia. Lauffs has reported the retrogression of a prolapsed anus consecutive to ablation of the vegetations in the throat. The disturbance from them has in some cases simulated a meningitis or psychic deafness, and the removal has in others been followed by a return to normal of retarded development. Hemophilia, anomalies in the arteries, and acute phlegmasia of the upper air-passages contraindicate operation.

Grafts of Skin from a Chicken. D. DeFrancesco.—An explosion had produced a deep defect in the leg of a young man, which Francesco lined with small scraps of skin taken from the side of the breast under the wing of a spring chicken. The grafts included the derma and epidermis, and nearly all healed in place. The defect was completely lined with this skin in three sittings. It retained its specific vitality for a while, evidenced by the production of one small atrophied feather, but soon healed into apparently normal human skin.

Suture of the Liver. G. S. Segale.—The method described aims to supply a mechanical support for the threads on each side of the wound in the liver tissue. Six to a dozen long, ebonite or ivory beads are threaded on catgut. Each bead is slightly pointed at one end, which fits into the hole in the next bead. They thus form a comparatively solid bar when fitted close together. One of these bars is applied on each side of the wound, and a long stitch taken through the parenchyma embraces the bar on each side. The ends of the thread forming the loop-stitch are tied over one of the bars. As many of these stitches are inserted as may be required. The bars of beads hold them firm until the catgut is absorbed, when the beads separate and soon become encapsulated. Extensive tests on large animals have established the harmlessness of the method, the complete surgical success, the perfect restoration of function and the rapid encapsulation of the relics of the suture-material.

Brazil Medico (Rio Janeiro), August 15.

Neurasthenia and Tuberculosis. Guimaraes.—Tuberculosis as an etiologic factor in neurasthenia has not been awarded the attention it deserves. Guimaraes describes some personal cases that confirm this view, and states that there is a heredo-tubercular neurasthenia, similar to that already established for syphilis.

Klinitchesky Journal (Moscow), June and July.

Mechanical Treatment of Cardiac Dropsy. S. I. Schwartz.—The toxic substances contained in the ascitic fluid are taken up into the organism when absorption follows the use of medicinal measures for the cure of ascites or cardiac origin. The sudden removal of the entire amount may also be the cause of sudden death in these cases. For these and other reasons Schwartz urgently advocates the general adoption of Fürbringer's simple and effective drainage with a fenestrated rubber tube, which gradually removes the fluid without taxing the heart or organs in any way. He adds that immobilization is indicated, supplemented by other measures, to reduce the task of the heart as much as possible. If it is impossible for the patient to recline, as much of the body as possible should be supported.

July.

Multiple Cutaneous Sarcomatosis. V. V. Ivanoff.—A patient was received at Pavloff's clinic with evidences of severe infection complicating or complicated by multiple cutaneous sarcomatosis, first noticed two months previously. Death ensued in fifteen days. The acute, tempestuous course of the affection in the second period may have been due to the rapid generalization of the sarcomatous tumors, or to some unknown influence exerted by the sarcomatous process. They all proved to be typical round-celled sarcomata, with extensive mitosis. Ivanoff is convinced that the skin was secondarily affected, although the cutaneous manifestations then assumed the predominance. Possibly the skin—as the point of least resistance—vicariously substituted some other organ, the kidneys, for instance. The patient had suffered from nephritis during her last pregnancy. The tumors invariably commenced in the reticular layer of the corium. No micro-organisms could be cultivated from the blood during life, nor from infarcts in the kidneys, spleen or lungs after death.

Treatment of Aneurysms With Gelatin. L. E. Golubinine.—There have been fifty-six cases of aneurysm treated by Lancereaux's method of subcutaneous injections of a gelatinized solution, according to the published reports. The most favorable results were attained by Geraldini, whose five cases were all improved, and by Stoicesco, who had only one failure in six cases. In this article, all the cases on record are tabulated, including Futcher's nine, in only one of which there was improvement. The author himself has been even less fortunate, as he could not discern any improvement in his eight cases. Nevertheless he is strongly convinced that the method deserves more general application, as even the twenty cases on record in which improvement has been noted constitute a proportion of 35 per cent. out of the total of fifty-six, and this is certainly encouraging. There was subjective improvement in a number even when they were not objectively benefited; the distress and pain ceased in a number of instances. He urges further study of the method and of the action of gelatin on the circulation, both in health and disease.

Revista Medica (Mexico), September 1.

Paroxysmal Tachycardia Due to Tenia. E. F. MONTANO.—The patient in the case described was affected periodically with intense dyspnea, distress, and pulse 112. Aortic insufficiency had been diagnosed, but digitalis only aggravated the symptoms, which were finally traced to reflex action from the presence of a tenia.

Nordiskt Medicinskt Arkiv (Stockholm), August 9.

Apparatus for Thorough Sterilization of Milk. I. JUNDELL.—That tubercle bacilli are not killed by the usual methods of sterilizing milk in creameries has been demonstrated by the discovery of living bacilli in market butter made according to the most approved modern methods. Jundell ascribes this failure in thorough sterilization to the fact that the bacilli are not exposed long enough to the high temperature required to destroy them all. He has invented a contrivance to supplement the ordinary apparatus, which, by retarding the circulation of the milk through it, enables the action of the heat to be prolonged and accomplishes the desired end without injury to the milk. It consists of a cylinder fitted with a number of alternating horizontal discs nearly filling the lumen. The milk thus follows a zigzag course through it. Tests with animals inoculated with milk infected with enormous quantities of bacilli and then sterilized in this manner, showed that not one of the bacilli had remained alive. Jundell uses it with the "G. Salenius radiator," which enables the butter to be made at once from the cream without further delay or manipulation.

Localization of the Motor Oculi Nucleus. G. AHLSTROM.—Examination of the brain of a man who had had his left eye enucleated several years before his death—the right eye being normal—showed that all the corresponding nuclei were intact except the left one of the median pair of small-celled nuclei which, with all its medullary fibers, was completely atrophied.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 5 to 12, 1900, inclusive:

Edward T. Comegys, major and surgeon, U. S. A., previous orders directing him to act as medical supply officer at Nagasaki, Japan, amended so as to direct him to establish a medical supply depot at Taku, China.

Charles H. Fischer, acting asst.-surgeon, leave of absence extended.

Deane C. Howard, captain and asst.-surgeon, U. S. A., member of a board convened at Fort Hancock, N. J., to devise plans for the extension of the water-supply and for the disposal of liquid excreta at that post.

George Newlove, acting asst.-surgeon, from Fort Leavenworth, Kan., to Newcastle, Del., for annulment of contract.

John L. Phillips, captain and asst-surgeon, U. S. A., from Fort Columbus, N. Y., to accompany recruits on the transport *Buford* to Manila, P. I., and for subsequent duty in the Division of the Philippines.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., to accompany the command that may be detached from Fort Reno, O. T., to make a test of the emergency ration.

Merton A. Probert, acting asst.-surgeon, from temporary duty at Columbus Barracks, Ohio, to San Francisco, Cal., to accompany troops to the Philippine Islands.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Sept. 15, 1900:

Asst.-Surgeon C. A. Crawford, detached from the *Eagle* and ordered to the *Dixie*.

Surgeon M. F. Gates, detached from the naval hospital, Norfolk, Va., Sept. 12, and ordered to the *Atlanta*, Sept. 15.

P. A. Surgeon A. M. D. McCormick, ordered to the naval hospital Norfolk, Va., for duty, when detached from the *Montgomery*.

P. A. Surgeon L. Morris, detached from the *Baltimore*, when put out of commission, and ordered home and to wait orders.

Pharmacist J. Pearson, detached from the *Wheeling*, and ordered home and to wait orders.

Asst.-Surgeon W. E. G. High, detached from the naval hospital, Yokohama, and ordered to the *Oregon*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Sept. 13, 1900:

Surgeon Preston H. Bailhache, granted leave of absence for nine days from Sept. 14.

Surgeon Fairfax Irwin, to proceed to Boston quarantine for special temporary duty.

Surgeon W. P. McIntosh, to proceed to Biloxi and Ship Island for special temporary duty.

Surgeon J. J. Kinyoun, to proceed to Victoria, Port Townsend and Astoria Quarantine, for special temporary duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Galveston, Texas, for special temporary duty.

P. A. Surgeon B. W. Brown, granted leave of absence for two months, from Nov. 1.

Asst.-Surgeon J. F. Anderson, to proceed to Liverpool, England, for special temporary duty.

Asst.-Surgeon Edward Francis, relieved from duty at New York City (Stapleton), and directed to proceed to the immigration station and report to Surgeon L. L. Williams for duty.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at the immigration station, and directed to proceed to Liverpool, England, reporting to Asst.-Surgeon J. F. Anderson at U. S. Consulate for duty.

Acting Asst.-Surgeon R. E. L. Buford, granted leave of absence for one month from November 3.

Acting Asst.-Surgeon S. Gomez, granted extension of leave of absence for ten days from Sept. 19.

Acting Asst.-Surgeon J. A. Moncure, directed to proceed to Brunswick quarantine, and assume temporary charge of station for thirty days from Nov. 3.

Sanitary Inspector Lea Hume, to proceed to Galveston, Texas, and report to Surgeon Peckham for special temporary duty.

Hospital Steward S. W. Richardson, granted leave of absence for twenty days from Oct. 1.

Hospital Steward G. C. Allen, relieved from duty at Delaware Breakwater, and directed to proceed to Mullet Key Detention Camp and report to medical officer in command for duty and assignment to quarters.

Hospital Steward E. T. Olson, relieved from duty at Mullet Key Detention Camp, and directed to proceed to Washington, D. C., and report to Bureau for duty.

APPOINTMENT.

Malcolm McKay reinstated and appointed senior hospital steward.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Sept. 15, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, Aug. 18, 3 cases.

Colorado: Jefferson County, Aug. 28-Sept. 1, 11 cases; Las Animas, Aug. 28-Sept. 1, 1 case.

Kansas: Wichita, Sept. 1-8, 1 case.

Louisiana: New Orleans, Sept. 1-8, 2 cases.

Minnesota: Minneapolis, Sept. 1-8, 1 case; Winona, Aug. 28-Sept. 4, 3 cases.

Ohio: Cleveland, Sept. 1-8, 2 cases; Dayton, Sept. 1-8, 1 case.

Texas: Eagle Pass, in Mexican portion of town, Sept. 7, 1 case.

Utah: Ogden, Aug. 1-31, 2 cases; Salt Lake City, Sept. 1-8, 1 case.

West Virginia: Wheeling, Sept. 1-8, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 18-25, 2 cases.

Belgium: Antwerp, Aug. 18-25, 1 case.

Brazil: Rio de Janeiro, July 13-30, 38 cases, 10 deaths.

England: Liverpool, Aug. 18-25, 6 cases; London, Aug. 18-25, 1 case.

India: Bombay, Aug. 1-14, 6 deaths; Calcutta, Aug. 4-11, 7 deaths; Karachi, Aug. 5-12, 1 case, 1 death.

Mexico: City of Mexico, Aug. 26-Sept. 2, 4 cases, 5 deaths.

Russia: Moscow, Aug. 11-18, 6 cases; Odessa, Aug. 18-25, 1 case; St. Petersburg, Aug. 11-25, 96 cases, 11 deaths; Warsaw, Aug. 11-18, 10 deaths.

Switzerland: Zurich, Aug. 11-18, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 13-20, 10 deaths.

Colombia: Barranquilla, Aug. 19-26, 1 death; Panama, Aug. 27-Sept. 1, 3 cases, 1 death.

Cuba: Cienfuegos, Sept. 8, 1 case; Havana, Aug. 2-Sept. 1, 249 cases, 23 deaths.

CHOLERA.

India: Bombay, Aug. 1-14, 695 deaths; Calcutta, Aug. 4-11, 35 deaths.

PLAGUE.

India: Bombay, Aug. 1-14, 105 deaths; Calcutta, Aug. 4-11, 52 deaths.

Philippines: Cebu, July 14-21, 1 case; Manila, July 14-21, 4 cases.

Turkey: Constantinople, on S. S. *Niger*, from coast of Asia Minor, Aug. 27, 1 case.

BINDING LIST MAR 1 5 1954

R
15
A48
v.35
pt.1
cop.2

American Medical Association.
Journal

Biological
& Medical
Serials

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

STORAGE